MINISTRY OF FOREIGN AFFAIRS OF JAPAN

EVALUATION ON COLD CHAIN EQUIPMENT FOR VACCINE STORAGE AND DISTRIBUTION HANDED OVER TO MINISTRY OF HEALTH, KENYA



FINAL REPORT

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This report was compiled by Dr. David Ameyaw (Team Leader), Dr. Forah Obebo (M & E Expert) and Dr. Kenneth Omollo (Immunology Expert), under the auspices of the International Centre for Evaluation and Development (ICED).

Cover page: Part of CCE equipment at the Central Vaccine Store in Kitengela (March 2023)



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Acronyms



EAFI	Adverse Event Following Immunization
AVAT	African Vaccine Acquisition Trust
CCE	Cold Chain Equipment
CCERP	Cold Chain Expansion and Rehabilitation Plan
CDC	Centers for Disease Control and Prevention
CEPI	Coalition for Epidemic Preparedness Innovations
CoVDP	COVID-19 Vaccine Delivery Partnership
EPI	Expanded Program on Immunization
ESARO	East and Southern Africa Region Office
GAVI	Global Alliance for Vaccines and Immunization
GOJ	Government of Japan
ICED	International Centre for Evaluation and Development
IPC	Infection prevention and control
KNBS	Kenya National Bureau of Statistics
MOFA	Ministry of Foreign Affairs Japan
МОН	Ministry of Health, Kenya
NVIP	National Vaccines and Immunization Program
ODA	Official Development Assistance
PMT	Project Management Team
PQS	Performance Quality Standards
SARS	Severe Acute Respiratory Syndrome
SBPs	Service Bundle Providers
SOPs	Standard Operating Procedures
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Executive Summary



Background

Since the introduction of the SARS-CoV-2 virus in Kenya in March 2020, 342,953 confirmed cases have been reported, with 5,688 of these unfortunately leading to loss of lives as at 21st March 2023. Several measures were therefore enforced to control transmission in the country. These included closure of international borders to travelers, closure of learning institutions, bans on social gatherings and religious meetings, a dawn-to-dusk curfew, physical distancing and mandatory use of masks in public spaces, and movement restrictions in counties with high infection rates. The pandemic tested the capacity of the healthcare system, with several high transmission waves, exposing significant gaps in Kenya's health emergency preparedness and response. Economic shocks experienced in the country also further ravaged East Africa's largest economy, resulting in a contraction of 1-1.5 percent in Gross Domestic Product (GDP) in 2020, as containment measures restricted economic activity.

The quick development and approval of COVID-19 vaccines offered hope for an end to the pandemic. The Government of Kenya prioritized vaccination as a key measure to contain the community transmission of COVID-19. However, as the country projected to vaccinate its entire adult population (27 million), the rapid deployment of COVID-19 further exposed cold chain capacity gaps at various levels. For instance, there was zero capacity for the Pfizer and Moderna vaccines that required ultra-low temperature storage. There was also inadequate storage space to hold the estimated volumes of vaccine consignments at all levels of the cold chain. As a long-term development partner, the Government of Japan donated a total of US\$ 1,985,006 to support procurement of cold chain equipment for Kenya through UNICEF, and to also enhance capacity building for cold chain technicians, logisticians and, healthcare staff at last-mile facilities.

This evaluation exercise sought to assess three key areas of the Government of Japan's assistance. These are:

- i. Relevance to policies: whether the project was in accordance with Japan's ODA policy for Kenya as well as the needs of Kenya
- ii. Effectiveness of Results: whether the project produced effective outputs and outcomes;
- iii. Appropriateness of Processes: whether the project was implemented appropriately.

By engaging various stakeholders, deriving empirical evidence, and employing a structured valuing approach, ICED offered independent assessment of the project to determine how well the assistance to the Government of Kenya contributed to the expansion of the immunization cold chain. This is imperative for the strengthening of the partnership between Kenya's Ministry of Health, Government of Japan, and UNICEF.

Findings

Relevance: The conception and execution of the project was in line with the Government of Japan's global health priorities. Specifically, the procurement of cold chain equipment to support pandemic response measures, met Japan's Development Cooperation Policy for supporting healthcare systems and public health emergency preparedness in Kenya. The training of

government staff and healthcare workers met Kenya's need to improve health service delivery and attainment of Universal Health Coverage, under the devolved health management system. The project also accelerated Kenya's vaccination efforts. Additionally, the pandemic had a significant impact on Kenya's economy and society, with the country facing a range of challenges in various sectors. While various mitigation measures were implemented, further support and resources were needed to address the broader socio-economic consequences of the pandemic. This project was therefore relevant not only to the health sector, but also in supporting the postpandemic socio-economic recovery in Kenya.

Effectiveness: The project was effective in increasing the country's capacity to receive, store, distribute, and monitor the quality and safety of COVID-19 vaccines throughout the entire vaccine cold chain. In total, 60,000 liters of net vaccine volume were added to the country's cold chain from the central store to end-point immunizing facilities. The ultra-low temperature freezers created a capacity of nearly 15,000 liters that was previously non-existent and enabled the country to administer the Pfizer vaccine to both adults and children. The Pfizer vaccine accounted for 34 percent of all COVID-19 vaccines that were received and dispatched from the central store. Addition of an Isuzu truck for handling logistics between the central vaccine and regional stores, filled a critical gap that has resulted in supplies delivered to far-flung areas like Garissa and Wajir.

Beyond the COVID-19 pandemic, the expanded cold chain capacity across the country will be beneficial for storage, distribution, and inventory management of other EPI and non-EPI vaccines. Through workshops that were conducted by the National Vaccine and Immunization Program (NVIP) for 71 regional depot managers, national and regional technicians, a critical mass was equipped with practical skills for managing cold chain equipment. Over 3,300 healthcare workers drawn from all counties were also trained on the principles of COVID-19 vaccination, use, and monitoring of Cold Chain Equipment (CCE).

Appropriateness: Given the emergency nature of this project, Japan's Ministry of Foreign Affairs (MOFA) worked directly with UNICEF East and Southern Africa Region Office (ESARO) and Kenya Country Office to implement the objectives. This was different from the traditional implementation of development assistance programs through JICA. The funding proposal was developed by UNICEF in consultation with NVIP before submission to MOFA for funds disbursement. The partnership with UNICEF ensured that an experienced procurement partner was involved in the purchase, delivery, and installation of CCE.

Lessons Learnt

- The synergistic alignment of Kenya's national health priorities as well as Government of Japan's global health agenda ensured success of the conception, design, and implementation of this project.
- The extensive consultations between the implementing partners (NVIP, UNICEF Kenya and UNICEF ESARO) that occurred at the proposal stage, ensured that the process was participatory for all.
- Multi-stakeholder projects need more open communication about procurement details and terms of engagement for service bundle providers. Open communication ensures that the

recipients of the CCE equipment know the escalation channels when maintenance is needed.

- An assessment of infrastructure needs for CCE equipment before delivery to the endusers is needed for effective and timely utilization. In this project, some areas of concern were delays in deliveries caused by lack of sufficient power rating, incompatible electrical cabling, or delayed installation of cold rooms. These pre-CCE installation issues should be addressed at each level of the cold chain.
- Training of cold chain logisticians, technicians, and healthcare workers at the devolved units of government should be prioritized to enhance distribution of vaccines and vaccination rates in the country.

Recommendations:

- To protect the investments made under this project and to preserve the integrity of the vaccine cold chain in Kenya, the Ministry of Health should invest in and prioritize a regular funded preventive maintenance system that covers all equipment.
- There is need for the Ministry of Health to reinforce and adapt best practices in maintenance through, review and updating of written standard operating guidelines, devolving vaccine systems, and leveraging on new technologies in monitoring – following guidelines provided by WHO, GAVI, UNICEF and CDC.
- There is a need to improve the openness of communication on after-sales agreements and warranties between UNICEF, NVIP and Service Bundle Providers (SBPs). This will bring clarity on the role of government towards maintenance of equipment.
- As Kenya's population grows and demand for vaccines increases, there is need to expand the warehouse space at the central vaccine store to ensure sufficient future-proof space for both cold rooms and dry supplies. It is recommended to build an entirely new warehouse building to the CVS to maintain efficient operation and better pandemic preparedness.
- Expansion of regional and sub-county stores and auditing of electrical power infrastructure in these devolved units is needed to protect the cold chain investments. Green energy options should also be explored at these stations.
- As the healthcare workforce grows and young workers are on-boarded, it is imperative to maintain support for the training and skill-equipping of the cold chain human resources.
 - 1. There is also a need for MOFA and partners to support capacity expansion for regional and sub-county stores. This will boost the Universal Health Coverage (UHC) program and devolution of health.

1.0 Introduction



1.1 Project context

Kenya is East Africa's largest and most diverse economy with an average annual growth rate of over 5 percent for nearly a decade. The country's Gross Domestic Product (GDP) is estimated to have grown to US \$109.5 billion by 2021¹. This is compared to a contraction of 0.3 per cent in 2020. In terms of Human Development Index (HDI), Kenya's 2021 value was 0.575, positioning it at 152 out of 191 countries and territories². This was a drop from 0.578 in 2020, owing to the COVID-19 pandemic. Its entrepreneurship and human capital provide a huge potential for further growth, job creation and poverty reduction^{3.} However, despite a decline of the country's absolute poverty rate, wealth has not been distributed equally. It remains a highly unequal society by income, gender, and location. Rapid population growth is another major challenge, further complicated by high unemployment rates especially among the youth^{4,5}.

Kenya has a population of over 47.6 million (2019 census) with females (50.5%) being slightly more than the males⁶. With an annual population growth rate of 2.5 percent, the country's population will likely reach 66 million by 2030 and 91.5 million by 2050. The youth, aged less 35 years, make up over 75 percent of the population with the median age being 19 years. In this young population, over 17 million people fall in the age bracket of 15-35 years and account for 36 percent of the population.

