

**Thematic Evaluation 2020:
Impact from JICA's Cooperation in Health
Sector (Infectious Diseases Control) and
Socio-Economic Development
in Developing Countries**

March 2022

JAPAN INTERNATIONAL COOPERATION AGENCY

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22-02

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Chapter 1. Outline of Evaluation

1.1 Background and objectives of evaluation

(1) Background

The JICA Evaluation Department further clarified the position of project evaluation in the PDCA cycle for development projects through the thematic evaluation “Analysis on the Improvement of Management System for Utilizing Lessons Learned in PDCA Cycle” in 2013. In addition, a cross-organizational mechanism for accumulating knowledge based on important lessons learned from project implementation has been established. Moreover, to identify various important lessons as main contents that make up the mechanism, JICA has continuously conducted the thematic evaluation “cross-sectional analysis of evaluation results” in nine fields¹ since fiscal 2014, conducted cross-sectoral evaluation on a medium to long-term level, developed “knowledge lessons” necessary for strategized projects, made the results public, and improved the accountability regarding project development based on the PDCA cycle by making full use of lessons of the past.

Under the recent spread of COVID-19, JICA is advocating for the “Initiative for Global Health and Medicine,”² which is a cooperative effort in the field of health and medical services to strengthen the treatment system, research/warning system, and prevention in order to achieve human security and universal health coverage (UHC). There is a need for JICA to promote cooperation that makes full use of the past assets. JICA has been involved in many cooperation achievements to combat infectious diseases and strengthen health systems, but the impact and effectiveness of such cooperation on the development of developing countries at the medium to long-term and macro level have not yet been fully verified. It is highly desirable to visualize these impacts and effects, improve accountability, and improve its presence in the international cooperation community. In addition, the Organization for Economic Co-operation and Development (OECD)/ Development Assistance Committee (DAC) peer review in November 2019 provided a recommendation of the need for a “strategic evaluation,” such as compiling important lessons for reflecting them in similar projects. It is necessary to strengthen such evaluation efforts also in the field of infectious disease control, which is the highest priority and concern in today’s international community.

Based on these, with the aim of visualizing JICA’s contribution in the field of infectious disease control and disseminate this externally, we will focus on flagship projects in the field and conduct a secondary evaluation review, making this a thematic evaluation. On the basis of the

¹ JICA has implemented this process in the following nine fields: disaster risk reduction, natural environment conservation, fisheries, irrigation drainage/water management, local administration, peacebuilding, sewerage management, waste management, and energy. See the following link for the reports in each field.
https://www.jica.go.jp/activities/evaluation/tech_ga/after/theme.html

² https://www.jica.go.jp/activities/issues/special_edition/health/index.html

long list of JICA’s cooperation achievements over many years, it is estimated to lead to derivation of practices and lessons that are helpful for future ODA projects, etc.

(2) Objectives

This thematic evaluation focuses on past JICA projects in the field of infectious disease control. In this study, Ex-Post Evaluation reports and other reports are reviewed, supplementary questionnaire surveys and interviews are conducted, and cross-sectional secondary evaluation analysis is conducted from viewpoints other than the five DAC evaluation items³ (relevance, efficiency, effectiveness, impact, and sustainability), with the aim of achieving the following two objectives.

1) Strengthening JICA’s external communication in the field of infectious disease control

By categorizing the outputs of JICA’s cooperation over many years in developing countries in the field of infectious disease control, and visualizing those outputs as a catalog of noteworthy outputs that can be disseminated externally, it will promote the formation of JICA’s new projects in the “Initiative for Global Health and Medicine,” and contribute to the brand recognition of JICA as a solution provider.

2) Contributing to project formulation by identifying lessons from past assets

Regarding the process of extracting noteworthy outputs in the above 1), the cooperation process will be looked back on to the extent possible. It is intended to identify important lessons for cooperation in the field, and organize them by categorizing (“knowledge lessons”) as knowledge of the organization, so that the JICA “Initiative for Global Health and Medicine,” can be promoted more efficiently and effectively by making full use of the past assets.

BOX 1: Definition of terms in this thematic evaluation

Noteworthy output: Notable tangible and intangible output produced in target developing countries through JICA’s cooperation projects (intervention). This is the degree where the output directly contributes to the emergence of Project Purpose (outcome), and the experience can be utilized in future projects.

