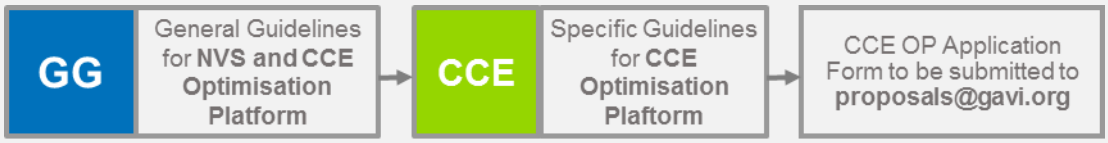
Application Form for
Cold Chain Equipment Optimisation Platform support in May-June 2017 only

Document Dated: April 2017

Application documents for 2017:

Countries applying for Gavi Cold Chain Equipment (CCE) Optimisation Platform support in 2017 are advised to refer to the following documents in the order presented below:



CCE Application Form

Purpose of this document:

This application form must be completed in order to apply for support related to the CCE Optimisation Platform.

Applicants are required to first read the General Guidelines for all types of support, followed by the CCE Optimisation Platform guidelines. Thereafter, applicants should complete this CCE Application Form and submit by email to proposals@gavi.org.

CCE TG

Resources to support completing this application form:

Technology guide for equipment selection for counties wishing to request CCE Optimisation Platform support is available here: www.gavi.org/support/hss/cold-chain-equipment-optimisation-platform/

Extensive technical resources relating to vaccine cold chain equipment management are available on TechNet-21: www.technet-21.org/en/resources/cold-chain-equipment-management

Weblinks and contact information:

All application documents are available on the Gavi Apply for Support webpage: www.gavi.org/support/apply. For any questions regarding the application guidelines please contact countryportal@gavi.org or your Gavi Senior Country Manager (SCM).

Countries are informed that based on post IRC recommendations, **final approved amounts may be different** from what countries have requested.

This final approved amount will be dependent on the availability of funding.

Gavi will respect countries' equipment selection. However, countries could also receive their 2nd or 3rd preference based on their selection in the budget.

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PART A: APPLICANT INFORMATION

1. Applicant information		
Country	Tajikistan	
Date	12 October 2018	
Contact name	Dr Zafarjon Azizov General Director, State Institution of Republican Center of Immunoprophylaxis	
Email address	zafarjon-63@mail.ru	
Phone number	+992 918 40 49 24	
Total funding requested from CCE Optimisation Platform **(US $)**	***The total CCEOP application budget is US $2,271,130.*** *The 50% country investment for the CCEOP proposal -* ***US $1,177,899*** *(including equipment costs + installation service bundle + 6% buffer + 8.5% procurement fee + International Freight Fees) will be covered through the supplemented HSS cold chain component budget.* The estimated GAVI component of the CCEOP budget (equipment cost + service bundle + 6% buffer + International Freight Fees) is $US1,093,230	
Does your country have an approved Gavi HSS support on-going?	Yes ☒ x	No ☐
	Indicate the anticipated ***final year*** *of the HSS:* ***2020***	
Proposed CCE Optimisation Platform **support start date** *(please be informed the actual start date should be at least 8-10 months from application date):*	*Indicate the month and year of the planned start date of the support, based on the strategic deployment plan:* **June 2019**	
Proposed CCE Optimisation Platform support end date:	*Indicate the month and year of the planned end date of the support, based on the strategic deployment plan:* ***December 2021***	
Signatures *Include signed (and official) CCE Optimisation Platform application endorsement by:* *a) Minister of Health and Minister of Finance (or delegated authorities)* *b) Members of the Coordination Forum (HSCC/ICC or equivalent body)*	*We the undersigned, affirm the objectives and activities of the Gavi CCE Optimisation Platform proposal are fully aligned with the national health strategic plan (or equivalent) and that the funds for implementing all activities, including domestic funds and any needed joint investment, will be included in the annual budget of the Ministry of Health:* **Minister of Health and Social Protection (or delegated authority) Minister of Health (or delegated authority)** Name: Dr Olimzoda Nasim Khoja, Minister of Health and Social Protection Name: Mr. Abduqahhorzoda Fayziddin Sattor, Minister of Finance Signature: Signature:	

	Date:	Date:

PART B: MANDATORY ATTACHMENTS: NATIONAL STRATEGIES AND PLANS

This section provides a list of national strategies, plans and documents relevant to supply chain and requested support, which must be attached as part of the application.

☆	All documents listed in the table below are **mandatory**, must be **attached** to your application, and they must be **final** and **dated**. Only **complete applications** will be assessed.

2. Mandatory attachments					
No.	**Strategy / Plan / Document**	**Attached Yes/No**	**Final version (dated)**	**Duration**	**Comments**
1	Signature sheet for the Minister of Health and Minister of Finance, or their delegates				To be provided
2	2a Names of ICC permanent members	Yes	N/A	N/A	HSS Technical Working Group (HSSWG)
	2b Ministerial order No. 316 for updating the composition and ToRs of ICC	Yes	April 2018	N/A	
3	3a National Health Sector Development Plan	Yes	Approved by Government Resolution #368 of 02.08.2010	2010-2020	National Health Strategy of the Republic of Tajikistan 2010-2020
	3b National Health Code	Yes	2017		
4	cMYP	Yes	2016 - 2020		
5	EVM Assessment	Yes	August 2015		
6	EVM Improvement Plan	Yes	2015		
7	07a EVM Annual Work Plan 2018-2019	Yes	March 2018		
	07b EVM Progress Report (Russian)	Yes	Feb 2017		
	07c EVM Progress Report (Russian)	Yes	Aug 2016		
8	WHO CCEI Tool/UNICEF IMT/PATH CCEM Tool/CHAI tool	Yes	December 2017		
9	Inventory Report and Facilities segmentation: "Tajikistan Vaccine cold chain inventory, needs assessment and rehabilitation plan, 2017" Chapter III, Findings and discussion Chapter IV, key conclusions & recommendations	Yes, Draft	June 2018		

2. Mandatory attachments					
No.	**Strategy / Plan / Document**	**Attached Yes/No**	**Final version (dated)**	**Duration**	**Comments**
10	"Tajikistan Vaccine cold chain inventory, needs assessment and rehabilitation plan, 2017": Chapter V: Cold Chain Rehabilitation and Maintenance Plan, which includes: Projected Coverage and Equity Improvements Strategic Deployment Plan Equipment Selection	Yes Yes Yes Yes	June 2018		
11	Maintenance Plan with financing and source(s)	Yes	Aug 2018		
12	Proof of status for CCE tariff exemptions waiver (Gov decision № 459 of 9 Nov 2000)	Yes	Nov 2000		
13	Terms of Reference for National Logistics Working Group (NLWG) Order #721, 11 August 2018	Yes	August 2018		
14	Minutes of the Coordination Forum meetings from the past 12 months before the proposal	Yes	Feb 2107-May 2018		Application approval discussed on 07 Sep 2018 (minutes to be submitted)
	Other relevant documents				
15	15a – Tajikistan Demographic and Health Survey 2015	Yes	2015		
	15b – Tajikistan Immunization Information Systems and Data Quality Assessment	Yes	March 2017	Covers five- year period from 2012	In draft form
	15c - HHS Gavi updated Application Budget and Work Plan	Yes	Feb 2018	2017 – 2019	
	15d - Gavi appraisal report 2017/2018				
	15e -National Immunization Plan				
	15f -Tajikistan Refrigeration Management Plan, UNDP and documented regulations and updates for the refrigeration management	Yes	August 2017	2017 – 2020	Important for developing Comprehensive Maintenance Plan and disposal of obsolete refrigeration equipment
16	Tajikistan CCEOP deployment plan				

3. How do the above strategies, plans and documents inform the CCE Optimisation Platform support request (initial support and scale-up support)? *(Maximum 1 page)*

The rationale for submission of this application is based on the findings of the Cold chain inventory, needs assessment and rehabilitation plan, conducted in 2017(attachment no.9); recommendations of two EVM Assessments conducted in 2012 and 2015 (attachment no. 5) and it is guided by the cMYP 2016 – 2020 (attachment number 4) and the Strategic Health Development Plan 2010 to 2020 (attachment number 3).

2015 EVM Assessment provided a series of strategic recommendations aiming at improving the vaccine supply chain, streamlining supply of vaccines, optimizing the system in general and increasing coverage by providing safe vaccines to all localities and improving equity that were translated into an EVM Improvement Plan (IP) (attachment number 6) with a series of workable and practical activities with specific budget and organizational responsibilities. The activities specified in IP were followed up and implementation progress was monitored to ensure that the EVM assessment recommendations are fully implemented in a timely manner (attachment number 7). The monitoring of the implementation of recommendations of the IP was discussed in detail during the HSS Technical Working Group (HSSWG) since 2015 (attachments number 2, 14).

In order to have a more accurate picture of the situation and to identify gaps and the excesses of the cold chain equipment and cold chain capacity in all existing health facilities providing immunization services at all four levels of vaccine supply chain, a country-wide inventory survey was conducted in September 2017 using the updated PATH CCEM tool (attachment 8). In this survey 2,949 facilities (95% of the total existing facilities) at all supply chain levels were visited by trained team members and vital information covering the entire aspects of the supply chain were completed. The findings of this inventory survey are presented in the final Equipment Inventory and Facility Segmentation report (attachment number 9). The findings of the Assessment are augmented by a detailed report of gaps for all existing facilities together with the Replacement/ Rehabilitation and Expansion plans (chapter 5, attachment number 9) are the bases for the Operational Deployment Plan (attachment number 16) and the budget required for the new cold chain equipment planned to be provided by this CCEOP Application (attachment 9).

Tajikistan against all odds, economic constraints and geographical challenges, has maintained a high coverage for all routine antigens since independence in 1991. The massive outbreak of polio in 2012 and results of some studies and surveys probing the accuracy of the number of reported vaccinations and the accuracy of denominators, created doubts on whether the coverage in reality is that high or not. Cold chain inventory and needs assessment (Chapter 2, attachment number 9) is looking in depth at the issues related to coverage and equity to ensure that the new equipment bridging potential coverage gaps (geographical/ regional, gender biased and socioeconomic strata). The issue of coverage and equity is also tackled on pages 13 to 15 of cMYP (attachment number 4).