In order to address the social economic challenges facing the country, Kenya developed a longterm development blueprint called The Kenya Vision 2030⁷. The Vision aims to create "a globally competitive and prosperous country with a high quality of life by 2030". It aims to transform Kenya into "a newly-industrializing, middle income country providing a high quality of life to all its citizens in a clean and secure environment". Among the economic, social, and political reforms that have been implemented, healthcare improvement has been a key pillar of the transformation.

The Vision through Medium Term Plan III (2018 – 2022) seeks to achieve equitable, affordable, and quality health care of the highest standards. There is a plan to attain universal health coverage by implementing programs that increase access to quality healthcare services and offer financial protection to people when accessing healthcare⁸. The plan is supported by the Kenya Health Policy 2014-2030, which supports the implementation of various priorities including immunization. The Ministry of Health (MOH) through the National Vaccines and Immunization

⁸ Third Medium Term Plan 2018 – 2022 https://vision2030.go.ke/wp-content/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf

¹ Republic of Kenya (2022) The Kenya Economic Survey: Kenya National Bureau of Statistics <u>https://www.knbs.or.ke/wp-content/uploads/2022/05/2022-Economic-Survey1.pdf</u>

²The 2021/2022 Human Development Report https://hdr.undp.org/system/files/documents/global-report-document/hdr2021-22pdf_1.pdf

³World Bank (2021). World Bank in Kenya. https://www.worldbank.org/en/country/kenya/overview#1

⁴ KNBS (2018). 2015/2016 Kenya Integrated Budget Survey: Basic Report. Kenya National Bureau of Statistics

⁵ KNBS (2019). The Kenya National Population and Housing Census. Kenya National Bureau of Statistics

⁶ Republic of Kenya (2019) Kenya Population and Housing Census: Volume IV-Distribution of Population by Age and Sex, Nairobi: KNBS

⁷ Republic of Kenya (2008). Kenya Vision 2030. Available at: <u>http://vision2030.go.ke/about-vision-2030/</u>

Program (NVIP) is committed to delivering a number of objectives including, sustained high coverages, reduced morbidity, and mortality due to Vaccine Preventable Diseases (VPDs), ensured access to quality vaccines, introduction of new vaccines, sustainable capacity for surveillance and monitoring and strengthened systems for vaccination service delivery⁹. To date the country has made significant steps in immunization, especially that of children.

The reporting of Kenya's COVID-19 index case in March 2020 presented a new health challenge for the country. The pandemic significantly disrupted the activities through several containment measures. Consequently, the health system capacity was stretched and could not adequately address the health emergencies. By March 2021, the country had 132,635 confirmed cases and 2,147 deaths¹⁰. With the rapid advances in development of COVID-19 vaccines, Kenya started vaccination of its adult population against the COVID-19 pandemic in March 2021, and targeted at least 19 million adults by June 2022. The immunization value chain is fairly structured with one central store in Nairobi, 9 regional centers and over 290 sub-county vaccine stores which in total serve over 8,000 immunizing health facilities across the country. Yet at the time, a number of gaps were observed including financing gaps in vaccine delivery, low capacity for vaccine storage and logistics (cold-chain maintenance, transportation and stock monitoring) and low vaccine demands due to vaccine apathy and hesitancy.

The deployment of COVID-19 vaccine further widened the cold chain capacity gaps. For instance, by March 2021, the country did not have any cold chain equipment capacity for vaccines that require ultra-low temperature storage (-80°C). In addition, there was inadequate capacity with an envisaged target of at least 20 million people by June 2022. Further, the vaccine storage ecosystem lacked equipment for logistics and temperature monitoring during storage and transport. It's against this background that the Government of Japan (GOJ) supported Kenya through donation of cold chain equipment and other supplies to strengthen cold chain capacity, stock management, and conduct capacity building.

1.2 Japan Government Assistance to Kenya

The GOJ has a long-standing cooperation with Kenya. There are two pillars of focus¹¹. First, under Health Systems Strengthening, Japan pledges to provide support for strengthening health service delivery and heath financing to realized Universal Health Coverage (UHC). Second, the component on Health Emergency Preparedness and Response seeks to strengthen early containment and responses to health emergencies such as the spread of infectious diseases. This would be achieved by strengthening networks between research institutes and human resource development in the area of infectious disease control and research.

The pandemic exposed gaps in cold chain storage capacity at all levels for routine immunization and COVID-19 vaccines requiring low temperatures, lack of equipment and skilled health workers to monitor and maintain vaccine temperature and gaps in capacity of government staff, health care facilities and partners in coordination for effective vaccine management (EVM). In line with

⁹National Policy Guidelines on Immunization 2013

http://guidelines.health.go.ke:8000/media/Immunization Policy Guidline.pdf

¹⁰ <u>https://www.health.go.ke/wp-content/uploads/2021/04/MARCH-31-2021-MOH-CS-COVID-RELEASE.pdf</u>

¹¹ https://www.ke.emb-japan.go.jp/files/100255048.pdf

the need to support UHC and health emergency response, GOJ took the decision to support eleven countries in the South-Eastern Africa region including Kenya, South Sudan, Somalia, Zimbabwe, Zambia, Angola, Eswatini, Ethiopia, Uganda, Malawi and Mozambique.

The project proposal was forwarded by UNICEF East and Southern Africa Region Office (ESARO) in consultation with respective recipient counties. UNICEF was a suitable partner given that long standing expertise in the immunization and cold chain landscape at the global, regional and country levels. Globally, UNICEF is co-lead of the COVAX facility and leads the procurement and supply of COVID-19 vaccines. For Kenya, GOJ donated US\$ 1,985,006 to support procurement of cold chain equipment and other supplies to strengthen cold chain capacity, stock management and conduct capacity building. The proposal was developed with inputs from the MOH that closely followed status of implementation, with regular updates provided to the Embassy of Japan.

The GOJ donated a total of US\$ 1,985,006 to support procurement of cold chain equipment and other supplies and also enhance capacity building among maintenance and healthcare staff. A total of US\$ 1,415,318.42 (or 71%) was utilized for CCE equipment while the rest went into capacity building activities. An indicative financial budget is provided in Annex 1. The project was planned for one year between May 2021 and May 2022 but there was a no-cost extension of up to December 2022 (Table 1).

Project Title	Support for Cold and Supply Chain System Development in Kenya
Period	May 2021- December 2022
Total Contribution	US\$ 1,985,006
Total Utilization	US\$ 1,985,006
Expected Results to be achieved with this funding	 i) Procure CCE for COVID-19 vaccines and provide logistical support for installation of CCE ii) Strengthen the capacity of government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines iii) Strengthen the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines iv) Support the governments' COVID-19 cold chain strengthening and vaccine management with coordination/ consultation, data collection/analysis and/or policy/regulatory formulation
Beneficiaries	Component A: Approximately 3.22 million people vaccinated.
Reached	 Component B: 3,300 health workers. trained

Table 1: Project Summary

1.3 Immunization supply chain in Kenya

Kenya has a well-established vaccination and immunization program that is hinged on prevention of infectious diseases and a strong surveillance and response system that serves to identify public health emergencies and guide control strategies. Kenya is a signatory to the Addis Declaration on Immunization that seeks to ensure that everyone in Africa receives the full benefits of immunization¹². In this regard, Kenya offers vaccination against 14 childhood diseases as part of the Expanded Program for Immunization (EPI) and other non-EPI vaccines to particular groups

¹² <u>https://www.afro.who.int/health-topics/immunization/the-addis-declaration-immunization</u>.

like food handlers, health workers and international travelers. By 2019, just before the onset of the COVID-19 pandemic, immunization coverage for vaccines offered in the first year of life was 82 percent against a target of 90 percent¹³.

The vaccine supply chain in Kenya is structurally organized into 4 tiers with one Central Vaccine Store (CVS) situated in Kitengela, Kajiado County (Figure 1). The CVS distributes vaccines to nine (9) regional stores (RVS) on a quarterly basis from where 304 sub-county stores collect the vaccines and distribute to nearly 8,000 immunizing health facilities (IHFs) on a monthly basis. Operations and procurement at CVS and RVS are managed by the national government, while sub-county and IHF functions are managed by county governments. The MOH's NVIP manages Kenya's vaccine procurement and cold chain, ensuring uninterrupted last-mile availability of safe, effective vaccines. Procurement is undertaken at national level with all routine childhood and routine vaccines, plus other vaccine-related supplies, procured through UNICEF. The NVIP is also mandated with introduction of new vaccines and related biologicals into the country's immunization plan.



Figure 1: Kenya's immunization value chain

Source: NVIP/MOH

The vaccine cold chain is an essential component of the immunization supply chain that entails storage and transportation of vaccines at recommended temperatures to prevent degradation of the antigen and loss of potency. It therefore ensures speedy delivery of high quality, effective and safe vaccines to the public. With the development of a Cold Chain Expansion and Rehabilitation Plan (CCERP) in 2016, projections were made to guide the expansion of the cold chain from 2017 to 2021. In 2018, the NVIP scaled up its cold chain infrastructure through GAVI's Cold Chain Equipment Optimization Platform (CCEOP) by procuring cold chain equipment worth USD 5 Million. Under this plan, 800 new IHFs were opened, 1460 IHFs were equipped with storage and distribution equipment that met performance quality standards (PQS) while a further 250 had their

¹³ Kenya: WHO and UNICEF estimates of immunization coverage 2020.

existing capacity expanded. Cold rooms were also installed in 4 sub-county stores and 1 regional store. While these upgrades significantly increased Kenya's capacity for routine immunization, the onset of the COVID-19 pandemic and the rapid development and deployment of vaccines that required ultra-cold storage temperature exposed capacity gaps in the cold chain.

1.4 Cold chain capacity gaps in Kenya

Prior to the development of COVID-19 vaccines, Kenya's national vaccine cold chain could handle vaccines that required ordinary storage and transportation temperatures ($+2^{\circ}C$ to $+8^{\circ}C$). Most of the COVID-19 vaccines approved for emergency use could be handled at this temperature range. However, with the use of the mRNA platform, the Pfizer-BioNTech vaccine (BNT162b2) required ultra-low temperature storage for which there was zero capacity in the public sector in Kenya. For successful introduction of these vaccines in the country, ultra-low temperature freezers were urgently needed. A rapid national rollout of COVID-19 vaccines also required end-to-end logistics from the CVS to regional depots. As of 2020, there was only one (1) refrigerated truck for this purpose. At lower levels - Subcounty stores and IHFs – not all facilities were equipped with PQS compliant CCE, thereby lacking adequate space to hold the projected consignments of COVID-19 vaccines.