Noteworthy output Catalog: The above noteworthy outputs are cataloged using a standard format.

Outcome: Short-term and direct effects that have emerged through JICA’s cooperation projects (intervention). In this evaluation, the output that particularly contributed to the emergence of

³ Recently, DAC (OECD Development Assistance Committee) reviewed the evaluation criteria and added the new criterion “coherence”. Accordingly, JICA has also started project evaluation based on those 6 evaluation criteria in and after the year 2021.

outcomes is positioned as noteworthy output.

Impact: Long-term and indirect effects that have emerged under the influence of sustained outcome*

*The emergence of impact is influenced not only by realization and sustainability of outcomes (including continuous utilization of noteworthy outputs produced by individual projects), but also by various other factors (external and internal environmental factors).

1.2 Evaluation target

The projects targeted in this thematic evaluation are as follows. These projects were identified by discussing and consulting with JICA, respecting the following three points based on the above 1.1 Background and objectives of evaluation, with reference to the list of projects to be reviewed⁴ provided by JICA (hereinafter called as “Reference list of projects to be reviewed”).

- Core target areas, countries, projects:

The main target countries are three African countries (Ghana, Kenya, and Zambia) and two Asian ones (Vietnam and the Philippines). The evaluation team has selected these countries because JICA has had a long-term cooperative relationship with them in the relevant field, they have flagship JICA projects, and they are highly likely to be sources of many valuable lessons. In addition, related projects in other regions and countries such as Central America (Honduras, Guatemala, and El Salvador) are reviewed. Major schemes to deal with are technical cooperation project (including SATREPS: Science and Technology Research Partnership for Sustainable Development), ODA loan project and grant aid project.

- Other complementary target projects:

Cross-scheme cooperation in target countries where “infectious disease control” was set as a priority field and cooperation program in Ministry of Foreign Affairs’ Country Assistance Policy and Rolling Plan over the past 20 years. (e.g., Chagas Disease Control in Central America)

In addition to technical and financial cooperation, volunteer projects, grass-roots technical cooperation projects, achievements through small and midsize enterprises and SDGs business support projects in public-private partnership projects, etc. will be reviewed.

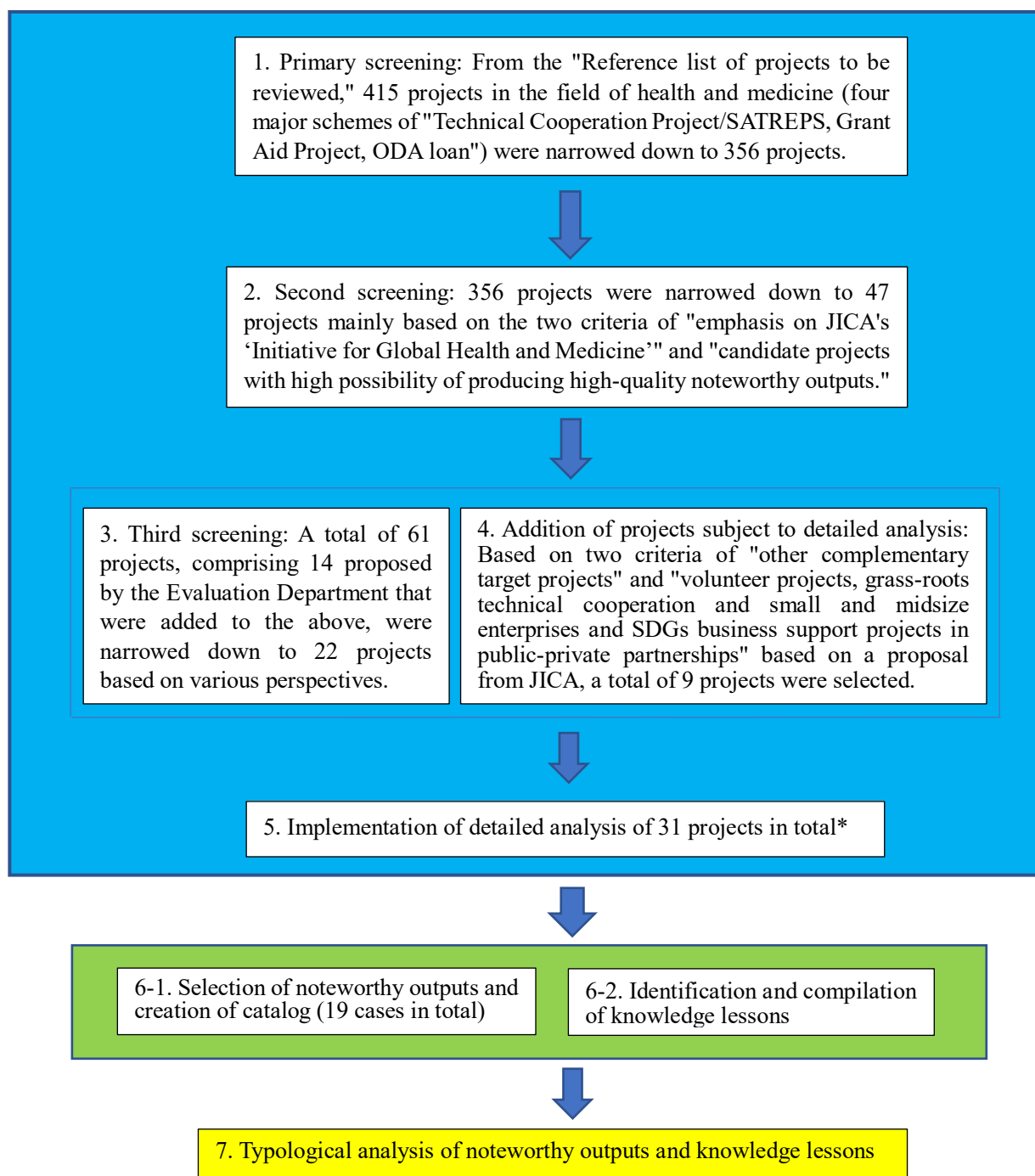
- Projects in the field JICA intends to strengthen such as “JICA Initiative for Global Health and Medicine”: Among the three pillars of the initiative (strengthening organization for diagnosis and medical treatment, strengthening research and early warning (inspection) system and mainstreaming of improved prevention and readiness for health crisis), priority is given to