Both EVM Assessment 2012 and 2015 indicated that issues related to repair and maintenance of cold chain equipment have not been properly addressed although the recent inventory (2017 – attachment 9) showed that 93% of domestic refrigerators were in working condition. A comprehensive Maintenance Plan to ensure that the new cold chain equipment and all other existing equipment is well installed, well maintained, trained technicians are available, essential spare-parts are adequately in place and are accessible and health workers are adequately trained to maintain the equipment on daily bases is developed and attached (attachment number 11). The Maintenance Plan refers to UNDP Project in which safe and responsible disposal of CCE are regulated in Tajikistan (attachments 15f).

Certainly, the objectives set in cMYP and the plans made by the Ministry of Health Tajikistan set in the National Strategic Health Plan (attachment 3) and National Immunization Plan (attachment 15e) will be achieved by provision of new cold chain equipment along with the new and innovative approaches planned to be implemented.

4. Describe how supply chain stakeholders (including Coordination Forum (ICC/HSCC or equivalent), government, NLWG, NITAG, key donors, partners, CSOs and key implementers) have been involved in the application development including if the quorum at the endorsing meeting was met.

Does the country have a permanent and functioning National Logistics Working Group (NWLG)? If No, does the country plan to establish one and when?

Gavi and its Alliance partners encourage the establishment of such group that coordinates Government and non-Government partners 'activities and investments related to the health supply chain including immunization.

Were any of Gavi's requirements to ensure basic functionality of Coordination Forums not met? Then please describe the reasons and the approach to address this (refer to section 5.2 of the General Guidelines for the requirements) *(Maximum 1 page)*

Tajikistan ranks 143 amongst 191 counties and territories in terms of GDP in 2017 and no improvement is foreseen for 2018 and very insignificant improvement until 2022.

The National Immunization Programme (NIP) is recognized by the Government of Tajikistan as one of the priority national public health programs. The National Health Code/ Law (article #106) defines immunisation as a priority of the health system and establishes the state policy for the free-of-charge provision of immunization services to all citizens of Tajikistan (attachment 3). This was confirmed in the National Health Strategy 2010-2020 (attachment 3).

The Ministry of Health and Social Protection regulates the health sector through ministerial decrees, decisions of the advisory board (kollegia), guidelines, instructions and recommendations. The Republican Centre for Immuno-Prophylaxes (RCIP) which is the official body for managing the immunization programme in Tajikistan has its own separate budget receiving from the Ministry of Health and Social Protection (MoHSPP). At service delivery level, vaccination services are mostly integrated with other primary health care services and delivered by PHC health workers; there is also a vertical element where vaccinations are offered through outreach services. The budget of RICP is approximately US$ 1.5 million annually. Reportedly, there is a budget deficiency of 40% to 65% during recent years (attachment 4).
An important contribution to the implementation of the National EPI was made by international organizations, such as GAVI, JICA, USAID, UNICEF, WHO, EU, the International Development Association, the International Committee of the Red Cross, GIZ, Agha Khan Foundation, MSF and the Government of Japan. All above-mentioned organizations provided different forms of assistance, including the supply of vaccines, cold chain equipment, AD syringes and other medical resources.

Currently, country is receiving support for purchasing vaccine supplies through GAVI and Government of Japan funding. In 2014, the approximate cost of the NIP was $5.3 million including staff cost (US$ 0.35 million), operational costs (US$ 0.47 million) and the cost of vaccines and supplies ($4.5 million). The government allocated $1.4 million of the $5.3 million for the NIP implementation, while donors provided $3.91 million. In 2014, the NIP was supported by partners including GAVI, UNICEF, WHO, JICA and KFW. The project HOPE additionally provided a one-time financial contribution for the hepatitis B vaccine procurement (birth dose) due to the shortage of vaccines. Though the percentage of the total government budget to the health sector allocation has increased in recent years, it is still among the lowest in the region. Government funding for health care accounts for relatively little of total health care expenditure, and most budget funds are directed to cover secondary care salaries. There is a dedicated budget line for the NIP and a separate line item within the MOH budget for vaccine procurement including a co-financing line item, but the level of domestic funding is a major obstacle for the health sector as a whole and the NIP.

GAVI is also supporting Ministry of Health and Social Protection through GAVI HSS (2016 – 2021) with more than US$ 9 million (attachment 15c). The Objective #1: Strengthen capacity of PHC with focus on immunization services quality and safety includes a budget line of US$1,214,122 to support activities to: Expanding and upgrading cold chain/storage capacity (i.e. procuring cold chain equipment and spare parts; installing new cold chain equipment; providing training and developing a sustainable mechanism for the maintenance/repair of cold chain equipment). Additional HSS support addressing immunization inequities and contributing to supply chain strengthening involves supporting repairs of health facilities at service delivery level, in particular in geographically challenging areas, supporting the expansion of mobile teams in reaching the heard-to-reach and low-density population. The component of the budget for improving the equity in vaccination is US$ 2.5 million (26%).

The Government of Japan plans to end provision of funding for vaccine procurement by 2019.

UNICEF supports the program by provision of vaccines, printing materials, cost of trainings and cold chain equipment. Health information System and Data Management were supported by EU initiatives.

WHO contribution to the program is strengthening strategic multi-year planning and sustainable financing, evidence-based decision making (NITAGs), new vaccine introduction, disease surveillance, AEFI surveillance, strengthening vaccine management (EVM assessments, IPs, SOPs, CCE Inventory development), assessing cold chain needs and supporting CCEOP application development.

A National Logistics Working Group (NLWG) was established in Tajikistan by the MoH Order #721 of 11 August 2018 with the aim "To improve the coordinating mechanism for the realization of national priorities and betterment of the immunoprophylactic logistics system for ensuring timely, effective and good quality vaccines, immunization supplies and cold chain equipment at all levels of the health care sector". The NLGW is led by the Deputy Minister and includes twelve members representing the MoH structures and partners agencies. The NGLW composition and terms of reference are provided in the attachment 13.

PART C: SITUATION ANALYSIS AND REQUESTED SUPPORT

This section gives an overview of the types of information the IRC will anticipate from countries in their application for CCE Optimisation Platform support. This section must be filled with appropriate reference to the country documents listed in Part B. Countries are required to provide a narrative in response to the following questions.

5. Situation analysis of country's supply chain and CCE (number, distribution, functionalities etc.) *(Maximum 3 pages) Please respond to all questions*

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) How is the country's immunisation supply chain administered?
b) What weaknesses have been identified in the country's supply chain?
c) Through what interventions are these weaknesses currently being addressed?
d) Describe challenges that are hindering the implementation of these interventions.
e) Describe lessons learnt from recent supply chain related support that inform the current request for CCE Optimisation Platform support.
f) What percentage of facilities have reliable access to grid electricity for up to or more than 8 hours per day?
g) Please give the quantity and percent of current CCE that is: a) functional; b) PQS-approved; c) non-PQS-approved; and/or d) obsolete?
h) What percent of the birth cohort is served by effectively functioning, PQS-approved CCE currently?
i) What are the bottlenecks that CCE can address in the current supply chain set-up (for example, capacity and technology constraints)?
j) Describe any other supply chain challenges that CCE Optimisation Platform support will assist in mitigating?
k) What are the overall CCE needs?

a) How is the country's immunisation supply chain administered?

Immunization programme is the responsibility of the Ministry of Health and Social Protection, which is managed by the Republican Centre for Immuno-prophylaxis (RCIP). The Centre, which has six branches across the country, manages the supply of vaccines and equipment and the cold chain management. The management of the immunization services at the service delivery level and storage and distribution of vaccines at the district level is integrated into the PHC system.

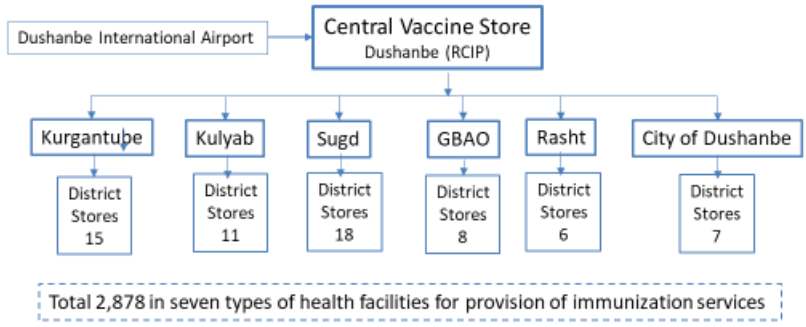
A law of immuno-prophylaxis of infectious diseases established in 2010 (no. 680) in which stipulates state policy for provision of immunization services free of any charges to all citizens of Tajikistan. There is no private sector involved in provision of vaccination to children.

About 3,042 health facilities are delivering immunization services, which includes:

Type of facilities	Numbers
Sate Maternity Centres and Departments	216
City/District/Rural Health Centres and Family medicine centers	918
Health Houses and health posts	1,908
Total	3,042

They are supported by 71 storage facilities including the Central Vaccine Store (attachment 9).

Most children (80–85%) receive immunizations through fixed services. The majority of target population have access to immunizations services only two days per month (attachment 9). The recent Cold Chain Inventory and Facility Segmentation showed that only 277 (9.6%) of facilities carry-out outreach activities which might cover approximately 15 to 20% of total target population.



A large majority of facilities are collecting vaccines from their designated higher level. A small number, only 29 facilities, receive vaccines from the higher level.

The vaccine supply chain in Tajikistan is a neat system with only four levels between the Central Vaccine Store and the service delivery level. It is interesting to note that seven districts close to the Central Vaccine Store bypass the administrative system and collect their vaccines from the Central Vaccine Store directly. Since the vaccine supply chain has only four levels, there is no any alternative method for improvement. The median distance of the health houses (at the lowest level of the supply chain) is only 14 km from the higher level for collecting of vaccines which is not difficult to cover except in mountainous areas and in harsh seasons. The maximum distance of the facilities at the service delivery level is 50 km from the higher level for collecting vaccine. Seventy percent of the regional stores receiving vaccines through refrigerated vehicles. The remaining thirty percent receive vaccines by other means of transport. This is due to shortage of fund for increasing the number of refrigerated vehicles, covering costs of repair and services and provision of fuel.

b) What weaknesses have been identified in the country's supply chain?