In addition to the ramping up of storage infrastructure, continuous and consistent temperature logging as well as real-time remote monitoring of temperature and moisture was needed for the COVID-19 vaccine supply chain. A number of the regional stores also lacked an alternative power source and required diesel generators to ensure full time reliable power supply for temperature maintenance.

The devolved structure of health management in Kenya sometimes leads to non-clarity on the expectations and mandates of each level as far as provision of immunization services is concerned. This often leads to procurement of non-standard equipment by county authorities. The increased demand for a reliable cold chain as Kenya ramped up vaccination against COVID-19 therefore further stretched the existing capacity even at county levels. Counties have also reported increased cost of operation of the vaccine cold chain related to frequent collection and transportation of vaccines due to inadequate storage/transportation space, necessitating adequate planning and mapping of adequacy of CCE at all sites.

2.0 Evaluation Purpose, Objectives and Approach

2.1 Evaluation Purpose

The evaluation sought to determine how well Japan's Assistance for the Government of Kenya through UNICEF support of the Cold Chain Development in response to COVID-19 pandemic, has contributed to the expansion of the immunization cold chain capacity to enable effective, efficient, and equitable deployment of COVID-19 vaccines in Kenya. The specific objectives of the project were:

- 1. Procure CCE for COVID-19 vaccines and provide logistical support for installation of CCE
- 2. Strengthen the capacity of government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines
- 3. Strengthen the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines
- 4. Support the governments' COVID-19 cold chain strengthening and vaccine management with coordination/consultation, data collection/analysis and policy/regulatory formulation.

2.2 Evaluation Scope

The evaluation assessed how Japan's assistance for MOH contributed to Kenya 's response to the COVID-19 pandemic. This is to guide and inform Japan's future ODA projects by identifying key lessons learnt and emerging good practices. The study was confined to assessing three key criteria based on the Japan Government ODA evaluation guidelines namely, Relevance, Effectiveness and Appropriateness. The primary users of this evaluation are Ministry of Foreign Affairs of Japan (MOFA), Embassy of Japan in Kenya, Government of Kenya, and UNICEF Kenya country office. The project started in May 2021 and officially ended in December 2022. The Evaluation exercise was conducted between February and March 2023.

2.3 Evaluation Criteria

The assignment sought to answer the three evaluation criteria of Japan ODA namely (Table 2)

Assessment Criteria	Questions to be addressed
Relevance of Policies:	 Contribution of the project to Japan's high level policy and international priorities Relevance of the project to addressing COVID-19 Crisis Role of procurement, installation, and logistical support of CCE in responding to COVID-19 Capacity of government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines Capacity of health care staff on use and monitoring of the CCE and COVID-19 vaccines
Effectiveness of Results:	 Role of the project in enhancing capacity of the CCE for COVID-19 Impact and reach of the project Capacity of healthcare staff
Appropriateness of Processes:	 Appropriateness of the implementing process Appropriateness of the implementing structure Donor coordination

Table 2: Summary of Evaluation Criteria and Questions



2.4 Evaluation Methodology

The evaluation followed a mixed methods approach involving document review, key informant interviews (KIIs) and direct observations. Under document review, we assessed relevant documents including project reports, progress reports submitted by UNICEF Kenya and data from the MOH. Key informant interviews included MOFA staff, UNICEF staff, MOH staff responsible for the project, especially at the national level. The staff at the CVS and heads of the regional vaccine centers were interviewed. To validate the data, we used two types of triangulations. First, data triangulation was used to draw on two or more data sources and second, methodological triangulation, which is the use of two or more qualitative and/or quantitative methods such as interviews.

2.5 Data Analysis

Data was collected through KIIs, document review, and, site visit and observations (see Annex 6 for the KII guide). The data collected from both administrative and field assessment were transcribed, analyzed, and documented in a final report, and shared with main stakeholders. The findings from the document review were useful in designing data collection instruments for KIIs. Information collected was summarized around key arguments and reported using narratives and themes.

2.6 Limitations

The operations of immunization in Kenya are supported by several donors, whose resources are sometimes used collectively from one pot. Japan's Assistance is part of funds used to support the COVID-19 vaccination initiative and in certain cases, it was only possible to ascertain the contribution of the funding, rather than direct attribution. However, since the CCE is specialized and could only support certain types of vaccines, attempts were made to attribute the Japanese Support to specific outcomes.



Photo: A section of CCE yet to be dispatched to regional and sub county stores (March 2023) / ICED

3.0 Findings of the Evaluation



3.1 **Project Relevance**

3.1.1 Contribution of the project to Japan's high level policy and international priorities

In 2015, GOJ adopted the "Basic Design for Peace and Health" as the key guideline for global health policy. GOJ focuses on three priorities namely, overcoming the current COVID-19 crisis, strengthening resilient and comprehensive health systems and, generating an enabling environment for health security across broader sectors (Figure 2)

Overcoming the current COVID-19 crisis

Strengthening the capacity of health services provision, including prevention, diagnosis and treatment, Accelerating R&D and ensuring equitable access to vaccines, diagnostics and therapeutics.

Strengthening resilient and comprehensive health systems

Reinforcing core medical facilities and networks. Strengthening regional health systems. Improving disease surveillance and developing human resources and legal frameworks Enabling environment for health security across broader sectors

> Water and sanitation, food and nutrition, education, gender, etc. Emergency humanitarian aid and economic stimulus are utilized.

Figure 2: Government of Japan global health priorities

Source: MOFA https://www.mofa.go.jp/policy/oda/Health index.html

Figure 2 affirms that Japan's ODA to Kenya is set within objectives of its Global Health Agenda. GOJ recognized the threat of COVID-19 in developing countries, where healthcare systems are fragile and committed to address the effects are directly linked to the health and security of the Japanese residents in foreign countries, and to prevent and alleviate spread of infection to Japan, which may ultimately affect the Japanese economy and society.

In Kenya, Japan supports the attainment of Universal Health Coverage (UHC) under the devolved county system in order to reduce the inequality of health services and enhance the provision of quality health services. Under priority area 4, the ODA is anchored in two pillars. The first is under Health Systems Strengthening where there is a pledge to strengthen health service delivery and heath financing. Some of the envisaged projects are strengthening health facilities, health systems strengthening, and strengthening the accountability in management of county health services. The second pillar is on health emergency preparedness, where response seeks to strengthen early containment and responses to health emergencies such as the spread of infectious diseases. The COVID-19 assistance has supported COVID-19 and regular immunization service delivery in the County. The increasing of CCE capacity will address long

standing gaps in the immunization value chain. Being that Kenya is the largest recipient of Japanese ODA in Africa, the continued donor support will strengthen the long-standing bilateral Kenya-Japan co-operation.

3.1.2 Relevance of the project to mitigating the COVID-19 Crisis in Kenya

Kenya confirmed the first case of COVID-19 through a traveler who had arrived from London. By May 2020, there was accelerated local transmission with new monthly infections exceeding 14,000 cases. As Figure 3 shows, the country has experienced four more major waves in November 2020, March 2021, August 2021, and December 2021, while smaller peaks were observed in June 2022 and December 2022. Majority cases were confirmed in major towns of Kenya with Nairobi being the epicenter.



Figure 3: Correlation between new COVID 19 cases and vaccinations in Kenya Source: WHO/ MOH Database

To mitigate the spread of disease, the government instituted several measures including mandatory quarantines of cases and their contacts, closure of learning institutions, countrywide night curfew, closure of restaurants and non-essential businesses, suspension of international flights and lockdowns in hotspots (Nairobi, Mombasa, Kilifi, Kwale and Mandera). This led to massive disruptions of social activities.

Kenya commenced the vaccination of its adult population against the COVID-19 pandemic in March 2021 and vaccination of its teenage population with Pfizer in November 2021 (Figure 3). Statistics indicate that by the end of 2021, the country had administered 10.1 million doses of 5 types of COVID-19 vaccines. During this period, 4.2 million people were fully vaccinated while 5.9 million were partially vaccinated. Further evidence suggests that COVID-19 vaccinations helped to contain subsequent peaks. Figure 3 further shows that accelerated vaccination program in March 2021 – November 2022 helped to reduce new incidences and by January 2022, the pandemic had largely been suppressed.

Evaluation evidence suggests that GOJ grant helped to accelerate the vaccination program through provision of ultra-cold chain equipment that would store Pfizer vaccines, which were most suitable for the youth. Before the support, Kenya did not have CCE that could handle these vaccines requiring ultra-low temperatures. The support also increased the capacity of the CVS to efficiently transport vaccines to far flung areas. By March 2023, the donated refrigerated truck was the only operational large capacity vehicle to support deliveries from the country's CVS. The CCE provided is being used to store routine vaccines as well as COVID 19 vaccines. This is because some models can also be operated at -20°C which means that they will be able to store other vaccines after Pfizer COVID-19 vaccine use ceases.

The support provided has also been able to build capacity of trained and skilled healthcare workers in case management, vaccination, vaccine handling and storage. KIIs of health personnel reported that the training sessions were useful in better vaccination management, increasing their effectiveness and reducing their spoilage. As a result, there has been reduced new infections, partially attributed to the deployment of COVID-19 vaccines through this support. Since January 2022, the cumulative number of cases have reduced significantly to date (Figure 4).