⁴ The list of projects implemented in and after 1980 in the field of infectious disease control recorded in JICA’s data base such as Project Evaluation Search system or *ODA mieru-ka site* (JICA website for visualization of ODA) as of June, 2021

“strengthening research and early warning (inspection) system,” strongly related to infectious disease control.

1.3 Evaluation method

The thematic evaluation was conducted as follows, aiming to extract examples and lessons which contribute to the promotion of JICA assistance in the field of infectious disease control.



*1. Note: It became 32 projects finally after the series of meetings with JICA.

Figure 1-1. Process of thematic evaluation research

The details of each process in the above figure are as follows.

(1) Primary screening

In this thematic evaluation, Asia, Africa, and Latin America, to which emphasis has been placed in JICA assistance, are the core target areas. 415 projects in the “Reference list of projects to be reviewed” were narrowed down to these three areas. Furthermore, for projects that have repeated phases, only the final phase was left, and target projects were narrowed down to 356 projects in total.

(2) Second screening

1) Setting criteria for further narrowing down projects for the identification of noteworthy outputs

Criterion 1. Emphasis on JICA’s “Initiative for Global Health and Medicine”: Among the three pillars of the initiative, priority is given to cooperation projects for “testing, research, and early warning,” focusing on strengthening infectious disease control bases (labs). Screening was conducted as follows based on ex-ante evaluation sheets including activity items.

◎: The projects correspond to one of “testing, research, and early warning” by strengthening infectious disease control bases (labs)

○: The projects correspond to one of “testing, research, and early warning”, irrespective of laboratory

Criterion 2. Considering the importance of finally identifying high-quality noteworthy outputs,⁵ such candidate projects with high possibility of production of noteworthy outputs were selected (specifically, carefully read the “Project introduction in the *ODA mieru-ka site* (website for visualization of ODA)” on the JICA website, and “Ex-Ante Evaluation sheet”) The evaluation criteria is as follows.

A “*ODA mieru-ka site*”: This site contains description about projects including the good feature of projects and noteworthy achievement. Therefore, if there is a statement such as “Achievement such as xxxxx was confirmed”, the possibility of producing noteworthy outputs and continuous use is identified. If the statement is only about the outline of a project, further research by ex-post evaluation reports were conducted.