Generally, immunization supply chain in Tajikistan works through a widespread network of different types of facilities with various target population size. This represents both an asset in reaching remote areas and therefore reduces inequities as well as a challenge in terms of providing each facility with adequate logistics and equipment.

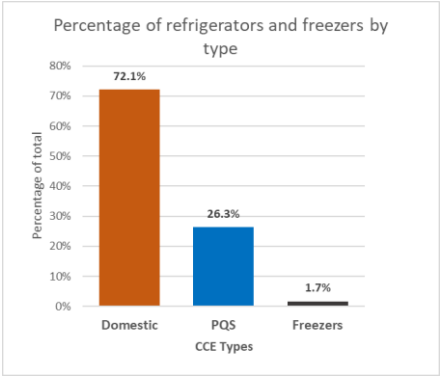
Coverage and equity

- Although nationally reported coverage for all antigens is high, the recent cold chain inventory has documented an important vaccination coverage disparity by regions and by types of facilities.
- The size of the target population appears to influence the frequency of immunization sessions as the least performing facilities are among those having one immunization session per month - a practice followed by 25% of all facilities.
- The proportion of low performing facilities is high among several sub-groups of facilities, i.e. facilities that:
    - provide only one immunization session per month
    - do not have any refrigerator and therefore do not store vaccines
    - the access to grid electricity is less than 8/ 24 hours
    - are located remotely, i.e. more than 50 km from supply source

Vaccine storage capacity gaps

- The required vaccine storage volume for one fully-immunized child (FIC) is now increased from 200 cm^3 to 412 cm^3, more than doubled, which affects required capacity at all levels. This increase is due to:
    - introduction of new vaccines (PCV and HPV) – this also includes non-EPI vaccines such as influenza and hepatitis A
    - tendency of replacing large vial sizes with smaller ones
    - increasing safety stock in order to cope with variation of demand and decreasing vaccine stock-outs
- Twenty-eight percent of total facilities providing immunization services (845 facilities) do not have any active refrigeration equipment. This indicator shows important inequality by:
    - region (i.e. from 16% in Kulyab to 70% in GBAO)

- type of facility (42% to 59% among health houses, family medicine centres and health posts)
- areas (59.4% of these facilities are located in areas with more than 10 km distance from the source of supply.



- Seventy-two percent of all the refrigerators in use are of domestic types and therefore not suitable for storing vaccines. This accounts for 1,712 refrigerators.
- Forty-six percent of existing pre-qualified refrigerators and 67.5% of freezers are found to be older than 10 years and therefore eligible for replacement
- Health houses and health posts have on average 1.3 and 1.4 passive storage containers, respectively. This points at a shortage of passive containers which by policy must be two pieces per facility.

Transportation of vaccines

Transportation of vaccines to the end point is not adequate and safe. Approximately 19% of regional stores, 90% of district stores and 98% of immunization service points do not have access to a reliable transport means and rely on public or private transportation solutions. This might be a source for exposing vaccines to risks during transportation.

Maintenance of cold chain equipment

- Appropriate preventive cold chain equipment maintenance is a problem in Tajikistan: 38% of facilities do not have any maintenance arrangement.
- Two percent of working cold chain equipment need maintenance and 6.2% of all equipment are not in working conditions due to lack of spare parts (attachment 9)

Temperature monitoring

- Lack of temperature monitoring devices was recorded in 201 (9.2%) refrigerators and freezers.
- Only 13 pieces of 30-day temperature recorders were being reported.
- Only 7.3% of total refrigerators and freezers were reported to have one working and used temperature monitoring device.

Supervision

- Although supervision system is in place, only 55.6% of facilities were provided with written recommendations following supervisory visits
- Nine percent of facilities did not received supervision during 2016 based on the recent inventory and facility segmentation study (attachment 9)

c) Through what interventions are these weaknesses currently being addressed? Describe challenges that are hindering the implementation of these interventions.

- Increasing the number of cold-rooms and converting the only freezer-room to work as cold- room will provide adequate capacity at the Central Vaccine Store
- Replacing domestic refrigerators with those prequalified by WHO/ UNICEF (from PQS list) will decrease the chance of vaccines being damaged particularly in facilities where electricity supply is not regular and reliable
- Provision of a small-sized ILR to facilities where presently there is no refrigerator with relatively large number of target population, remote from the source of vaccines and with access to the grid will positively affect the coverage and will decrease vaccination drop-out rates.
- Provision of a small-sized direct drive solar refrigerators to facilities where presently there is no refrigerator with relatively large number of target population, remote from the source of vaccines and with access to no gird will improve access to safe immunizations services and is expected to contribute addressing coverage inequities documented during the cold chain inventory.
- Provision of small sized refrigerated vehicle to some of the regional stores and probably to some of the largely populated districts will streamline the transportation and will ensure safety of vaccines.
- Provision of 30-day temperature recording devices to all facilities at the service delivery level and training of health workers to use them properly will increase the safety of vaccines
- Strengthening the supervision at all levels is a cross-cutting measure to improve the efficiency of the supply chain, adherence to SOPs and implementation of plans

- Developing and following a comprehensive and systematic maintenance plan with allocated budget will ensure safety of vaccines and increases the cost effectiveness of the program

d) Describe challenges that are hindering the implementation of these interventions

- Additional funding is required to cover the cost of transportation for collecting and distribution of vaccines (both to regional and to district levels). Considering budget limitations, this problem hinders the timely collection and availability of vaccines particularly at the service delivery level.
- The lack of institutional arrangements to ensure safe transportation of vaccines from district level to immunization service delivery points (providing transportation means or reimbursing travel expenditures of health workers) may expose vaccines to risks resulting from ad-hoc private arrangements for vaccine transportation. All the above may lead to problems such as:
    - occasional stock-outs at all levels
    - missed opportunities of vaccinating target population
    - affecting the potency of vaccines
    - losing trust of communities and
    - finally, negatively affects coverage
- Lack of a formal and effective corrective maintenance plan at all levels, not availability of spare parts, inadequate number of trained technicians, shortage of fund to cover the costs of technicians' travel and shortage of fund for purchasing consumables for corrective maintenance of all types of CCE seems to be one of the important bottlenecks for delivery of the immunization services.
- Inadequate number and types of temperature monitoring devices carries a risk of undetected temperature excursions which might damage vaccines potency
- 845 (29 percent) facilities of different types have no active CCE and therefore most of them have to limit their vaccination days to one session per month which negatively affects the coverage.
- Lack of an effective supportive supervision makes follow-up and monitoring of activities difficult and hindering plan implementation

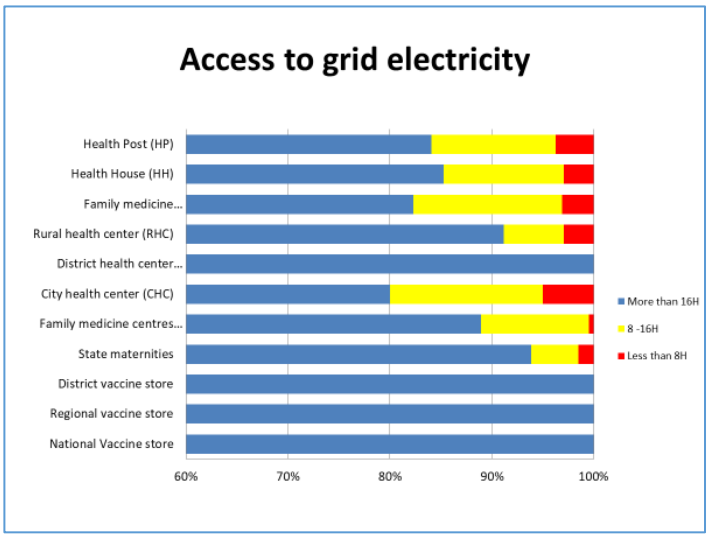
e) Describe lessons learnt from recent supply chain related support that inform the current request for CCE Optimisation Platform support.

- The recent purchase of a relatively large number of domestic refrigerators for storing of vaccines using the fund for introduction of new vaccines is an example of a negative lessons learnt.
- A systematic cold chain distribution and monitoring programme was not in place - distribution of equipment was uneven by different regions; about one third of the existing voltage stabilizers were kept in stores, rather than being distributed to the end points.
- The recently established NLWG aims to improve coordination and management of the cold chain.
- Successful implementation of a comprehensive CCE survey and producing a useful inventory report which was a joint concerted effort by MOHSP and developing agencies.

f) What percentage of facilities have reliable access to grid electricity for up to or more than 8 hours per day?

Recent Equipment Inventory and Facility Segmentation (2017) showed that:

- all facilities at the top three levels (Central Vaccine Store, six regional and 65 district vaccine stores) have access to reliable (more than 16 hours /24 hours) grid electricity
- 88% of health houses and 83% of health posts (at the lowest level of service delivery) have access to reliable grid electricity and only 2% of them have access to less than 8 hours/ 24 hours grid electricity.
- A total of 394 (13.4 percent) facilities reported access to power supply for 8-16 hours a day at the service delivery level. (attachment 9)



g) Please give the quantity and percent of current CCE that is: a) functional; b) PQS-approved; c) non-PQS-approved; and/or d) obsolete?

73.8% of total refrigerators at all levels are of domestic types that makes the majority of cold chain equipment. 93% of the domestic refrigerators were reported to be functional at the time of the Equipment Inventory and Facility Segmentation (September 2017 – attachment 9). 24.5% of the domestic refrigerators were reported to be older than 10 years or equipment age data were missing.

Only a small fraction of the active cold chain equipment is from PIS and/ or PQs types and a large proportion of it is obsolete or not working: only 87.3% ILRs were in working condition and 43.3 percent were older than 10 years (or of unknown age) and require replacement according to global vaccine management policies.