Figure 4: Cumulative number of cases in Kenya

Source: WHO/ MOH Database

3.1.3 Procurement, installation, and logistical support of CCE for COVID-19

UNICEF is the sole vaccine and CCE procurement partner for the MOH. Through its strategic programmatic and development platform, UNICEF's procurement services enabled the MOH and its development partners to leverage economies of scale in order to meet supply needs. The development and regulatory approval of COVID-19 vaccines in 2021 generated immense excitement and hope for control of the pandemic in Kenya, but the healthcare system was then faced with the complex task of securing, distributing, and administering sufficient quantities to the

adult population. At the time, global supply chains were in crisis due to the economic shocks of pandemic response measures. Given its longstanding advantage in corporate procurement of CCE, UNICEF was well positioned to overcome the global supply chain challenges to procure and supply the CCE for all levels of Kenya's vaccine cold chain. Further, UNICEF has previously been involved in the expansion and upgrading of Kenya's vaccine cold chain with equipment that meet WHO standards through GAVI's CCEOP and World Bank funding and therefore, was an experienced and relevant partner for MOFA in this project.

3.1.4 Capacity of government staff on operation, maintenance use and monitoring of the CCE and COVID-19 vaccines of CCE for COVID-19 vaccines

Through the Country Development Cooperation Policy, Japan's ODA seeks to support healthcare systems strengthening, and health emergency preparedness and response under priority area 4. Successful implementation of this CCE project required strong in-country leadership and ownership through knowledgeable, dedicated and competent staff at all levels of the cold chain. The relevance of training cold chain logisticians and technicians, and end-user healthcare workers was therefore within GOJ 's policy. Given that COVID-19 vaccines were being introduced into the country for the first time, there was limited human resource capacity to manage these vaccines, especially in the emergency context of the pandemic. First, cold chain technicians at national and regional levels needed to be trained on the installation, operation and basic maintenance of ultralow temperature freezers, which had not been used in the vaccine cold chain before.

In 2020, the national and county governments of Kenya set out to recruit 11,000 additional healthcare workers (HCW) to strengthen the healthcare system's capacity to accommodate surges in caseloads due to COVID-19^{14,15}. Majority of these workers were new to the workforce and had limited exposure to practical vaccination processes. However, they would possibly be involved in vaccination efforts, and therefore needed training to empower them to effectively use CCE and other supplies like temperature monitors, needles and syringes. These training workshops were practical and beneficial, and the result was utilized to strengthen immunization activities in HCWs respective areas.

As priority recipients of the vaccines themselves, it was important to train HCWs on the principles of COVID-19 vaccination, how the vaccines work and their safety profile. Healthcare workers then also played a critical role of educating the public on safety and efficacy of COVID-19 vaccines, allaying fears by providing correct and accurate information.

Studies have shown that majority of people who opt for vaccination do so consciously after getting trustworthy information from a healthcare worker¹⁶. Therefore, education and communication strategies are relevant for HCWs themselves to increase vaccine uptake and to also play a key part in role modeling preventive behaviors for the public thus reducing the burden of the pandemic. Our evaluation concludes that Japan's assistance provided support for strengthening health service delivery and human resource development in the area of infectious disease control in Kenya during the COVID-19 pandemic.

¹⁴ https://www.businessdailyafrica.com/bd/news/covid-19-kenya-begins-hiring-of-6-000-more-health-workers-2285910

 ¹⁵ https://www.the-star.co.ke/news/2020-05-23-kenya-to-hire-additional-5000-health-workers-with-diploma-certificate/
 ¹⁶ Solís Arce *et al* (2021). COVID-19 vaccine acceptance and hesitancy in low- and middle-income countries. *Nature medicine*. https://doi.org/10.1038/s41591-021-01454-y



3.2 Effectiveness of the project

The effectiveness of the project was assessed as the level of achievement of the goals and degree of outcome viz a viz the input. Before the COVID-19 pandemic, Kenya's healthcare systems were accustomed to distributing vaccines to different segments of the population through regular channels. But the COVID-19 vaccines were of a different magnitude in terms of scale and rapidity with which the vaccine should reach the public. This project was therefore effective in strengthening the existing cold chain to a fast, efficient and responsive one.

3.2.1 Capacity of the CCE for COVID-19

The project was found to be effective in increasing the country's capacity to receive, store and distribute COVID-19 vaccines throughout the entire vaccine cold chain. A list and functional status of all items procured and delivered to the NVIP is attached under Annex 2.

First, with the first-time introduction of twenty-six (26) ultra-low temperature freezers, a net volume of 14,630 liters was created in the cold chain at the CVS and RVS level. The 18 Mainz TCW300AC freezers increased the CVS storage capacity by 3,672 liters which handled the Moderna vaccines that needed storage at -15°C to -25°C. A further 6,270 liters of refrigerated volume (+2°C to +8°C) was added to the cold chain, through the installation of 96 refrigerators at sub-county stores and immunizing health facilities. At the service delivery points, additional long range vaccine carriers used by healthcare workers expanded the capacity by 34,650 liters. Overall, through GOJ's support, Kenya's capacity for handling COVID-19 vaccines across the cold chain increased by approximately 60,000 liters net vaccine volume.

Secondly, temperature loggers and remote temperature monitoring systems were delivered to sub-county stores and to the CVS. These were important in ensuring that vaccines are maintained at high quality throughout the distribution chain with zero to minimal loss of potency as temperatures could be strictly observed and any deviations quickly handled.

An important part of the cold chain is delivery vehicles. Two (2) years prior to this project, a 4tonne delivery truck had been donated to the CVS through a World Bank grant. However, the truck had never been operational as it lacks registration documents. Therefore, the refrigerated Isuzu NQR truck that was donated by GOJ filled a critical gap in logistics between the CVS and regional stores. In the month of February 2023 alone, the truck delivered vaccines from the CVS to the Garissa and Wajir regional stores covering a total distance of 2,340 kilometers during these trips, and ensuring steady supply of these life-saving commodities. In addition, the truck has been used also for the distribution of cholera vaccines during the October 2022 – Jan 2023 cholera outbreak.



Photo: Refrigerated truck donated through GOJ grant (March 2023)

Lastly, the procurement of Samsung Tablets strengthened data and inventory management at the service delivery points countrywide. The tablets were proportionately distributed to counties and sub-counties (Annex 3), for use by data entry clerks and inventory managers. Complete, end-to-end inventory visibility is vital to understanding when stocks are needed and to efficiently track vaccine consumption, ensuring each individual vaccine shot can be identified by manufacturer and batch number. These are also important for monitoring of vaccine-induced adverse events and enhancing the efficiency of recurrent/booster application. Indeed, using these devices, data entry clerks at the vaccination sites could register individuals for vaccination through the Chanjo Portal (<u>https://portal.health.go.ke/</u>). Following reception of the first dose, the public could verify and download vaccination certificates and view their vaccination schedule, which was made possible through these devices.

Nevertheless, a few issues were observed that potentially had an impact on the effectiveness of the donated equipment:

- While the grant was awarded in 2021 at the height of the pandemic, some equipment was delivered to the CVS as recently as February 2023 when the positivity rate in the country was nearly zero. This late delivery could have been occasioned by the challenges experienced in global supply chains. However, this meant that some supplies were not on ground at the time they were needed most. Notwithstanding, all equipment have been delivered to the CVS and some have been distributed countrywide.
- Two electric forklifts were delivered to the CVS to enhance ease of moving heavy loads in and out of the warehouse. It was observed that these forklifts are yet to be used as their charging plugs do not correspond to the Kenyan power outlets. Special adapters needed to enable the safe plugging and charging of these machineries were not supplied and are yet to be procured through any other means, and as such, the equipment lies unused at the warehouse. The staff at CVS indicated that the rewiring of power outlets would be done in a few months to create charging ports for this equipment.
- We observed that all but one of the TCW4000AC refrigerators were still kept at the CVS warehouse, and not at the regional stores, where vaccine storage capacity needs expansion. The CVS has developed an outside distribution plan (ODP) and deployment of the equipment will be done by end of May 2023.
- It was also reported by NVIP staff that there was a lack of clarity on procurement of some spare parts for the freezers and refrigerators. Given that some of this equipment had warranty agreements with the manufacturers, the NVIP staff were not fully appraised on the scope of the warranty agreements and therefore couldn't effectively follow up with the manufacturers for after-sales services.

3.2.2 Impact and reach of the project

Kenya has had seven waves of the COVID-19 pandemic since the report of the index case on 12th March 2020. As at 21st March, 2023, there have been 342,953 confirmed cases of COVID-19 infections in the country¹⁷, with 5,688 of these being fatal. Transmission has drastically reduced with low positivity rates and low hospital admissions reported.

¹⁷ https://covid19.who.int/region/afro/country/ke

A year after the pandemic onset, vaccination of the adult population began in March 2021 and vaccination of the teenage population began in November 2021. Kenya laid out plans to fully vaccinate its entire adult population (27 million people) and entire teenage population of 5.8 million by the end of December 2022. To achieve this goal a total of 31,470,700 doses of COVID-19 vaccines have been procured to date through the COVAX facility, bilateral donors and AU's African Vaccine Acquisition Trust (AVAT) (Table 3).

Vaccine Type	Doses Received	Doses Dispatched	In stock as at 13.03.2023
AstraZeneca Oxford	10,354,740	10,354,740	0
Janssen	7,273,350	6,822,150	451,200
Pfizer	10,792,350	10,582,110	210,240
Moderna	2,850,260	2,850,260	0
Sinopharm	200,000	30,000	170,000
TOTAL	31,470,700	30,639,260	831,440

Table 3: COVID-19 Vaccines Received and Dispatched from the CVS

Source: MOH (2023)

A significant fraction of these vaccines was received, stored, and distributed across the country through the CCE procured with the support of GOJ. In particular, the entire volume of Pfizer vaccine which required storage at -80°C was handled using the ultra-low cold chain freezers that were supplied to both the CVS and regional stores. Therefore, approximately 34 percent of all COVID-19 vaccines were handled through the ultra-low temperature freezers. In addition, since all the vaccines required strict temperature controls, the GOJ's donation greatly increased capacity for the monitoring and last-mile delivery of all COVID-19 vaccines across the country.

As of 23rd March 2023, over 23 million total COVID-19 vaccine doses have been administered to >10 million fully vaccinated adults, representing 37.6 percent of the population (Table 4). With the expansion of vaccination to include children, nearly 3 million doses have been administered to children aged 12-18 years with 10.6 percent of the children fully vaccinated¹⁸.