B “Ex-ante evaluation sheet”: The sheet usually contains concrete indicators at various levels. Therefore, the possibility of producing noteworthy outputs in the field of infectious disease

⁵ Example: Outputs that are documents incorporated into the system of the recipient governments (Ministry of Health), including ones adopted in or as part of their guidelines on health and medical services; useful outputs that are continuously used in medical settings.

control was confirmed by the identification of actual indicators at Output level.

Based on the above screening, the results are classified as follows.

◎ : Both above criteria A and B are satisfied, or the possibility of producing noteworthy output is strong even with just criteria A

○ : Only either of A or B is satisfied.

Actual screening was conducted in each of four schemes such as technical cooperation, SATREPS, grant aid project and ODA loan project, considering the different features of those schemes. SATREPS belongs to technical cooperation but SATREPS are increasing in the category of infectious diseases control after the year 2006 and such trend may continue in the future. Accordingly, SATREPS was treated separately from technical cooperation this time.

2) Screening

The results are as follows. 16 projects in technical cooperation, 17 projects in SATREPS and 11 projects in grant aid satisfied criteria 1 and 2. In ODA loan project as the number of projects satisfying criteria 1 and 2 together is very small, three projects satisfying either of 1 or 2 were selected.

Table 1-1. The results of second screening

Assistance scheme	Technical Cooperation	SATREPS	Grant Aid Project	ODA loan Project	Total
Number of projects narrowed down	16	17	11	3	47
Breakdown	Projects rated “◎” for both Criteria 1 and 2	Projects rated “◎” for both Criteria 1 and 2	Projects rated “◎” for both Criteria 1 and 2	Projects rated “◎” or “○” for either Criteria 1 or 2	
Asia	11	10	3	3	
Africa	5	5	6	0	
Latin America	0	2	2	0	

(3) Third screening

1) Setting framework for further narrowing down of projects: 47 projects were selected above in second screening. In order to avoid imbalance in the aspects of scheme and geography, we

extracted projects with the following framework. Selected projects are those whose information is sufficient, which produced appropriate noteworthy outputs and whose process of impact realization is clear.

Table 1-2. Framework of third screening

Assistance scheme	Technical Cooperation	SATREPS	Grant Aid Project	ODA loan Project	Total
Number of projects	7	6	8	3	24
Asia	4	4	2	3	13
Africa	3	2	3	0	8
Latin America	0	1	2	0	3

2) Setting framework for the third screening: We conducted evaluation of 61 projects by adding 14 projects requested by JICA Evaluation Department after the second screening, based on five criteria.⁶

3) Screening: Out of the above 61 projects, projects that meet at least two of the five criteria were identified (Asia: 16, Africa: 11, Central America: 4). Finally, 13 projects were selected for Asia, 8 for Africa, and 1 for Central America, in accordance with the above-mentioned “breakdown by scheme.”⁷

The number of projects narrowed down by scheme is 22 in total as follows.

Table 1-3. Result of third screening: List of selected projects

#	Region	Country	Scheme*2	Project name
1*1	Africa	Ghana	G	The Project for the Construction of Advanced Research Center for Infectious Diseases at Noguchi Memorial Institute for Medical Research
	Africa	Ghana	G	The Project for Improvement of Noguchi Memorial Institute for Medical Research (First phase)
	Africa	Ghana	G	The Project for Improvement of Noguchi Memorial Institute for Medical Research (Second phase)
2	Africa	Kenya	G	The Project for Improvement of Facilities for Control of Infectious and Parasitic Diseases at Kenya Medical Research Institute
3	Africa	Democratic Republic Congo	G	The Project of Improvement of National Institute for Research and Biomedical
4	Asia	Indonesia	TC	Tuberculosis Control Project

⁶ 1. Top priority target countries for cooperation, 2. Designated projects among top priority target countries for cooperation, 3. Priority diseases, 4. Hub laboratories, 5. Flagship “infectious disease control” projects presented in JICA’s HP, etc.

⁷ Projects lacking documents and information and projects in progress were excluded.