Among the vaccine freezers, 67.5% were older than 10 years.

Active cold chain equipment*	**Functional equipment**		**Obsolete equipment**		**Total equipment**
Type of equipment	**Units**	**Percent**	**Units**	**Percent**	**Units**
PIS and/ or PQS approved (ILRs)	545	87.3%	270 (a)	43.3%	624
PIS and/ or PQS approved (freezers)	38	95.0%	27(b)	67.5%	40
Non- PIS/ PQS (domestic)	1,593	93.0%	422 (c)	24.6%	1,712
Total	**2,176**	**91.6%**	**719**	**30.3%**	**2,376**

Source: Inventory and facility Segmentation – 2017

*Cold rooms are not included in this table

** Obsolete - 10 years old and more or no data at the time of survey (i.e 2017)

(a) incl. 65 obsolete ILRs at regional/district stores and 178 ILRs at service delivery level

(b) incl. 27 obsolete freezers at regional/district stores

(c) incl. 56 obsolete domestic refrigerators at regional/district stores and 366 units at service delivery level

h) What percent of the birth cohort is served by effectively functioning, PQS-approved CCE currently?

PQS approved ILRs and freezers are mainly available at Regional and district stores. Domestic refrigerators are widely used, in particular by immunization service providers in rural areas; 16 percent of health facilities providing immunization services do have a WHO prequalified refrigerator. According to the cold chain inventory database, 24 percent of birth cohort in Tajikistan is served currently by effectively functioning CCE (WHO prequalified refrigerators less than 15 years old).

Furthermore, 29 percent of health facilities providing immunization services do not have a vaccine refrigerator at all. The indicators show large regional inequalities;

i) What are the bottlenecks that CCE can address in the current supply chain set-up (for example, capacity and technology constraints)?

- Existing HSS grant plans to provide WHO PQS ILRS to 54 (83%) district stores to address inadequate vaccine storage capacity. That will allow establishing the required storage capacity to accommodate the new vaccine introduction and establishing and maintaining a safety stock;
- Provision of 1,229 ILRs and 66 SDDs through CCEOP support will contribute to increasing access to safe vaccines from 24% to at least 70% of the birth cohort in Tajikistan (by making vaccines available continuously in facilities equipped with functioning WHO prequalified refrigerators less than 15 years old);
- Provision of SDD technology refrigerators to equip facilities with 25 and more children in a birth cohort and power supply less than 8 hours a day will allow reducing inequality in access to immunization services, will allow increasing no. of immunization sessions, increase coverage, reduce drop-out rates and as a result – reduce inequities;
- Replacement of the domestic refrigerators with those approved by PQS (in particular in areas affected by power supply shortages) will have an impact on the quality and safety of vaccines.
- Introducing continuous temperature monitoring till the point of use will allow identifying supply chain risks and ensuring safe and potent vaccines are administered.

j) Describe any other supply chain challenges that CCE Optimisation Platform support will assist in mitigating?

Weak infrastructure (including vulnerable power supply) and lack of a comprehensive maintenance planning and implementation is one of the major problems in Tajikistan. Providing new equipment with a workable maintenance plan with required spare parts and training of technicians will bring a culture of exact planning and responsibility to the program.

k) What are the overall CCE needs?

The estimated cost of the cold chain rehabilitation and maintenance plan in Tajikistan is about 3.71 mln USD, including $327,098 (9%) to strengthen national vaccine store, $483,642 (13%) – sub-national stores; $408,704 (11%) - district stores; $2,138,349 (58%) – immunization service delivery level; and $348,668 (9%) - maintenance activities. This budget does not include the buildings infrastructure expansion and repairs at sub-national and district stores, which are essential (and will be further assessed and estimated).

Tables 21, 23, 24 and 25 in the Cold chain rehabilitation plan (doc ref. 10) provides a comprehensive and detailed list of estimated equipment needs to strengthen the cold chain at nation, subnational, district and service provision level accordingly.

According to the cold chain rehabilitation plan, the equipment eligible for CCEOP support amounts for $2,542,140 and includes:

- 30 Day T Recorders	1,955 un.
- Freezer Vestfrost MF314 (E003/023) bundled with voltage regulator	22 un.
- Freezer Vestfrost MF214 (E003/025) bundled with voltage regulator	44 un.
- ILR Vestfrost VLS350A (E003/064) bundled with voltage regulator	157 un.
- ILR Vestfrost VLS300A (E003/063) bundled with voltage regulator	124 un.
- ILR Vestfrost VLS200A, incl. Voltage regulator & 30DTR (E003/062)	1,289 un.
- SDD Vestfrost VLS024 SDD Green line (E003/069)	66 un.

(attachment 10, chapter 5.5)

Tajikistan has already initiated procurement of some of the above equipment through UNICEF SD using the existing HSS funds, i.e. the following equipment is currently under the procurement process and is not included in the CCEOP application.

- Freezer Vestfrost MF314 (E003/023) bundled with voltage regulator	22 un.

- Freezer Vestfrost MF214 (E003/025) bundled with voltage regulator 44 un.
- ILR Vestfrost VLS350A (E003/064) bundled with voltage regulator 157 un.
- ILR Vestfrost VLS300A (E003/063) bundled with voltage regulator 124 un.
- ILR Vestfrost VLS200A, incl. Voltage regulator & 30DTR (E003/062) 60 un.

Provision of above equipment focuses to address expanding cold chain capacity and replacing obsolete equipment at district and regional stores, as well as at 90 large primary health care facilities.

The final list of equipment to be provided through the CCEOP application is as follows:

- 30 Day T Recorders 1,955 un.
- ILR Vestfrost VLS200A, incl. Voltage regulator & 30DTR (E003/062) 1,229 un.
- SDD Vestfrost VLS024 SDD Green line (E003/069) 66 un.

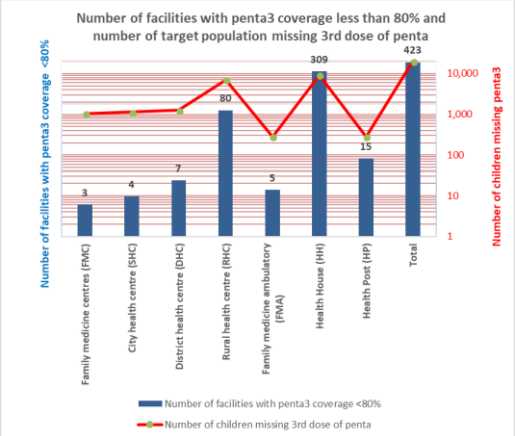
In addition, spare parts for the above equipment will be requested as well, according to the cold chain maintenance plan (ref. doc 11, table 3).

6. Expected immunisation coverage, equity and sustainability results *(Maximum 2 pages) Please respond to all questions*

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) How will the requested Platform support concretely contribute to addressing identified geographic and socio-economic inequities and gender barriers to sustainable improvements in coverage and equity of immunisation? Examples may include (not exhaustive):



As it can be seen from the chart that there are a total of 403 facilities of different types at the service delivery level with penta3 coverage less than 80%. The chart also shows that approximately 10,000 children miss the third dose of penta annually. The numbers vary amongst the different types of facilities and can be seen it is highest for health houses (309) and followed by rural health centres (80) (attachment 9).

- *Geographically remote districts or those with low coverage*

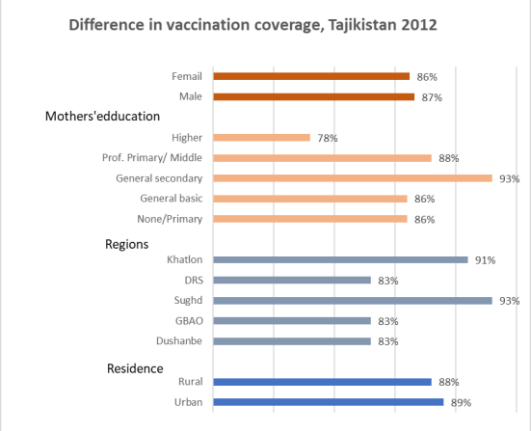
Geographically remote areas will benefit from the Platform because purchase of adequate CCE will enable continuous immunization of children according to the national programme.

- *Poorer communities (e.g. in the poorest 10% of the population)*

Since poorer communities mostly inhabit remote in rural areas, the benefits for the rural areas primarily correspond to the benefits for poorer communities. It is expected that improvements in the quality of the immunization supply chain will contribute to improving acceptance of vaccines among both the health workers and beneficiaries from all income groups.

- *Communities where gender barriers are significant and/or where low levels of female education is common (as this is often associated with lower coverage)*

The analysis of the immunization coverage data based on Demographic and Health Survey (attachments 15a and 15b) results did not show any gender inequities as regards to vaccination coverage.



b) What analyses have been made, or what plans are underway, to optimise the design of the supply chain distribution system in order to improve the efficiency of the supply chain and contribute to achieving coverage and equity goals?

The EVM assessments conducted in 2012 and 2015 and the cold chain inventory conducted in August 2017 complement each other in identifying weaknesses of the immunization supply system and points to the need to optimise the design of the supply chain.

Vaccine transportation needs to be addressed. Firstly, there is a need for addressing the increasing vaccine capacity requirements during transportation. While this applies to all levels, the priority should be given to regional and district levels. The current vaccine collection system exposes vaccines to uncontrolled risks (both in terms of supply availability and vaccine potency).

It appears that the present strategy of using ice-packs in cold boxes and general-purpose transport is not feasible anymore due to both the large number of required cold boxes and ice-packs, as well as due to the need to invest in large vehicles to accommodate the cold boxes.

According to cold chain equipment inventory, at service delivery level only 1.5% of health facilities use facility transport for vaccine collections. The majority of facilities collect their vaccines using public transport, private transport or making other informal arrangements, in most cases - at the expense of the health workers.

Few service delivery facilities reported vaccine stock outs, which is an unexpected finding in the situation when no safety stock policy is in place. Tis points to the fact that vaccine transportation (distribution or collection) and an effective stock management system should be addressed.