Table 4: Kenya COVID-19 Vaccination Data

Current Status	Total doses Administered
Total doses administered	23,750,431
Total doses administered adult population (18 years and above)	18,708,912
Fully vaccinated adult population (18 years and above)	10,253,388
Partially vaccinated adult population (18 years and above)	2,132,750
Total Booster Doses	2,091,409
Total doses administered to children (12yrs to below 18yrs)	2,950,110
Partially vaccinated children (12yrs to below 18yrs)	2,108,234
Fully vaccinated children (12yrs to below 18yrs)	841,876
Proportion of adults fully vaccinated (18 years and above)	37.6%
Proportion of children fully vaccinated (12yrs to below 18yrs)	10.6%

Source: MOH (23rd March 2023)

¹⁸ Kenya COVID-19 Vaccination Program- Daily Situation Report: 23rd March 2023

Beyond the COVID-19 pandemic, the expanded cold chain capacity across the country will be beneficial for storage, distribution and inventory management of other EPI and non-EPI vaccines.

3.2.3 Capacity of healthcare staff

The second component of the grant sought to achieve three objectives namely; (i) Strengthen the capacity of government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines, (ii) Strengthen the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines and, (iii) Support the government's COVID-19 cold chain strengthening and vaccine management with coordination/ consultation, data collection/analysis and/or policy/regulatory formulation. To implement this, three major capacity workshops were implemented.

3.2.2.1 Training on government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines

The NVIP organized a two-day workshop targeting the regional depot managers, plus regional and national cold chain engineers. This training was held on 13- 14th September 2021 at the CVS in Kitengela (See Annex 3 for training program). A total of 24 officials comprising regional depot managers, regional maintenance managers and cold chain engineers and technical staff at the CVS were trained on operation and maintenance of the new CCE. The training curriculum had six modules (Table 5).

Module	Key components
Module 1 – Rationale, justification and objectives for deployment of COVID-19 vaccines	 Rationale for use of COVID-19 Vaccines Objectives for deployments of COVID-19 vaccines
Module 2 – Target population and eligibility criteria	 Phases of Vaccine Introduction Eligibility for Vaccination Contraindications and precautions of COVID-19 Vaccine
Module 3 – Vaccine presentation, storage requirement and shelf life	 COVID-19 vaccine characteristics Vaccine Storage requirements Stock management for COVID-19 vaccines
Module 4 – UCC Installation	 Handling of Ultra-cold chain equipment General considerations when establishing UCCE system
Module 5 – Special Vaccine arrival and handling procedures	 Procedures for receiving international shipment at the central/regional store Vaccine protocols
Module 6 –Temperature Monitoring	 Operation of temperature equipment Data management Temperature data logging during transport

Table 5: Training curriculum for operation and maintenance of new CCE

Table 5 shows the various training areas for the technical staff. The training provided capacity for regional vaccine stores to receive vaccines directly from international shipments. Other than the

CVS at Kitengela, regional depots such as Kisumu, Eldoret, Mombasa and Meru received shipments, reducing the time taken to deliver the packages once cleared from the port. KIIs with trainees indicated high satisfaction with the modules on handling shipments. The key steps for receiving shipments included (i) cleanliness of handlers; (ii) opening the shipping boxes and duration for opening; (iii) deactivation of temperature data logger; (iv) inspection of shipping container to confirm the number of ordered vaccine vial; (v) transferring the vaccines into the ULT freezer and (vi) managing individual Soft Box shippers. These steps provide good capacity for RVS staff to receive future shipments for all vaccines. KIIs with NVIP staff indicated future plans to have regional vaccines stores in every county to enhance distribution and uptake of vaccines.

Another key feature of the training was practical sessions carried out at the CVS workshop. For instance, trainees role-played a scenario for receiving Pfizer shipper, unpacking into UCC and preparing the shipper for return. Others were asked to practice dynamic labeling of the Moderna vaccine. Each of the depot officers were required to calculate how much storage space is available for the Moderna vaccine in their stores. The MOH trainers in conjunction with manufacturer staff were able to take the technicians through practical in installation and Maintenance of UCC and Demonstration on use of Log-tags®. KIIs with NVIP staff expressed a high approval of the training process and the understanding of the curriculum. Except, there is need for continuous training cover training areas while retooling the staff on new trends in CCE operations and maintenance

KIIs with NVIP indicated that the regional officers would support training of the respective county Expanded Program on Immunization (EPI) Logisticians. Through the grant support, a total of 47 County EPI logisticians were trained on operation and maintenance of new CCEs. Thus, a total of 71 officers were trained against an initial target of 54 officials. This evaluation affirms that the target number of trainees was exceeded at the same time reaching a wider audience in the immunization supply chain.

3.2.2.2 Training on strengthening the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines

NVIP organized two major trainings for regional depot managers and maintenance officers on monitoring of the CCE and COVID-19 vaccines. The first training occurred in Crowne Plaza Hotel in Nairobi on 19 - 20 August 2021 (see Annex 4 for the training program). The second training was held on 25th August 2021 at Panafric Hotel in Nairobi (see Annex 5 for the training program). Both trainings targeted regional depot managers and maintenance officers. The training covered 10 key modules (Table 6).

The first three modules focused on the overview of Coronavirus Disease (COVID-19), rationale, justification, and objectives for deployment of the COVID-19 vaccines and target population, eligibility criteria and contra-indications. The evaluation suggests that participants had a good understanding of these which enabled them to implement the vaccination program efficiently.

In view of COVID-19 vaccines being new in the immunization supply chain in Kenya, the module on vaccine presentation, storage requirement and shelf life were critical in enabling healthcare staff handle them urgently. KIIs with participants indicated a good undertaking of stock management in the areas of operation and were able to manage stocks efficiently. Table 6: Training curriculum for health care staff on use and monitoring of the CCE and COVID-19 vaccines

Module	Key components
Module 1 – Overview of Coronavirus Disease (COVID-19)	 Signs and symptoms of COVID-19 Diagnosis and treatment of COVID-19 Prevention of COVID-19
Module 2 – Rationale, Justification and Objectives for Deployment of the COVID-19 vaccines	 Epidemiology of COVID-19 disease Rationale for use of COVID-19 Vaccines Objectives for deployments of COVID-19 vaccines Target population and eligibility criteria
Module 3 - Target Population, Eligibility criteria and Contra-indications	 To describe the phases of Vaccine Introduction To describe the eligibility for Vaccination To outline the contraindications and precautions of COVID-19 Vaccine
Module 4 – Vaccine presentation, storage requirement and shelf life	 COVID-19 vaccine characteristics Vaccine Storage requirements Stock management for COVID-19 vaccines
Module 5 – IPC Principles for COVID-19 Vaccination	 Infection prevention and control measures during COVID-19 vaccination sessions to protect health workers, vaccine recipients, and the community. Set up and management of vaccination site Process of safe administration of COVID-19 vaccine and healthcare waste management
Module 6 – COVID-19 Vaccine Administration	 Activities to be carried out before, during and after an immunization Technique for vaccine administration Considerations for conducting immunization sessions Ways to ensure safe injection and proper waste management
Module 7 Communication for COVID-19 - 19 Vaccine Introduction	 Strategies employed by MOH to mitigate against COVID-19 Health care workers' roles and responsibilities for vaccination Effective communication about COVID-19 vaccination
Module 8 - Electronic Vaccine Registry – Chanjo Management Information System (CMIS)	 Roll-out of Vaccines (COVID-19), Storage of individual personal data, tracking of individual immunization schedules and corresponding immunization histories. Vaccine traceability, improve the timelines of vaccination, reduce re-vaccination, coverage and provide reliable data/reports for decision-making and inform policy
Module 9- COVID-19 Vaccine Data Management and Repo	 Basic recording and reporting tools for COVID-19 vaccines COVID-1919 vaccination data and registration Process of making monthly summary report Tracking defaulters
MODULE 10 - COVID-19 Vaccine Safety Monitoring and Surveillance	 Identify an adverse event following immunization (AEFI). Classification and respond to AEFI Reporting AEFI following COVID-19 vaccination

Source: MOH Training Curriculum (2023)

One of the largest impediments to efficient immunization is the wastage of vaccines. KIIs with vaccine managers indicated that vaccine wastage in COVID-19 were about 10 percent. This can

be considered as very effective since World Health Organization reports over 50 percent vaccine wastage around the world¹⁹. In line with the call by GAVI to reduce wastage, this training was critical in meeting this need, and future training sessions can help ensure that maximum wastage allowance of the single-dose or two-dose is not more than 5 percent. At present, NVIP is using existing manuals to manage Standard Operating Procedures (SOPs). In view of the CDC's recommendation to enhance effectiveness, there is need for NVIP to be supported to develop and maintain clearly written, detailed, and up-to date storage and handling SOPs for COVID-19²⁰.

The training of the regional managers and vaccine managers as lead trainers is an effective indicator for continuous capacity at the county and sub-county level. After the training, the beneficiaries were able to support local HCWs to learn about vaccine administration and management including through blended learning with in-person and virtual training. Through this system, NVIP and UNICEF estimate that at least 3,300 health workers, who constitute 40 percent of immunizing health facilities, are able to support COVID-19 vaccination operations. Future support would ensure all healthcare staff are appraised on COVID-19 vaccination and other new vaccination practices.

It was evident that the trainers are in touch with the trainees, and they support them in any possible way professionally. The training materials in terms of the presentations and other resources have all been made available to the participants and can therefore be used to conduct their own training.

3.3 Appropriateness of the Process

3.3.1 Proposal development and grant approval

The process of grant approval followed Japan's framework for ODA to countries. Japan-Kenya ODA has a focus on health systems strengthening and health emergency preparedness and response. Following the COVID-19, the Japanese Government resolved to provide ODA to selected countries on an emergency basis. As one of the MOFA official notes, there was a decision to fast track the proposal through the National Diet (parliament) for approval.

The selection of UNICEF as the implementing partner was informed by the fact that it is largest single vaccine buyer in the world and the organization has expertise and experience in procurement and logistics of vaccines. UNICEF has experience in routine immunization and outbreak response and works in more than 100 countries. The organization is already the procurement partner for other global initiatives such as GAVI. Future global initiatives would continue to engage with reputable and experienced partners especially during emergencies such as COVID 19. Following the agreement to support countries, UNICEF ESARO initiated the process of submitting specific proposals for consideration (Figure 6).