5	Asia	Pakistan	TC	Tuberculosis Control Project in Pakistan
6	Asia	Philippines	TC	Project for Quality Tuberculosis Control Programme
7	Asia	Vietnam	TC	Project for Capacity Development for Laboratory Network in Vietnam of Biosafety and Examination of Highly Hazardous Infectious Pathogens
8	Africa	Kenya	TC	The Research and Control of Infectious Diseases Project
9	Africa	Zambia	TC	Integrated HIV TB Project (provisional)
10	Asia	Indonesia	S	Compounds of Anti-malarial and Anti-amebic Agents by Utilizing Diversity of Indonesian Bio-resources
11	Asia	Thailand	S	The Project for Integrative Application of Human and Pathogen Genomic Information for Tuberculosis Control
12	Asia	Vietnam	S	SATREPS Project for Establishment of the "bench-to-bedside" feedback system for sustainable ART and prevention of new HIV transmission
13	Asia	Lao PDR	S	The Project for Development of Innovative Research Technique in Genetic Epidemiology of Malaria and Other Parasitic Diseases in Lao PDR for Containment of Their Expanding Endemicity
14	Africa	Zambia	S	Project for Surveillance of Viral Zoonoses in Africa
15	Africa	Zambia	S	Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis
16	Asia	Indonesia	O	Project for Strengthening District Health in Sulawesi
17	Asia	Sri Lanka	O	Improvement of National Blood Transfusion Services Project
18	Asia	China	O	Public Health Project (Jilin Province)
19	Asia	Viet Nam	G	The Project for Improvement of Safety Laboratory for National Institute of Hygiene and Epidemiology
20	Africa	Ghana	TC	Infectious Diseases Project at NMIMR
21	Asia	Afghanistan	G	The Project for Construction of Hospital for Communicable Disease
22	Central America	Brazil	S	The Project for New Diagnostic Approaches in the Management of Fungal Infections in AIDS and Other Immunocompromised Patients

*1. As three projects of grant aid implemented in Ghana are very closely related to each other, they are treated as one project.

*2. Abbreviation: TC: technical cooperation project; S: SATREPS, O: ODA loan; G: Grant aid

(4) Addition of projects for detailed analysis

The Evaluation Department recommended adding 9 projects based on the criteria below* (3 cases each for training projects, volunteer projects, and public-private partnership projects), which are not included in the "Reference list of projects to be reviewed". Together with these 9 projects, a total of 31 projects became subjected to detailed analysis.

* Details of the criteria are as follows.

"Other complementary target projects": Priority was given to cross-scheme cooperation in

target countries where “infectious disease control” was set as a priority field and cooperation programs in the Ministry of Foreign Affairs’ Country Assistance Policy and Rolling Plan over the past 20 years.

“Volunteer projects and SDGs business support projects”: Priority was given to projects that were used in public relations and projects that were proposed as particularly important projects by related departments.

(5) Implementation of detailed analysis of 328 projects in total

In this thematic evaluation, the following logic model was constructed with reference to the existing PDM of the target projects for detailed analysis, and the detailed analysis was conducted for 32 projects that were identified as a result of screening. The Ex-Post Evaluation reports, mid-term review/ terminal evaluation reports, etc., were read, and the results, from “Activity” to “Overall Goal,” and environmental factors were checked and candidates of noteworthy outputs were extracted. (Note: Since there are cases where confirmation of the degree of emergence of Overall Goal was judged to be insufficient at the time of Ex-Post Evaluation, the degree of emergence was re-verified to the extent possible if applicable.)