Considering the magnitude and complexity of the problem, it is essential that facility managers identify and put in place institutional arrangements for vaccine transportation to health facilities. Options could range from providing transportation means, exploring for opportunities to integrate transport of vaccines and other facility goods, or allocate funds to cover the costs incurred by staff to collect the vaccines.

Putting in place a comprehensive maintenance plan represents another opportunity to increase efficiency and effectiveness of the programme. Procuring new high-quality CCE and essential spare parts will reduce the cost of corrective maintenance.

Stock management, particularly in terms of putting in practice minimum/maximum and order vaccine levels and reserve stock at facility level could not have been properly implemented in facilities without cold storage equipment. Therefore, the Platform will allow improvements in stock management as well.

c) How have these system design considerations impacted the choice of CCE to be supported by the Platform?

The choice of CCE to be supported by the Platform aimed at establishing a functional cold chain capacity at immunization service delivery level by providing adequate cold storage capacity for the present vaccination schedule and additional antigens will reduce the financial burden of the program at least for 10 years by not allocating funds for replacement of CCE and expansion of the supply chain. It will complement supply chain optimization and strengthening efforts at higher levels.

Technology and equipment was chosen depending on availability of grid electricity at health facilities. Hold-over time was an important parameter, considering existing power cuts in Tajikistan. Energy saving parameters of equipment models were considered as well in order to reduce facility running costs paying for electricity. Harmonization of models, i.e. limiting the number of suppliers and the number of supplied models was equally considered in order to make the users training, maintenance, and spare parts management easier and less costly.
The strategy of focusing on providing generators and other alternatives for managing electrical power supply deficiencies is not any longer an option. Such an approach was not efficient and practical. It required operational cost (for fuel, generator spare parts and maintenance) which was not always available. The new design of the system anticipates introduction of more user independent equipment. This led to choosing SDD refrigeration equipment for health facilities without electrical power and ILRs as where grid electricity is adequately available.

d) Concretely, how will Platform support help improve the sustainability of the supply chain system?

- The newly established NLWG will contribute to strengthening coordination, management and finally – the ownership of the Ministry of the Health over the immunization supply chain;
- The implemented with CCEOP support equipment deployment planning, as well as bundling of transportation, installation, user training and equipment maintenance will contribute to establishing knowledge and skills to performing such activities on routine base;
- Energy efficient equipment and those approved by PQS not only further guarantee vaccine potency and reduce burden of target diseases it will also reduce operating costs of facilities. Safe vaccine storage equipment and continuous temperature monitoring will reduce the risk of vaccine damage due to temperature excursions and harmonization of equipment models will reduce the cost of maintenance.
- Provision of Voltage regulators will reduce the damage to cold chain equipment due to voltage oscillations
- Spare part stock-piling will enable proper maintenance of the cold chain equipment
- A comprehensive maintenance plan in place will extend the working life of the equipment and strengthen quality management of the system.
- Platform funding of the supply chain needs for lower levels of the system allows releasing vital GAVI HSS funds to be directed to address the cold chain bottlenecks to store and transport vaccines safely at the national, sub-national and district store. That allows the government to increase the allocation of budget for operational costs.

7. Maintenance plan (and its source of funding) and equipment disposal *(Maximum 2 pages) Please respond to all questions*

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

- *Information is required to cover the following areas:*

  How will the country ensure that aspects of maintaining the cold chain are addressed (e.g. preventive and corrective maintenance, monitoring functionality, technicians, financing for maintenance, etc.)?

  - Presently there is no systematic and formal plan for the corrective maintenance of the CCE in Tajikistan. All corrective maintenance is done so far on ad-hoc basis and left to the availability of the spare parts and funds. About **12.7%** of PQS refrigerators, **7%** of domestic refrigerators and 5% of freezers are reported to be out of order and mainly due to lack of spare parts. A plan is drawn during the process of developing the CCEOP Application in which the corrective maintenance is divided into two phases:

    1. **Phase one**: from mid-2018 to end 2021 (the period of Tajikistan HSS), the corrective maintenance will be provided and funded centrally, by involving local private sector technicians and RCIP technicians; Spare parts for PQS ILRs will be procured centrally through HSS funding, while spare parts for domestic refrigerators and consumables will be procured locally. It is envisaged in this plan that private sector expertise will be mapped out and gradually expanded. In this interim period, a working group will work on looking at different options and will develop a comprehensive maintenance plan with formal and systemic approach to the question of maintenance. Various models of maintenance will be tested, their feasibility will be probed and the most appropriate one will be selected by participation of all stake-holders and experts.
    2. **Phase two**: from 2022 to 2027- the Maintenance Project period in which the comprehensive and systematic corrective maintenance services will be available at all levels. Without a clear policy on equipment maintenance and allocation of funds to support maintenance, the system of equipment maintenance will not be possible and will negatively affect the quality services. The comprehensive plan will assure that all components of an effective corrective maintenance plan are in place. (attachment 11)

- *What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)*

The recent inventory survey found that nurses and vaccinators in 83% of the facilities are assigned or assumed responsibility for the preventive maintenance of the CCE. The fact that only a small portion of CCE are not working (5% of freezers, 9.5% of pre-qualified refrigerators and 5% of domestic refrigerators – see attachment 9) indicates that the preventive maintenance is relatively effective. However, the first phase of the maintenance plan will augment this activity by:

- providing SOPs in appropriate languages for conducting daily, weekly and monthly checks and cleaning and servicing of CCE
- requesting manufacturers of the new equipment to provide check list for regular preventive maintenance and training of trainers for using the checklist if required
- training health workers, particularly new comers, in conducting regular preventive maintenance
- providing a line of communication to the nurses and vaccinators to report abnormalities and problems detected in CCE to the higher level.

The equipment functional status documented in the recent CCE inventory (August 2017) will be updated on a monthly basis, each time a facility will be collecting/receiving vaccine. In addition, such updates are expected following conducted supervisory visits. This will allow documentation of problems and engagement of higher levels in identifying a solution in case of equipment malfunctioning.

- *What technical support is anticipated for maintenance?*

It is planned to purchase an appropriate number of essential spare-part for every new CCE provided by the Platform (attachment 11). Since the availability of spare parts alone does not guarantee an effective corrective maintenance, the manufacturers of the new CCE will be requested to provide training to all trained technicians particularly in learning modern technics required for maintaining and repairing the CCE. The CCE producer/representative (or distributor) should establish their presence in Tajikistan either by outsourcing the service to an existing in-country professional company or by establishing an in-country presence. New tools will also be added to the tool kits if required for the new CCE.

- *How will the country monitor the completion of preventive and corrective maintenance?*

Monitoring of corrective maintenance will be part of the regular supportive supervision and questions regarding this issue will be added to the supervisory checklist. The supervisors will record their comments on this issue on the facility supervisory visiting book and will follow up their comments during their next visits. The corrective maintenance cases are recorded in the inventory database and therefore effectiveness of repairs is monitored through the CCE inventory. A clear responsibility will be assigned to all four levels (national, regional, district and facility). Working status of CCE will be reported to higher level each time a facility will be collecting/receiving vaccines. This will allow documentation of problems and engagement of higher levels in identifying a solution to malfunctioning equipment.

- *Which source(s) of funding will be used for maintenance, and to what extent are they assured?*

Presently there is no specific fund or budget allocated to the corrective maintenance of the CCE. The remaining HSS budget item for the maintenance will be used during the phase one of the maintenance project and during phase two fund be will raised for this activity.

- *How will the country dispose of obsolete and irreparable equipment replaced by CCE Optimisation Platform equipment?*

  For protecting the environment, refrigerators and freezers must be recycled by entities that can safely remove these components prior to recycling. Fortunately, now there is expertise in Tajikistan to deal with the proper and responsible disposal of refrigerators and freezers.
  The UNDP project “Reduction of ODS consumption Phase 1” (US $ 1.100 million) has trained a large pool of technicians in Tajikistan for the collection, processing and recycling of refrigerants. There are several private firms that have the appropriate equipment to collect the refrigerant and dispose of them in Dushanbe, Sughd and KurganTyube. In 2019-2022 a new UNDP project will be implemented to further “Reduce ODS consumption Phase 2, alternative demo projects” (US $ 1.585 million). (see attachment 15 f). The maintenance plan (attachment 11) links the disposal of replaced domestic and obsolete refrigerators with this project and adequate budget of US $ 20 per unit to be disposed is allocated for this purpose. The total amount for disposal of refrigerators will be covered from the HSS component maintenance component from 2019 to 2021.

8. Other implementation details *(Maximum 1 page) Please respond to all questions*
Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) How will the country facilitate the manufacturer’s or representative’s role in equipment purchase, distribution and installation?

The country will procure the CCE through the UNICEF Supply Division. Conditions of the tender will require the manufacturer (or its representative or the in-country distributor) to distribute and install the equipment. The distribution will have to follow a detailed Operational Deployment Plan (ODP). RCIP will coordinate work at the national level. The existing CCE database (attachment 8) is used to develop the detailed deployment plan, indicating priority facilities and a timeline for ordering/ purchasing and dispatching CCE.
Existing administrative structure will be used to coordinate installation at each level and each facility. A focal point will be assigned at each region to facilitate distribution, transportation and installation. A responsible person will be designated in each facility for facilitating installation and taking care of the preventive maintenance.

b) What is the source of the joint investment? Is the country's joint investment secured?

The country's joint investment is secured through the GAVI HSS fund allocated to the country. The project has been approved for a 5-year period (2017-2021).
The total HSS budget is US $ **9,658,614.9** and out of it **US$1,214,122** was allocated to procure vaccine cold chain equipment and spare parts, support equipment installation, provide training and establish a cold chain maintenance programme.

In addition, Tajikistan is eligible for additional HSS grant funding provided by GAVI, i.e.:
a. Performance based funding (PBF), per year: $ 460,000 x 3 years
b. 25% HSS flexibility additional grant funding: $ 2,875,000
c. 100% HSS additional flexibility for countries applied during 2016 2017: $ 1,840,000
The above funding sources represent an important opportunity to supplement the HSS cold chain budget to cover entirely the cold chain rehabilitation plan needs.