²⁰ CDC (2023) Vaccine Storage and Handling Toolkit

¹⁹WHO (2005) Monitoring vaccine wastage at County level: Guidelines for Program Managers <u>https://apps.who.int/iris/bitstream/handle/10665/68463/WHO_VB_03.18.Rev.1_eng.pdf</u>

https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf



Figure 6: Process of proposal development and grant approval

Figure 6 shows that the proposal development had elaborate consultations right from the local level. KIIs with NVIP revealed that there were extensive deliberations right from the sub-county vaccines stores, to the regional and the CVS at the national level. The CVS has mapped the country's cold chain equipment requirements and was able to refine the proposal as per WHO standards and needs. The officers at the store were to provide specifications of the CCE they needed.

In the second stage, UNICEF Kenya engaged MOH officers to refine the proposal and align it with grant requirements. Also, being that UNICEF was implementing various grants from other donors, this process ensured that the Japan Grant complements existing donor support in an efficient manner. The third stage involved collating various proposals from recipient individual countries and refining it for onward submission to the MOFA office. It is noted that the grant was administered from the UNICEF ESARO office, so it was important to align the proposal to the need and standards required. The last stage was review and approval of the MOFA headquarters. KIIs with a MOFA official confirmed that this was fast tracked to respond to an emergency. Overall, the process of proposal writing was participatory, efficient and tailor made to suit the country's needs.

3.3.2 Implementing structure

This project was part of Japan's COVID-19 vaccine-related support in cooperation with the COVID-19 Vaccines Global Access (COVAX) Facility which seeks to ensure equitable access to safe, effective, and quality vaccines in all countries and regions in order to globally overcome COVID-19. COVAX is co-led by the Coalition for Epidemic Preparedness Innovations (CEPI), GAVI and the World Health Organization (WHO) and UNICEF. Japan became one of the first

developed countries to participate in the COVAX Facility. The support has been three pronged through financial support, donation of vaccines and last one-mile support²¹. Particularly, supporting cold chain system development, improving capacity of health care providers, and providing other assistance has been key for delivery of vaccines around the World.

Through the COVAX facility, the GOJ has collaborated with the most appropriate and efficient structure for delivery of vaccines. The collaboration has an end-to-end system and is working with manufacturers and partners on the procurement, freight, logistics, storage and roll-out in countries. The system also allows for pooling of resources which can result in economies of scale and also greater access of vaccines to low and middle-income countries.

The implementation of the grant was done by four main partners (Figure 7). MOFA was responsible for providing funding and logistical support to UNICEF ESARO team. This was done through the COVAX led by UNICEF, GAVI, CEPI, WHO. The evaluation suggests that all funds were submitted to the UNICEF office as per the timelines. In addition, the Embassy of Japan Kenya provided additional in country support in monitoring and evaluation, addressing logistical and implementation challenges.



Figure 7: Implementing structure for grant

UNICEF ESARO liaised with the global supply chain office to ensure efficient procurement of equipment and resources. In view of the urgency at the time, the partnership of UNICEF with WHO and GAVI through the COVID-19 Vaccine Delivery Partnership (CoVDP) ensured a costeffective, efficient and equitable procurement and distribution of supplies. It is noted that delays in delivery of CCE and other supplies were occasioned by the pandemic itself and no other vehicle

²¹ MOFA (2023) Japan's COVID-19 Vaccine-Related Support <u>https://www.mofa.go.jp/files/100226669.pdf</u>

would have delivered the grant faster. The UNICEF also works with WHO partnership to ensure CCE procured as well as the capacity building activities meet the required standards and quality

UNICEF Kenya is central to Kenya Immunization strategies and activities. In liaison with the UNICEF ESARO office, UNICEF Kenya was responsible for delivery of the CCE and other consumables. It was responsible for installation and logistical support for CCE to relevant national and regional stores. They also provided support during the training and capacity building. UNICEF Kenya is already supporting the MOH on its vaccine communication campaign and has a good understanding of the immunization landscape in Kenya.

MOH provides the overall leadership in vaccine management including the COVID-19 vaccine. Oversight for COVID-19 Vaccine Deployment is guided by the National COVID-19 Vaccine and Vaccination taskforce, whose mandate is to provide overall technical leadership for the vaccine deployment planning and implementation. The taskforce works in collaboration with the NVIP and County Vaccines Deployment taskforces. Under this ODA, NVIP was responsible for delivering CCEs and other resources to the Central Vaccine, Regional, Sub-County stores and select health facilities. Each of the regional vaccine stores has a manager and maintenance officer responsible for the management of the stores. The maintenance manager is critical during installation, commissioning and other logistical support for CCE at the lower level. The Ministry's cold chain Project Management Team (PMT) is responsible for post installation evaluations of all equipment and provides feedback on processes and performance of CCE. The PMT ensures that there is a clear system for managing immunization staff. Each unit has a focal person for supporting vaccination. During training, the relevant officers were selected for three different training courses.

The overall structure for project implementation is robust to ensure efficiency, quality and value for money. Following KIIs, a number of improvements were proposed. First, there are major human resource gaps to help in the efficient operations at the CVS. The center is understaffed and is supported by a few technical staff seconded by donors such as the Clinton Health Initiative. Therefore, the operations in deployment and technical support to regional and sub-county is impaired. Building more capacity at the CVS as well as local centers is desired if more rapid operations are to be achieved. Second, the tripartite nature of the support among national government, UNICEF, and the manufacturer (providers) makes CCE maintenance complex. It is recommended that the Ministry is made aware of the extent of warranty and post-installation support by the manufacturer so that any gaps in the CCE are planned for and addressed.

4.0 Lessons Learned and Recommendations



4.1 Lessons Learned

- 1. **Planning and designing projects in line with national health priorities:** The implementation of this project was in line with Kenya's national health priorities as well as GOJ's global health agenda. This strategic alignment brought about the success of the project.
- 2. Improving project design and implementation: The project's proposal benefited from extensive consultations at different levels: sub-county vaccines stores, to the regional and the CVS at the national level. There were further engagements among MOH, UNICEF Kenya and UNICEF Headquarters. The process of proposal writing was participatory, efficient and tailor made to suit country needs. During the project implementation, constant update from UNICEF to donor side (MOFA or Embassy) was needed since the project activities were not fully finished by the initial project end date (31 May 2022); the project was subsequently extended for seven (7) months until 31 December 2022.
- 3. Improving post-project implementation: Whereas the project was largely implemented according to design, providing clarity of the roles of different organizations is key for addressing post-implementation issues (warranty and maintenance). The multi-stakeholder nature of the project affirms the need to communicate to the user on the kind support available to them after project closure.
- 4. The role of strategic partnerships at the local and global level: Engaging with strategic partners at all levels can potentially deliver desirable outcomes in terms of economies of scale, efficiency and effectiveness. In this project, UNICEF was well positioned to overcome the global supply chain challenges to procure and supply the CCE for all levels of Kenya's vaccine cold chain. At country level, UNICEF has been involved in the expansion and upgrading of the country's vaccine CCE that meet WHO standards through GAVI's CCEOP, and therefore, is an experienced and relevant partner for MOFA in this project.
- **5.** Enhancing monitoring and reporting: There is a need to establish a clear monitoring mechanism including implementing assessments of training workshops to inform the value of the curriculum being delivered. Such feedback can help design and review training programs and needs.
- 6. **The role of supporting infrastructure needs**: The provision of donor support requires that basic infrastructure is in place to ensure efficiency in project implementation. Future program design can provide options for overcoming infrastructure gaps that may impede or delay successful implementation of project deliverables. In this project there were delays in delivery of CCE to regions where the infrastructure could not accommodate the donated CCEs.

- 7. Additional infrastructure and equipment: Although the CCE provided the much-needed capacity to address the COVID-19 emergency, the existing capacity gaps are many including stable and affordable power supply, separation of dry and cold stores at the CVS and, expanding and modernizing regional and sub-county stores. Future support to enhance capacity against a growing population is envisaged.
- 8. The role of human resource capacity building in project design: Providing infrastructural support together with training of relevant staff on the use of the resources increase the value of effectiveness of projects. This is a sustainability mechanism as this capacity can be cascaded at all levels in the organization. In view of NVIP's future plan to have regional vaccines stores in every county to enhance distribution and uptake of vaccines, enhanced training at the devolved levels of government is desired.

4.2 Recommendations

Maintenance systems

- 1. To protect GOJ's investment in CCE, the MOH needs to strengthen preventive maintenance systems at the national and sub-national level for longevity of the new equipment. The Ministry should prioritize a regularly funded maintenance system that covers all equipment. At present, there is heavy reliance on donor support for operations of the immunization supply chain.
- 2. There is also a need to reinforce and adapt best practices in maintenance through, review and updating of written standard operating guidelines, devolving vaccine systems, and leveraging on new technologies in monitoring. The guidelines provided by WHO, GAVI, UNICEF and CDC are good baselines for continuous improvement.
- 3. Improve communication on post-project implementation activities. There is a need for the project donors and implementers to communicate to the users on the kind of support available to them after project closure including warranty support, after-sale service, spare items not covered in the contract. This will bring clarity on the role of the government towards maintenance of equipment.

Additional infrastructure and equipment

- 4. In view of the growing population and additional demands of new vaccines such as COVID-19, there is a need to expand the physical space available at the CVS to cater for cold rooms and for dry vaccine related supplies. It is recommended to build an entirely new warehouse building for CVS to maintain efficient operation and better pandemic preparedness.
- 5. There is also a need for MOFA and partners to support capacity expansion for regional and sub-county stores. This will boost the Universal Health Coverage (UHC) program and devolution of health.

6. The Government and donors can ensure that we have stable affordable and affordable power supply to ensure the vaccine warehouses can continuously operate. Since the current cost of power is a major cost, tapping into green energy (e.g., solar systems) is a cost-effective option in the longer term.