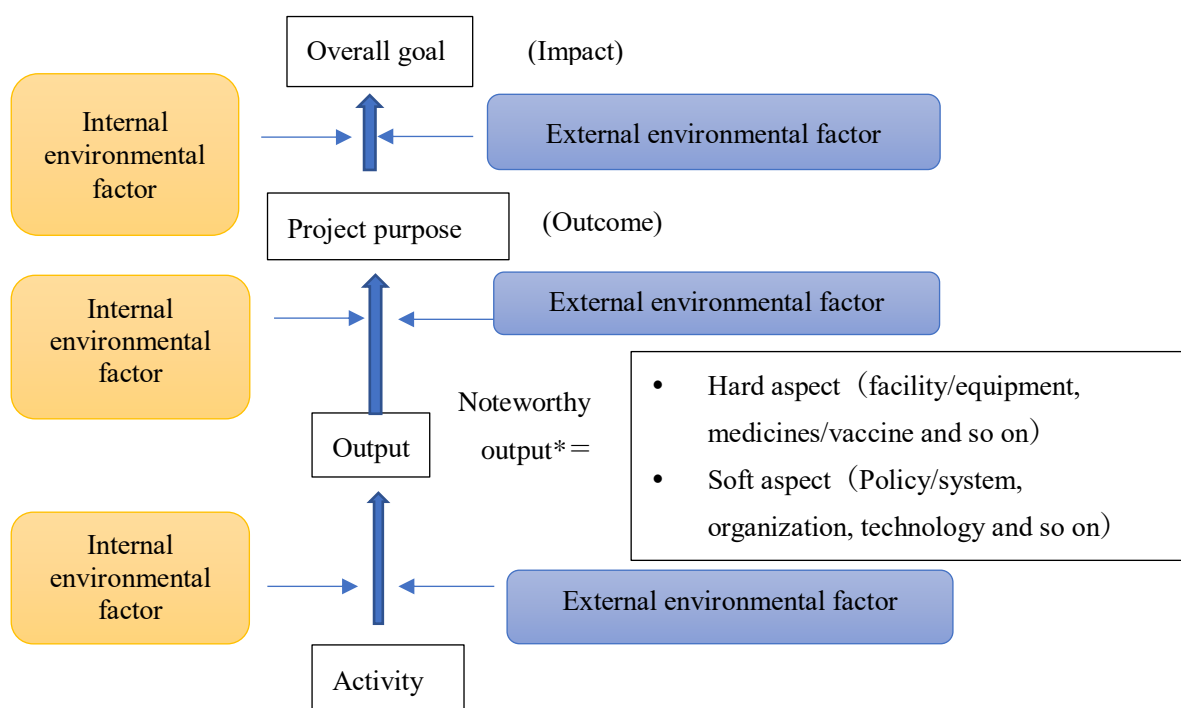


Figure 1-2. Appearance of impact

*Note: There is a noteworthy output which was adopted as national guideline after production and became an indicator at the level higher than project purpose. (Example: “Tuberculosis Control Project”)

⁸ It was proposed to add a project related to vaccine production in a mid-term report session of the evaluation. Consequently, “The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production” implemented in Vietnam was recognized as appropriate as the subject for detailed analysis. Then, total number of projects to be analyzed in detail became 32.

(6) Part 1: Selection of Noteworthy output and creation of noteworthy output catalog (19 items in total)

According to the results of (5) detailed analysis, the higher the degree of achievement of Overall Goal and Project Purpose of the project, the better a candidate it is for appropriate noteworthy output. For noteworthy output, the degree of usefulness was checked by conducting analysis of existing evaluation reports and also conducting questionnaire survey to overseas JICA offices and people familiar with the project (in and outside Japan). In the confirmation of usefulness, the following two requirements were emphasized.

- (1) Effect toward realization of project goals of noteworthy output: The higher the effect, the better.
- (2) Utilization of Noteworthy output (after the project is completed): The higher, the better.

(6) Part 2: Identification and compilation of knowledge lessons

Next, why each goal has made an achievement to that degree was analyzed by exploring external/internal environmental factors.⁹ In this regard, there is reference information in the recommendations and lessons in the existing reports, and the process analysis description in the reports can be used.

Of the confirmed environmental factors, promotional factors among internal environmental factors are those which will contribute to the appearance of effect by its use and they are lessons which should be used in future project formulation and implementation. Obstructive factors are lessons that should be avoided to realize the project effect.¹⁰ In addition, attempts to successfully overcome external obstructive factors are also included in internal promotional factors. These promotional and obstructive factors provide source material for “knowledge lessons.” Finally, “knowledge lessons” were selected that satisfy the following criteria from the promotional and obstructive factors accumulated from the detailed analysis of 32 projects.

- Greatly contributes to the achievement of project goals and the emergence of effects (compared with other lessons)
- Not depending on an individual (because if it depends on an individual, this puts reproducibility into question)
- Reproducible (a perspective that is not up to individuals leads to reproducibility, but there are also some other cases where the approach itself has universality that is applicable to other countries and fields).

⁹ Factors that can be controlled by a project are internal factors, and factors that cannot be controlled are external factors. Promotional factors are the factors that promote the realization of outputs, project purpose and overall goal, while obstructive factors are those that hinder the achievement of these goals and outputs.