Therefore, the country investment is secured.

The total estimated CCEOP application budget is US $2,271,130.

- The 50% country investment for the CCEOP proposal - US $1,177,899 (including equipment costs + installation service bundle + 6% buffer + 8.5% procurement fee + International Freight Fees) will be covered through the supplemented HSS cold chain component budget.
- The estimated GAVI component of the CCEOP budget (equipment cost + service bundle + 6% buffer + International Freight Fees) is $US1,093,230

The 50% country investment for the CCEOP proposal ($1,177,899) will be covered through the supplemented HSS cold chain component budget.

As discussed above HSS budget will cover additional cold chain procurement (incl. ILRs, SDDs, cold rooms, refrigerated vehicles, generators, spare parts, cold boxes etc) as well as expenditures to cover other aspects of the program such as installation, maintenance, refurbishment and expansion of storage capacities, developing training materials and capacity building.

c) Has the country secured import tariff exemptions for CCE? If yes, attach proof.

National legislation allows import tariff exemptions for the equipment received as a donation particularly by international organizations.
The Government decree No. 459 of November 9, 2000 "Statute on Management of Humanitarian and Technical Assistance in the Republic of Tajikistan" (in Russian) (attachment 12a) is the key document (attachments12, 12a and 12b) regulates the import of humanitarian assistance and outlines specific procedures to be followed by the recipients of humanitarian items. The attached document (12a) specifies that "*Technical assistance is represented by programs of free of charge assistance to socio-economic reforms in the Republic of Tajikistan. Technical assistance programs are implemented by transferring to Tajik legal entities experience and technology, training, supply of various types of equipment and other material and technical means and goods for the*

implementation of specific technical assistance programs, as well as the transfer of funds allocated for these purposes." According to p.4 "Define the Ministry of Economic Development and Trade of the Republic of Tajikistan as the authorized body for the management of humanitarian and technical assistance in the Republic of Tajikistan. See also pages 5, 6, 7 and 10 of attachment 12a. Considering that both GAVI HSS funding contribution and CCEOP funding originate from donor's support, the CCEOP equipment will be qualified by the Ministry of Health as "humanitarian assistance" and will be exempt from import taxes. This practice has been applied during previous procurements of CCE with donors' support.

PART D: INITIAL SUPPORT PHASE

This **initial support phase** (through years 1 and 2) is designed to address urgent CCE needs contributing to improvements in coverage and equity, to protect vaccine stocks, complement investments in other supply chain 'fundamentals' and contribute to full scale-up of optimised, sustainable supply chains.

☆	Budgets are **not inclusive** of operational cost. Operational costs must be financed by Ministry of Health or other partners.

CCE	Further information on CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements is provided in Annex 3 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

9. Prioritised (Urgent) CCE needs *(Maximum 3 pages)*

*Provide information on **2 to 4 prioritised (urgent) CCE needs** as identified in the 'CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements'.*

For each prioritised (urgent) CCE need, please provide the following information:

1. ***The need:** Type of activity (e.g. replace obsolete CCE, extend CCE to unequipped facilities, etc.); specific CCE site (facility); type of equipment required; quantity of equipment items.*
2. ***Justification:** Reasons for urgent need (e.g. low CCE and/or immunisation (Penta3) coverage area, gender barriers, mobile population, etc.); current CCE and immunisation (Penta3) coverage in the population area.*
3. ***Expected outcome:** Anticipated increase in CCE and immunisation coverage (Penta3); anticipated progress against identified inequity (describe, in alignment with country Performance framework).*
4. ***Total CCE budget:** includes Gavi and country joint investment share*

Prioritised (Urgent) CCE Need #1	
The need	**542 units of on-grid ILRs up to 60Lt (VLS200A or similar)** bundled with voltage regulator and 30DTR
Justification	newly equipped PHC facilities with 20 and more children in an annual birth cohort, which have power supply more than 8 hours a day; (Ref: Cold chain rehabilitation plan, chapter 5.5 Strengthening immunization service providers level)
Expected outcome	Access improved to stationary immunization services in communities with access to grid power supply > 8 hours/day
Total CCE budget	
Prioritised (Urgent) CCE Need #2	
The need	**303 units of on-grid ILRs up to 60Lt (VLS200A or similar)** for facilities with power supply > 8H a day:
Justification	- 52 units – to replace non-working ILRs in PHC facilities which have power supply > 8H a day; - 87 units – to replace non-working domestic refrigerators in PHC facilities which have power supply > 8H a day; - 164 units – to replace domestic refrigerators in PHC facilities with 20 and more children in a birth cohort, which have power supply 8-16 hours a day;

Expected outcome	Safe vaccine storage re-established in communities having a non-functioning refrigerator and with access to power supply > 8 hours/day
Total CCE budget	
Prioritised (Urgent) CCE Need #3	
The need	**470 units of 30 Day Temperature Recorders with data download capacity (i.e. VaxTag 30DTR):**
Justification	30DTRs with data download capacity to establish continuous temperature monitoring at critical levels of the cold chain -100 units - to establish an emergency & training stock at national level to support guidance development & capacity building activities -70 units - Supplying sub-national stores -300 units - Supplying district stores
Expected outcome	Risks to vaccine quality and safety monitored, detected and reported
Total CCE budget	
Prioritised (Urgent) CCE Need #4	
The need	33 units of SDD refrigerators up to 30Lt (VLS024 Green line)
Justification	to equip facilities with 25 and more children < 1 year and power supply less than 8 hours a day: - 15 units - newly equipped and - 18 units - replacing obsolete and inadequate equipment Note: The power supply status will be updated annually and the final decision on SDD equipment allocation will be made depending the updated power supply status; Should the power supply be established, providing ILRs instead of SDD refrigerators shall be considered
Expected outcome	Access improved to stationary immunization services in communities with no access to grid power supply
Total CCE budget	
GRAND TOTAL CCE BUDGET: Initial support (Year 2019, 2020)	**US$1,454,182**

10. Summary of INITIAL SUPPORT PHASE replacement/rehabilitation, expansion and extension plan

All countries must fill this section to highlight the number of equipment and corresponding number of sites these equipment will serve to meet their replacement/rehabilitation, expansion and extension targets. See Section 6.2 of the CCE optimisation Platform Guidelines for the definitions of replacement/rehabilitation, expansion and extension. The values entered below must align with those in Section 9 above and in other parts of the application form.

Replacement/Rehabilitation		**Expansion**	**Extension**
Existing sites with (non)functional and/or obsolete non-PQS equipment to be replaced with platform-eligible	Existing sites with (non)functional and/or obsolete PQS equipment to be replaced with platform-eligible ILR, SDD or	Equipping existing sites with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population	Equipping previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and add new service sites

ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		long-term passive devices (including equipping sites with a larger equipment)					
No of Equipment	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*
87	87	52	52			542	542
18	18					15	15
164	164						
269	***269***	***52***	***52***	***0****	***0****	***557***	***557***

* vaccine expansion needs of sub-national & district stores and 90 large facilities (> 800 children under one) have been addressed through HSS procurement.

11. Ongoing or planned activities around other supply chain fundamentals in the initial support phase	
In this section, linkages must be drawn between requested CCE Optimisation Platform support, on-going Gavi investments (especially through the Health Systems Strengthening support) and other partner supply chain support. *Describe planned or ongoing activities related to other supply chain fundamentals (see section 3.1 of the CCE Optimisation Platform Guidelines) during the initial support phase, including their sources of funding. Responses to this section should be linked to the EVM Improvement Plan.*	
Supply chain managers *Describe all planned or ongoing activities related to improving the availability and performance of supply chain managers, their sources of funding, and partner support.*	An immunisation NLWG has been established by the Ministry of health to strengthen coordination of the supply chain. A national CCEOP focal point has been hired by UNICEF CO. In addition, a national focal point on immunisation logistics will be nominated at the RCI. Under the GAVI TCA country will receive support to implementing vaccine management SOPs. In addition, HSS funding supports EPI MLM trainings to sub-national staff.
Data for supply chain management *Describe all planned or ongoing activities related to data for management, their sources of funding, and partner support. In particular, provide information explaining how improvements to the functionality of logistics management systems will improve the visibility of up-to-date and accurate vaccine stock records at each level of the vaccine supply chain.*	An EVM assessment, scheduled in Tajikistan with support from GAVI TCA in 2019, will provide further evidence and opportunities to plan for improvement. Under the GAVI TCA country receives TA from UNICEF to strengthen immunization supply chain data management, including development and monitoring of supply chain KPI. Visibility of up-to-date and accurate vaccine stock records will be improved by implementing revised stock recording records through the software which is at the moment in its pilot phase. In addition, the established CCEM data base will be updated systematically and will represent an essential tool in assessing the needs, deciding on equipment allocation, monitoring deployment and installation of equipment, as well its functioning status.
Optimised, efficient design of distribution system *Describe all planned or ongoing activities related to distribution system design optimisation, their sources of funding, and partner support.*	Gavi HSS funds activities related to the distribution system design optimisation. The vaccine transportation system from national to district level will be redesigned, giving the authority and responsibility to regional stores to both collect vaccine from the national store and to distribute it to each

	district. GAVI HSS project funds will be used to procure 7 refrigerated vehicles of various capacity to meet each region specific needs. This will allow reducing district inequities, standardize and monitor quality of the transported vaccines and using efficiently funds invested in vaccine transportation by optimizing transport routes, ensuring transport maintenance and having a better control over the budget allocation. This will also ensure timely distribution of vaccines and avoid stock outs. Further opportunities will be explored to identify and put in place institutional arrangements for vaccine transportation from district level to health facilities. Options could range from providing transportation means, exploring for opportunities to integrate transport of vaccines and other facility goods, or allocate funds to cover the costs encountered by staff to collect the vaccines.
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.*	Continuous improvement involves needs assessment, multi-year strategic and annual operational planning and instituting quality assurance, supervision and monitoring mechanisms. Various assessments (EVMA-2015, cold chain inventory and needs assessment (2017), EPI review (2016) have generated evidence in regard to the strengths, weaknesses of the supply chain and areas for improvement. The Tajikistan multi-year immunization plan will incorporate those findings into a broader EPI performance improvement framework. The existing GAVI HSS approved support and the CCEOP support will ensure sustainable funding for all immunization supply chain essentials. Additional opportunities, such as new vaccine introduction grants (rotavirus, HPV vaccine) would be considered to address unmet needs. Tajikistan schedules an EVM assessment in 2019, an improvement plan will be developed along with recommendations from cold chain inventory assessment.