Human Resource Capacity

- 7. There is a need for MOH to partner donors to continue supporting further training on CCE maintenance and management of vaccines. The recommended modules are expensive and should cover more staff spread across the country. This will help enhance vaccine management and reduce wastage.
- 8. In view of the growing need for vaccination and on-boarding of new vaccines such as COVID-19, there is a need for MOH to increase the number of staff to support vaccine store operations both at the national and regional level. The county departments can also second more staff to support this function at the local level.

Annexes



Annex 1: Budget Breakdown of the GOJ Support

Sector	Budget Amount (US\$)	Utilized Amount (US\$)	Remarks
Component A			
Supply Procure CCE for COVID-19 vaccines and provide logistical support for installation of CCE	1,281,796	1,415,318.42	More funds were utilized than budgeted, due to the increased need for CCE and to provide for improved monitoring and reporting on vaccines and their utilization, as prioritized by the Country National Deployment and Vaccination Plan and at the request of the MoH, following cost savings from Component B.
Sub Total Component A	1,281,796	1,415,318.42	
Component B			
Strengthen the capacity of government staff including technicians on operation and maintenance of CCE for COVID- 19 vaccines.	0	0	
Strengthen the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines.	237,186	188,945.91	Less funds were utilized compared to budgeted, as the objectives in this component were met and exceeded within the utilized amount, as demonstrated in the table above on results achieved.
Support the government's COVID-19 cold chain strengthening and vaccine management with coordination/ consultation, data collection/analysis and/or policy/regulatory formulation.	0	0	
Technical assistance	151,898	69,452.78	Significant TA was provided by UNICEF Staff funded from other sources (including GAVI) and at the request of the MoH the cost savings were repurposed to component A
Sub Total Component B	389,084	258,398.69	
Sub Total Activities	1,670,880	1,673,717.11	
Program Support costs (Monitoring and evaluation, administration, logistics, telecommunication, visibility, security)	167,088.52	164,251.41	
Sub-total (programmable amount)	1,837,968.52	1,837,968.52	
UNICEF Recovery Cost (8%)	147,037.48	147,037.48	
Total	1,985,006	1,985,006	

Source: UNICEF Final Report to MOFA (2023)

*Funds utilization amounts in the report are only interim indicative figures. The final financial statement will be made available after the financial closure by the UNICEF Comptroller.



Annex 2: List of CCE procurement by the GOJ grant

Description of item	Quantity Procured	Quantity Received	Location	Status at Inception	Current Status
ULF Haier DW-86L828J Ultra-low temperature freezer	12	12	3 at CVS, 9 at all RVS except Garissa	Functional	In use
ULF BMedical U701 Ultra-low temperature freezer	11	11	1 at CVS, 1 each at Meru, Nyeri, Nairobi	Functional	In use
ULF Stirling SU780XLE Ultra-low temperature freezer	3	3	CVS	Functional	Not yet installed
15kVA, 60Hz Generator Water-cooled, diesel generator – for regional depots	3	3	1 at Garissa 2 at CVS	Functional	1 installed in Garissa 2 awaiting establishment of cold rooms at RVS
Mains Frz. BMed TCW3000AC E003/017	18	18	CVS	Functional	In use
Mains Ref. BMed TCW3000AC E003/017	5	5	CVS	Functional	In use
Mains Ref & Frz Haier HBCD- 90 E003/097	30	30	IHFs	Functional	In use
Aucma CFD-50 E003/079 Ice-lined refrigerator	30	30	IHFs	Functional	In use
Mains Ref. BMed TCW4000AC E003/066	18	18	17 CVS 1 at Machakos RVS	Functional	Stored at CVS 1 in use at Machakos RVS
7 liters Long Range Vaccine Carriers - PQS E004/048	4950	4950	IHFs	Functional	In use
0.6-liter capacity Icepack	19500	19500	IHFs	Functional	In use
Forklift Machine	2	2	CVS	Functional	Not yet in use
Isuzu refrigerated truck (3.5 tons)	1	1	CVS	Functional	In use
Samsung Galaxy Tab S7IT	600	600	Counties, Sub-Counties	Functional	In use
30 Day electronic data logger Berlinger FT2E Int.sensor	2400	2300	Counties, Sub-counties	Functional	In use
Assorted refrigerator spare part sets	21 sets	21 sets	Service Provider Warehouse	Functional	Warranty bundle
Voltage Stabilizers	35	35	Service Provider Warehouse	Functional	Warranty bundle
2xWIC Beyond Wireless BC440 E006/037 Remote Temperature Monitoring System	9	9	CVS	Functional	In use
Temperature Log Tags + Programmers	55	55	CVS	Functional	Not in current use
Ultra-Low temperature freezer accessories & spare parts	140	140	Service Provider Warehouse	-	Warranty bundle
RTMS Accessories & Spare Parts	1	1	CVS	Functional	In use
RTMS Subscription & Data	9	9	CVS	Functional	In use



Annex 3. Distribution plan for tables in counties

Data Source: NVIP/MOH (2023)

Annex 4: Training program for government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines



MINISTRY OF HEALTH

NATIONAL VACCINES AND IMMUNIZATION PROGRAM

MULTIPLE COVID-19 -19 VACCINE INTRODUCTION TRAINING

DEPOT MANAGERS TRAINING, KITENGELA CVS

DATE: 13/09/2021, 14/09/2021

Day 1 Program

Time	Session	Facilitator
8:00am - 8:30am	Registration, Introductions	NVIP Secretariat
8:30am – 8:45am	Workshop Objectives	Dr Fathiya
8:45am - 9:30am	Rationale, justification, and objectives for Deployment of the COVID-19 vaccine	Dr Fathiya
9:30am – 9:55am	COVID-19 Vaccine, Eligibility Criteria, and Contraindications	Dr Fathiya
9:55am – 10:15am	COVID-19 Vaccines Attributes, Storage	Lucy Kanja/Eunice Shankil/Catherine
	& Supply Logistics	Silali
10:15am – 10:45 am	TEA –BREAK	ALL
10:45am – 12:30pm	COVID-19 Vaccines Attributes, Storage & Supply Logistics	Lucy Kanja/Eunice Shankil/Catherine Silali
12:30pm – 1:30pm	Installation and Maintenance of Haier UCC	Crown Health care/Ernest Some
1:30pm – 2:30pm	LUNCH BREAK	ALL
2:30pm – 4:15pm	Installation and Maintenance of Haier UCC	Crown Health care/Ernest Some
4:15pm	TEA BREAK	ALL



Day 2 program

Time	Session	Facilitator
8:45am - 9:30am	Special Vaccine transportation, arrival, and handling procedures UCC Equipment handling	Ernest Some/ Lucy Mecca/George Lusiola
9:30pm-10.15pm	Global and Country experiences handling COVID-19 vaccines	Dereje/Fathiya
10:15am – 10:45 am	TEA –BREAK	ALL
10:45am – 11:15am	Role-Play on receiving of Pfizer into UCC and Issuing to County	Lucy Kanja/Eunice Shankil/Catherine Silali
11:15 am – 12:30 pm	Demonstration on Trek & Coldtrace®	Nelima Otipa/Winnie Nyakado/Joseph Mutangili
12:30pm – 1:30pm	Installation and Maintenance of Stirling portable UCC	Freight in Time/UPS/Ernest Some
1:30pm – 2:30pm	LUNCH BREAK	ALL
2:30pm – 3:30 pm	Demonstration on use of Log-tag®	Joseph Mutangili/Ernest Some
3:30 pm -4:15pm	Plenary and way forward	ALL
4:15 pm	TEA BREAK	ALL

Annex 5: Training program on strengthening the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines (19-20 August 2021)



MINISTRY OF HEALTH NATIONAL VACCINES AND IMMUNIZATION PROGRAM MULTIPLE COVID-19 -19 VACCINE INTRODUCTION TRAINING VENUE CROWNE PLAZA DATE: 19 - 20 August 2021

Program Day 1

Time	Session	Facilitator
8:00am – 8:30am	Registration, Introductions	NVIP secretariat
8:30am – 8:45am	Opening of Workshop, remarks	Dr. Willis Akhwale
8:45am - 9:05 am	Pre-test	Edwina Anyango/ Jemima Kibira
9:05am – 9:30am	Module 1: Overview of Corona virus disease	Dr. Sergon Kibet
9:30am – 10:15am	Module 2: Rationale, justification, and objectives for Deployment of the COVID- 19 vaccine	Dr. Stephen Muleshe
10:15am – 10:45 am	TEA –BREAK	ALL
10:45am – 11:10am	Module 3: COVID-19 Vaccine, Eligibility Criteria, and Contraindications	Dr. Rose Jalang'o
11:10am – 11:40pm	Module 4: Infection Prevention & Control	Catherine Munyao/Jemima Kibira
11:40am – 1:00pm	Module 5: COVID-19 Vaccines Attributes, Storage & Supply Logistics	Dr Lucy Mecca/Some/Lucy Kanja
1:00pm – 2:00pm	LUNCH BREAK	ALL
2:00pm – 2:30pm	Module 5: COVID-19 Vaccines Attributes, Storage & Supply Logistics	Dr Lucy Mecca/Some/Lucy Kanja
2:30pm -3:30pm	Module 6: COVID-19 Vaccine Administration	Florence Kabuga/Lucy Kanja

3:30pm - 4:10pm	Module 7: COVID-19 Vaccine Safety Monitoring and Surveillance	Catherine Munyao/Christabel Khaemba
4:10pm - 5:00pm	Module 8: Communication for COVID-19 vaccines	Christine Miano/ Jayne Kariuki
5:00pm	TEA BREAK	ALL

Program Day 2

DATE: 20 August 2021

Time	Session	Facilitator
8:00am – 8:30am	Arrival	
8:30am – 9:00am	Progress update for day 1	County EPI logistician
9:00am – 10:45am	Module 9: Electronic Vaccine Registry – Chanjo Management Information System (CMIS)	Jared Onsomu/Tecla Kogo
10:45am – 11:10am	TEA –BREAK	ALL
11:10 am -1:00pm	Module 10: COVID-19 Data Management and Reporting	Jared Onsomu/Tecla Kogo
1:00pm – 2:00pm	LUNCH BREAK	ALL
2:00 pm – 2:30pm	Pre and post test questions	Edwina Anyango/ Jemima Kibira
2:30pm - 3:30pm	Adaptation of the training modules	Edwina
3:30pm - 4:00pm	Way forward & closing remarks	Lucy Mecca/Edwina Anyango
4:00 pm	TEA BREAK	ALL

Annex 6: Training program on strengthening the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines (25 August 2021)



MINISTRY OF HEALTH

NATIONAL VACCINES AND IMMUNIZATION PROGRAM

MULTIPLE COVID-19 -19 VACCINE INTRODUCTION TRAINING

DEPOT MANAGERS TRAINING, PANAFRIC HOTEL

DATE: 25/08/2021

Program

Time	Session	Facilitator
8:00am – 8:30am	Registration, Introductions	NVIP Secretariat
8:30am – 8:45am	Workshop Objectives	Dr Fathiya
8:45am - 9:30am	Rationale, justification, and objectives for Deployment of the COVID-19 vaccine	Dr Fathiya
9:30am – 9:55am	COVID-19 Vaccine, Eligibility Criteria, and Contraindications	Dr Fathiya
9:55am – 10:15am	COVID-19 Vaccines Attributes, Storage & Supply Logistics	Lucy Kanja/Eunice Shankil/Samuel Musembi
10:15am – 10:45 am	TEA –BREAK	ALL
10:45am – 12:20pm	COVID-19 Vaccines Attributes, Storage & Supply Logistics	Lucy Kanja/Eunice Shankil/Samuel Musembi
12:20pm – 1:00pm	Special Vaccine arrival and handling procedures UCC Equipment	Ernest Some/ Lucy Mecca/George Lusiola
1:00pm – 2:00pm	LUNCH BREAK	ALL
2:00pm – 3:15 pm	Demonstration on Trek & Coldtrace®	Nelima Otipa
3:15 pm -4:00pm	Demonstration on use of Log-tag®	Joseph Mutangili/Ernest Some
4:00pm-5:00pm	Plenary and way forward	ALL
5:00pm	TEA BREAK	ALL

Annex 7: KII Guide for MOFA, UNICEF and Ministry of Health Staff

Project: Evaluation on Cold chain equipment for vaccine storage and distribution handed over to Ministry of Health, donated by Japan (unicef.org)

Evaluation aim

The evaluation will seek to determine how well Japan's assistance for the government of Kenya through the UNICEF support of the Cold Chain Development in response to COVID-19 pandemic has contributed to expand the immunization cold chain capacity to enable effective, efficient and equitable deployment of COVID-19 vaccines in Kenya. The evaluation would assess the specific expected results for the funding which were as follows

- 1. Procure CCE for COVID-19 vaccines and provide logistical support for installation of CCE
- 2. Strengthen the capacity of government staff including technicians on operation and maintenance of CCE for COVID-19 vaccines
- 3. Strengthen the capacity of health care facility staff on use and monitoring of the CCE and COVID-19 vaccines
- 4. Support the governments' COVID-19 cold chain strengthening and vaccine management with coordination/ consultation, data collection/analysis and/or policy/regulatory formulation.

Evaluation questions

Our team understands which inquiry method is needed to answer the three evaluation criteria of Japan ODA namely.

- (1) Relevance of Policies: whether the project was in accordance with Japan's assistance policy for Kenya
- (2) Effectiveness of Results: whether the project produced effective outputs and outcomes
- (3) Appropriateness of Processes: whether the project was implemented appropriately

Preliminary / about the project

- a. Please tell us about your organization and position
- b. Please tell us about the projects/programmes that (ORGANIZATION) has engaged in around the COVID 19
- c. Indicate the legal framework that guides your partnership with MOFA, UNICEF, MOH

MOFA AND EMBASSY OF JAPAN REQUIREMENTS

Relevance of the project

We will seek understanding on the following

- a) The broad policy of Japan's ODA with the associated objectives.
- b) What are MOFA's international priorities (list and explain, where applicable)
- c) Thinking about these international priorities, comment on how the current project fits into these priorities
- d) How the current project has helped to achieve to the overall ODA objective?

- e) How did MOFA identify the need to support Kenya through this project. Explain the process applying and awarding the support
- f) Comment on whether the project is relevant to Kenya and in what ways
- g) Explain the policies that support ODA in execution of its work
- h) In the course of implementing this project, did you come across situations where your policies are not aligned to the Ministry of Health Kenya or UNICEF policies on the grant? If yes, explain how this was resolved
- i) Recommend ways of improving ODA policies to support similar future (cold chain or emergency) projects.
- j) Comment on Japan's ODA policy on the following;
 - i. Objective assessment of proposals
 - ii. Process of application and feedback
 - iii. Approval processes and reporting
 - iv. Budget processes
 - v. Adequacy of funding
- k) What have been the main programmatic achievements and challenges to date?

Effectiveness of the project

- a. How much resource has it been put in the project? In your view, was the budget adequate? To what extent would MOFA vary the budget if a similar project was implemented again?
- b. What are the key outputs of this project? How do these outputs help fulfill MOFA's wider objectives?
- c. Comment on the impact of the project on the health sector in Kenya?
- d. What might future opportunities to support the vaccine management in Kenya

Appropriateness of Processes

- a. What was the process of selecting UNICEF to implement the project?
- b. How do manage the processes of assessment of proposals and approval?
- c. Expound on the structure for implementing and managing the project or projects
- d. Describe the processes in remittal of funds to UNICEF? Was the process on track as per the agreement? Any challenges met?
- e. In view of the project addressing a COVID 19 emergency, is there a policy to fast-track implementation of such projects? How does ODA policy respond to emergency funding?
- f. Comment on the level of coordination between MOFA and UNICEF and Health Ministry: What worked well? What can be improved?

UNICEF KENYA

Relevance of the project

We will seek understanding on the following

- a) UNICEF's broad mission, objective, and strategic directions in relation to vaccine provision and management
- b) What has been the main contribution of the MOFA's Assistance to UNICEF' s mission, objective, and strategic directions

- c) How UNICEF's objectives fit within MOFA's priorities
- d) How UNICEF's objectives/programmes align with Kenya's national health priorities

- e) Rationale for implementing the project
- f) Comment on whether the project is relevant to Kenya and in terms of
 - i. Capacity of cold chain for vaccines
 - ii. Capacity of healthcare staff to manage vaccines
- g) Comment on your experience on the following issues of the project;
 - i. Assessment of proposals
 - ii. Process of application and feedback
 - iii. Approval processes and reporting to MOFA
 - iv. Budget processes
 - v. Adequacy of funding
- h) What have been the main programmatic achievements and challenges to date?

Effectiveness of the project

- a. How much resource has it been put in the project? In your view, was the budget adequate?
- b. To what extent would you increase or decrease the budget if a similar project was implemented again?
- c. What are the key outputs of this project in terms of procurement of CCE for COVID-19 vaccines and; logistical support provided for installation of CCE
- d. Impact and reach of the project
- e. Were there any important unintended outcomes, either positive or negative?
- f. The level of preparedness of the Health Ministry to manage the CCE
- g. Existing human resource, technical, physical capacity (constraints if any) to manage CCE
- h. Was Grant allocated disbursed in a timely fashion? What are the challenges in funds allocation and disbursement?
- i. Was UNICEF able to utilize all fund allocated and disbursed to you during the period of the project
- j. Was the CCE procured and handed in good time. Any challenges in this process
- k. What might future opportunities to support the vaccine management in Kenya

Appropriateness of Processes

- a. Describe the structure for implementing and managing the project
- b. Expound on the process of application and award of the grant
- c. Describe the processes in remittal of funds to UNICEF? Was the process on track as per the agreement? Any challenges met?
- d. Comment on the level of coordination between MOFA and UNICEF and Health Ministry: What worked well? What can be improved?
- e. Monitoring and evaluation mechanism of the project
- f. Did the project have a theory of change (explicit or implicit) and to what extent did the project achieve the projected change?
- g. Do you have any recommendations for the future operation of the JAPAN ASSISTANCE

MINISTRY OF HEALTH



Relevance of the project

We will seek understanding on the following

- i) Please describe the institutional framework for managing immunization in Kenya
- j) Comment on whether the project is relevant to Kenya and in terms of
 - i. The capacity of immunization cold chain in Kenya. To what extent did the Japan ODA support increase the cold chain capacity?
 - ii. Capacity of healthcare staff to manage vaccines. How many staff were trained and in what areas?
- k) Comment on your experience on the following issues of the project;
 - i. Extent of involvement on the application process of the grant
 - ii. Approval processes and reporting to UNICEF and Japan Government
 - iii. Budget processes
 - iv. Adequacy and timeliness of equipment delivery
- I) What have been the main programmatic achievements and challenges to date?
- m) Did you have any challenges during implementation of the project?

Effectiveness of the project

- I. What are the key outputs of this project in terms of procurement of CCE for COVID-19 vaccines and; logistical support provided for installation of CCE
- m. Impact and reach of the project in terms of quantity of vaccines now stored; number of people vaccinated
- n. Were there any important unintended outcomes, either positive or negative?
- o. In relation to the capacity building comment on
 - i. Training modules provided to health staff in operation and maintenance of new CCE and; use and monitoring of the CCE and COVID-19 vaccines
 - ii. Number of officers trained
 - iii. Duration of training
 - iv. Mode of delivery
 - v. Feedback on the training (provides training report, if any)
- p. The level of preparedness of the Health Ministry to manage the CCE
- q. Existing human resource, technical, physical capacity (constraints if any) to manage CCE
- r. Was Grant allocated disbursed in a timely fashion? What are the challenges in funds allocation and disbursement?
- s. What might future opportunities to support the vaccine management in Kenya

Appropriateness of Processes

- h. Describe the structure for implementing and managing the project
- i. Expound on the process of application and award of the grant
- j. Comment on the level of coordination between Japan Government and UNICEF What worked well? What can be improved?
- k. Monitoring and evaluation mechanism of the project