	EVM Standard operating procedures will be developed to support further institutionalizing the best practice in the immunization supply chain. An important institutional tool for continuous improvement is accreditation of health facilities by the Medical Accreditation Commission of the Ministry of Health, conducted every three years. It covers indicators assessing vaccine storage conditions, maintenance and calibration of temperature monitoring equipment.
Temperature monitoring *Describe the temperature monitoring devices that are currently available in the country? E.g. central level (CTMS), sub-national, lowest distribution and service delivery levels (30 DTRs and RTM devices), and during transportation (freeze tags).* *Furthermore, describe which measures are in place to a) obtain temperature data from the various devices;* *b) act following temperature alarms (curative maintenance);* *c) in case of RTM devices, please elaborate on SOPs for each responder in the temperature monitoring system; and* *d) countries wishing to purchase such devices are required to demonstrate how the recurrent costs, such as HR, data transmission, analysis etc., will be covered in this section.*	Temperature monitoring will be strengthened by: implementing continuous temperature monitoring using computerized remote temperature monitoring systems at national and subnational level as well as in the refrigerated vehicles; 30DTRs – for other facilities, adopting temperature monitoring tools (to register Min/Max, Alarms) and providing training to staff on their use; providing each vaccine refrigerator with a backup stem thermometer; Temperature monitoring forms will be updated and trainings conducted to regional and district staff on correct use of 30 DTRs. A formal mechanism to notify temperature alarms registered with 30 DTRs will be established. For the remote temperature monitoring system installed at the national vaccine store, sub-national stores and refrigerated vehicles temperature alarms will be provided through SMS and e-mail messages. A 30DTR safety stock policy (as in case of vaccines) will be implemented to prevent 30DTR stock-outs and interruption of continuous temperature monitoring; Temperature monitoring study and temperature mapping of cold rooms will be further implemented to identify potential risks in the immunization supply chain.

PART E: SCALE-UP SUPPORT PHASE

This second phase of Gavi CCE Optimisation Platform support (provided from approximately year 3 onwards) is designed to address additional CCE needs as part of optimising design and increasing the sustainability of the supply chain.

☆	Budgets are **not inclusive** of operational cost. Operational costs must be financed by Ministry of Health or other partners.

CCE	Further information on CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements is provided in Annex 3 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

12. Prioritised (Additional) CCE needs *(Maximum 3 pages)*

*Provide information on **2 to 4 prioritised (additional) CCE needs** as identified in the 'CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements'.*

For each prioritised (additional) CCE need, please provide the following information:

1. ***The need:*** *Type of activity (e.g. replace obsolete CCE, extend CCE to unequipped facilities, etc.); specific CCE site (facility); type of equipment required; quantity of equipment items.*
2. ***Justification:*** *Reasons for urgent need (e.g. low CCE and/or immunisation (Penta3) coverage area, gender barriers, mobile population, etc.); current CCE and immunisation (Penta3) coverage in the population area.*
3. ***Expected outcome:*** *Anticipated increase in CCE and immunisation coverage (Penta3); anticipated progress against identified inequity (describe, in alignment with country Performance framework).*
4. ***Total CCE budget:*** *includes Gavi and country joint investment share*

Prioritised (Additional) CCE Need #1	
The need	33 units of SDD refrigerators up to 30Lt (VLS024 Green line)
Justification	to continue equipping facilities with 25 and more children in a birth cohort and power supply less than 8 hours a day: - 15 units - newly equipped and - 18 units - replacing obsolete and inadequate equipment Note: The power supply status will be updated annually and the final decision on SDD equipment allocation will be made depending the updated power supply status; Should the power supply be established, providing ILRs instead of SDD refrigerators shall be considered
Expected outcome	Access improved to stationary immunization services in communities with no access to grid power supply
Total CCE budget	
Prioritised (Additional) CCE Need #2	
The need	**384 units of on-grid ILRs up to 60Lt (VLS200A or similar)** for facilities with power supply > 8H a day:
Justification	- 281 units – to replace domestic refrigerators in PHC facilities with 25 and more children in a birth cohort, which have power supply more than > 8 hours a day;

	- 103 on-grid ILRs up to 60Lt (VLS200A or similar) for facilities with obsolete equipment to replacing obsolete ILRs more than 15 years old;
Expected outcome	Safe vaccine storage established by using ILRs in communities with access to power supply > 8 hours/day
Total CCE budget	
Prioritised (Additional) CCE Need #3	
The need	1,485 units of 30-day continuous temperature monitoring devices procured separately;
Justification	To expand continuous temperature monitoring to facilities with existing equipment and replenish the device stock
Expected outcome	Continuous temperature monitoring expanded to all facilities with a functional vaccine refrigerator
Total CCE budget	
Prioritised (Additional) CCE Need #4	
The need	
Justification	
Expected outcome	
Total CCE budget	
GRAND TOTAL CCE BUDGET: "Scale-up support" (Year 2021)	**USD 816,948**

13. Summary of SCALE-UP SUPPORT PHASE replacement/rehabilitation, expansion and extension plan

All countries must fill this section to highlight the number of equipment and corresponding number of sites these equipment will serve to meet their replacement/rehabilitation, expansion and extension targets. See Section 6.2 of the CCE optimisation Platform Guidelines for the definitions of replacement/rehabilitation, expansion and extension. The values entered below must align with those in Section 9 above and in other parts of the application form.

Replacement/Rehabilitation				**Expansion**		**Extension**	
Existing sites with (non)functional and/or obsolete non-PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Existing sites with (non)functional and/or obsolete PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Equipping existing sites with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population		Equipping previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and add new service sites	
No of Equipment	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*
18	18					15	15
281	281	103	103				
299	***299***	***103***	***103***	***0***	***0***	***15***	***15***

14. Ongoing or planned activities around other supply chain fundamentals in the scale-up support phase	
In this section, linkages must be drawn between requested CCE Optimisation Platform support, on-going Gavi investments (especially through the Health Systems Strengthening support) and other partner supply chain support. *Describe planned or ongoing activities related to other supply chain fundamentals (see section 3.1 of the CCE Optimisation Platform Guidelines) during the scale-up support phase, including their sources of funding. Responses to this section should be linked to the EVM Improvement Plan.*	
Supply chain managers *Describe all planned or ongoing activities related to improving the availability and performance of supply chain managers, their sources of funding, and partner support.*	Supply chain managers will be exposed to all the trainings which will be performed in relation to CCEOP equipment instalment.
Data for supply chain management *Describe all planned or ongoing activities related to data for management, their sources of funding, and partner support. In particular, provide information explaining how improvements to the functionality of logistics management systems will improve the visibility of up-to-date and accurate vaccine stock records at each level of the vaccine supply chain.*	Same as in the initial phase. In addition, the CCEM data base is planned to transition to a web-platform to allow continuous updating and assessing the needs, deciding on equipment allocation, monitoring deployment and installation of equipment, as well its functioning status.
Optimised, efficient design of distribution system *Describe all planned or ongoing activities related to distribution system design optimisation, their sources of funding, and partner support.*	Same as in the initial phase. The distribution system from the national to district level will be fully rehabilitated with HSS support funds. Transport of vaccines from the national to regional and down to district level will be performed with refrigerated cars. Further opportunities will be explored to identify and put in place institutional arrangements for vaccine transportation from district level to health facilities. Options could range from allocating transportation means, exploring for opportunities to integrate transport of vaccines and other facility goods, or allocate funds to cover the costs encountered by staff to collect the vaccines.
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.*	Following the EVM 2019 assessment, and EVM improvement plan will be developed to support the continuous improvement process. RCI would ensure that EVM improvement plan will be further integrated into multi-year strategic and annual operational planning, mechanisms of quality assurance, supervision and monitoring. EVM Standard operating procedures will be implemented down to the service delivery level,

	to support further institutionalizing the best practice in the immunization supply chain. Continuous efforts will be undertaken to engage the National drugs regulatory authority to provide oversight and periodic inspections of the national cold chain, as well as the National Medical Accreditation Commission of the Ministry of Health to assess implementation of the quality management approaches in the immunization supply chain.
Temperature monitoring *Describe how the temperature monitoring system will evolve? Which devices will be used?* *<u>Furthermore, describe which measures are in place to</u>* *a) obtain temperature data from the various devices;* *b) act following temperature alarms (curative maintenance);* *c) in case of RTM devices, please elaborate on SOPs for each responder in the temperature monitoring system; and* *d) countries wishing to purchase such devices are required to demonstrate how the recurrent costs, such as HR, data transmission, analysis etc., will be covered in this section.*	Same as in the initial phase. A 30DTR safety stock will be established to ensure continuous availability of 30DTRs after the CCEOP support ends. Further advocacy and resource mobilization activities will be undertaken to prioritize allocation by the MoH of an annual budget for procurement of 30DTRs.

PART F: BUDGET TEMPLATES

This section details the number of requested equipment items and equivalent budget. A maximum investment amount (and indicative number of equipment items) corresponding to the phased support request will be considered for recommendation of approval by the IRC and subsequent decision by Gavi.

However, in consultation with the Secretariat and in-country partners, the number of equipment items may be modified when the detailed operational plan is developed subsequent to the Platform proposal and the support may vary within the limit of the approved maximum amount.

Budgets must be completed in the attached budget template, and with reference to the ***CCE Optimisation Platform Guidelines, Gavi CCE Optimisation Platform Technology Guide and CCE planning prices and Total Cost of Ownership (TCO) analysis tool.***

15. CCE Optimisation Platform - Budget Template

*To be filled by **ALL** countries after selection of equipment that best suit their CCE needs (e.g. specific model and make).*

Countries will plan with indicative PQS prices and corresponding service bundle estimates (depending on equipment being on/off-grid and estimated costs of service bundle).

Planning price ranges are provided in this template.

How to fill the attached budget template: Countries should:

- *Select appropriate 'Equipment Model' against the listed equipment types*
- *Fill out the 'Estimated service bundle cost' and 'Number of equipment' requested*
- *(In the last 'Total CCE OP Request' table), fill out second and third preference for each model selected. The second and third preference should be comparable products in the same capacity segment.* **Countries are informed that Gavi, and its Alliance partners principally UNICEF, will try as much as possible to respond to countries' first preference, but manufacturers' lead time could also lead to countries receiving cost estimates for either their second or third preference.**

Completed budget template should be sent as an attachment along with application form.

Budgeting for Buffer and Procurement fees

- *Buffer fees: A 7% buffer on **total equipment cost** is built into country yearly budgets. This will cover currency variations, demurrage and associated costs and will be returned to country, if unused.*
- *Procurement fees: Countries will also need to **pay UNICEF's procurement costs for the country joint investment portion**, estimated to be up to 8.5%. Please obtain actual amounts from the UNICEF country office..*

PART G: PERFORMANCE FRAMEWORK

Countries must include **CCE Optimisation Platform indicators** in the application. The indicators need to be included in the Performance Framework for the current and/or proposed Gavi HSS support, after Platform proposal approval.

According to their specific context, countries are required to consider the most appropriate data sources to report on programme implementation and progress against the targets set. This should be discussed with partners (which may provide technical assistance) and the Gavi Secretariat.

Programmatic reporting updates, as well as targets and indicator updates, will be made as part of the Gavi performance framework and annual Joint Appraisal process. Countries are expected to consider relevant smart indicators to be monitored and reported against, in terms of intermediate results or outcomes/impact.

CCE	Further information on developing relevant indicators, including a list of possible data sources, is provided in Section 7.2 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

16. Indicator monitoring and reporting requirements
*As a **minimum**, countries need to monitor and report on:* • ***5 MANDATORY intermediate results indicators;*** • ***1 MANDATORY intermediate result indicators if countries are procuring User independent freeze protected cold boxes and vaccine carriers; and*** • ***1 to 3 ADDITIONAL intermediate results indicator(s).***
1) ***CCE Replacement/Rehabilitation in existing equipped sites**: Percentage of existing sites with (non)functional and/or obsolete non-PQS and PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)* *2)* ***CCE Expansion in existing sites:** Percentage of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population;* ***3. CCE Extension in unequipped existing and in new sites:** Percentage of previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and new service sites being equipped with Platform eligible equipment.*

4. CCE maintenance : *Well-defined indicator proposed by country to reflect appropriate maintenance of equipment; for example percentage of equipped facilities with functioning cold chain,[1] such as demonstrated by remote temperature monitoring;* ***and***

3) ***5. Freeze-free to non-freeze-free carrier ratio:*** *Ratio of freeze-free cold boxes/carriers to non-freeze-free cold boxes/carriers in-country?*

USE THE TABLE BELOW TO COMPLETE MANDATORY INDICATORS

Indicator *(Provide name of the mandatory indicator as shown above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency*** *(annual, semi-annual, quarterly etc.)*	***Baseline (2018)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 1: 2019*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2: 2020*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 3 2021*** *(Provide numerator and denominator for calculating percentage)*
1. ***CCE Replacement/ rehabilitation in existing Equipped sites***	*Percentage of existing sites with (non)functional and/or obsolete non-PQS and PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)*	*Equipment installation reports; CCEM database*	*Twice a year, district level SES will summarize equipment installation reports and will update the CCEM database*	*Numerator = 0* *Denominator= 723 eligible facilities (See eligibility criteria details in:* *9. Prioritised (Urgent) CCE needs &* *12. Prioritised (Additional) CCE needs* *Percentage=0*	*Numerator = 271* *Denominator=723* *Percentage=37%*	*Numerator =321 (271ilr+32ilr+18sdd)* *Denominator=723* *Percentage=44%*	*Numerator = 723 (321+384ilr+18sdd)* *Denominator=723* *Percentage=100%*
2. ***CCE expansion in existing***	*Percentage of existing sites being equipped with ADDITIONAL*	*Equipment installation reports;*	*Twice a year, district level SES will*	*Not applicable:* *Support provided through HSS*			

[1] **Indicator definition**: *% CCE functioning = (# functioning CCE devices) / (total # of CCE devices designated for use)*. CCE devices considered for this indicator include all refrigerators, fixed passive storage devices, walk-in cold rooms and freezers designated for string vaccines. Both the numerator and denominator should be collected from the same geographical area / period in time and should not include decommissioned equipment. Functionality of CCE is broadly defined to mean that the device is operable at a particular point in time for storing vaccine.

equipped sites:	*pieces of equipment for new vaccine introduction and/or to serve an increasing population;*	*CCEM database*	*summarize equipment installation reports and will update the CCEM database*	*and not included in the CCEOP application (see page 12 of the application)*			
3. CCE extension in unequipped existing and/or new sites:	*Percentage of previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and new service sites being equipped with Platform eligible equipment.*	*Equipment installation reports; CCEM database*	*Twice a year, district level SES will summarize equipment installation reports and will update the CCEM database*	*Numerator = 0* *Denominator=572* *572 eligible facilities out of total 845 service delivery sites missing any refrigerators* *(See eligibility criteria details in:* *9. Prioritised (Urgent) CCE needs &* *12. Prioritised (Additional) CCE needs)* *Percentage=0%*	*Numerator = 271 (271ilr)* *Denominator=572* *Percentage=47%*	*Numerator = 557 (271ilr+271ilr+15s)* *Denominator=572* *Percentage=97%*	*Numerator = 572 (557ilr+15sdd)* *Denominator=572* *Percentage=100%*
4. ***CCE maintenance***	*Percentage Number of facilities with active CCE that have a written agreement in place for qualified equipment maintenance*	*CCEM database*	*Annual*	*3% (2017 CC inventory)* *Numerator: Number of facilities with active CCE that have a written*	*20%*	*35%*	*50%*

				agreement in place for qualified equipment maintenance *Denominator: Number of facilities with active CCE*			
. ***Freeze-free to non-freeze-free carrier ratio***	*Ratio of freeze-free cold boxes/carriers to non-freeze-free cold boxes/carriers in-country*		*Not applicable*				

ADDITIONAL intermediate results indicator(s): *Countries are required to suggest 1 to 3 intermediate results indicators to track performance of rehabilitation, expansion, maintenance and/or other supply chain fundamentals (include baseline, data source, targets and frequency of reporting).*

Examples *of additional intermediate results indicators options are:*

1. ***Functional status of cold chain equipment****: Ratio of functional CCE and ratio of districts with at least 90% functional equipment;*
2. ***Closed vial wastage****: Rate at a national, district and facility level;*
3. ***Forecasted demand ratio****: Ratio of actual usage compared to forecast (vaccines);*
4. ***Full stock availability:*** *Ratio of facilities/districts without any stock out;*
    a. *Stocked according to plan: Percentage of facilities/stores/districts that have stocks levels between set minimum and maximum stock levels;*
5. ***Temperature alarms:*** *Frequency and magnitude of heat and cold alarms per monitoring period (i.e., temperature excursion) and number of CCE devices with more than a certain level of temperature excursion;*
6. *Rate of health facilities dashboard use, timely analysis and use for decision making;*
7. ***On-time and in-full (OTIF) delivery****: Ratio of order completely delivered on time;* ***or***
8. *Number of health managers trained and despatched for supply chain oversight function and rate of reported monitoring activities.*

USE THE TABLE BELOW TO COMPLETE ADDITIONAL INDICATORS

Indicator *(Provide name of the* ***additional*** *indicators as shown above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency*** *(annual, semi-annual, quarterly etc.)*	***Baseline (Year)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 1; 2019*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2: 2020*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 3 2021*** *(Provide numerator and denominator for calculating percentage)*
1. Functional status of cold chain equipment	*Percentage of cold chain equipment units assessed as functional using 30DTRs* *Numerator: No. of vaccine refrigerators with temperature kept*	*Temperature monitoring and alarm reports basing on 30DTRs*	*Monthly*	*Not known* *(no 30 DTR in use)*	*80%*	*90%*	*95%*

	within acceptable range (+2 +8) *Denominator: No. of vaccine refrigerators*						
2. Percentage of PHC facilities that experienced stock outs	*Percentage of PHC facilities that experienced 0 doses in stock /insufficient doses of any vaccine in routine immunization calendar*	*Data source:* *Routine stock management information system*	*Quarterly*	*Data Not available (no safety stock policy)*	*<30%*	*<10%*	*<5%*
3. Geographic equity of DTP 3 coverage:	*Geographic equity of DTP 3 coverage: - % of facilities with DTP3 coverage above 80% by district/region.*	*Routine monthly vaccination reports* *Facility based coverage data are currently collected at district level and will be made available to higher levels (regional, national) to allow assessing geographical inequities.*	*Annually*	*86% (according to 2017 CC inventory report)*	*88%*	*92%*	*95%*

Add more indicators HERE if needed.							

In addition to the project-specific indicators, routine reported data will be collected (vaccination coverage and vaccine wastage) as well as data obtained from various studies and assessments, such as EVM assessment, cold chain inventory, temperature monitoring study, supervision monitoring indicators.

Tools to collect and analyse data on project implementation will be developed and every effort will be made to integrate them into routine reporting and monitoring systems to sustain long term performance improvement.

A detailed breakdown of models, of cold-chain equipment, their destination in the country, the dynamics of procurement and shipments will be provided by the Detailed deployment plan.

In the context of this application, a reporting system will be implemented in order to monitor changes in the field activities. The MoH, through the Department of Public Health will monitor implementation based on reports delivered by RCI who is responsible for preparing reports at the national level.

Annual technical reports on the work progress will be prepared and discussed at the meetings of the NLWG and ICC.

The technical entity responsible for installing all cold chain equipment purchased in the context of the platform (the producer), will also provide quarterly reports detailing all of the activities conducted.