¹⁰ External environmental factors include matters that are outside the project but can be controlled to a certain degree by the implementing agency, as well as matters that cannot be controlled by either the project or the implementing agency and government agencies, such as social and economic conditions and climatic conditions. Therefore, some external environmental factors can be used as lessons learned, but they are limited.

- There is a certain amount of information
- If possible, there is novelty

(7) Typological analysis of noteworthy outputs and knowledge lesson

At this stage we categorized “Noteworthy outputs” and “Knowledge lessons” in terms of different aspects, respectively, and conducted analysis (See Chapter 2 for the details.)

1.4 Introduction of major deliverables in this thematic evaluation (catalog of noteworthy outputs and knowledge lesson sheet)

A catalog of noteworthy outputs is a collection of noteworthy outputs in a standard format entitled as Noteworthy output sheet, which is compiled for the users.

The classification of noteworthy output is as follows.

Table 1-4. Classification table of noteworthy outputs

Noteworthy output/classification	Specific content
1. Institutions/policies	Policies, institutions, regulations and system related to the field concerned
2. Organization	Organizations established or strengthened such as departments, centers, and agencies
3. Human resources	Human resources whose capacity was strengthened or established human resource networks
4. Infrastructure	Facilities such as laboratories, research institutes, and various centers (improvements or expansion of functions of new or existing facilities)
5. Technology	Laboratory test skills and skills for vaccine formulation

The standard format of the noteworthy output is shown below.

【Noteworthy output sheet】

Item	Matters to be specified
1. Name	Identification of noteworthy output (that which is still in use at present)
2. Type	Select the type to which the good/service, such as institutions/policies, organizations, technologies, human resources, and infrastructure, belong

3. Category	Categorize by scheme/region/approach to be taken (testing/research/early warning) and type of infectious disease
4. Importance	Describe the key points by which this noteworthy output was selected (e.g.: consistency with global trends in infectious disease control)
5. Current usage status of noteworthy output	Whether the noteworthy output is still in use at present after the project completion
6. Main user	Identify users of the noteworthy output
7. Direct beneficiary and population	Identify the beneficiary if user and direct beneficiary are different
8. Problem and issues solved	Whether or not the problems that were identified at the time of planning have been resolved.
9. Name recognition of noteworthy output	To what extent and how the project is recognized by citizens and the government of the country concerned, such being featured in newspapers, research literature, and academic societies in the country concerned. If such is the case, add international recognition and overseas application cases.
10. Details of JICA cooperation	Introduce the name of the project associated with noteworthy output, as well as the total cooperation period up to 2021, not only for the target project but also for the target organizations/institution
11. Noteworthy output use phase	Since all undertakings are to be implemented as some kind of project, clarify in which phase of the project the noteworthy output should be used and the theme and scheme.
12. Points to keep in mind when using noteworthy output	Indicate some points to keep in mind, such as how noteworthy output can be used to become effective, as it is not necessarily the case that noteworthy output is always effective when used.
13. Presentation of specific content	Add a link to the actual study reports/evaluation reports

“Project outline” attached to a noteworthy output sheet

<ul style="list-style-type: none"> • Name of case (project) • Implementation background of the case • Outline of the case (goals, activities, implementation period, implementing agency, beneficiary, participating Japanese experts, etc.) • Case evaluation results (outline) • Noteworthy output produced in this case

- The process by which the noteworthy outputs concerned were produced
- The process in which the noteworthy outputs concerned were used

Knowledge lesson sheets are what we summarized “Knowledge lessons” extracted through the above process into the thematic sheets. The standard format is presented on the next page.

Knowledge Lessons Sheet

#	Sub Theme	Title of Lessons Learned
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Applicable Scheme(s)	T	P	G	L	O

Applicable Stage(s)	Form	Plan	Exec	Compl	After

Applicable Subsectors	
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Lessons Learned

Type(s)		Generic aspects of project management (cross-cutting among themes)
		Specific to characteristics of the sector
		Specific to characteristics of the country/region (incl. geographical ones)
Key Words		

Applicable Cases	Summary/Background of the Issues

Risks (Or points to note)	Counter Measures

Expected Effects	

References of originated projects

No.	Country	Project Title	Key Words

Note [**T**: Technical Cooperation, **P**: Technical Cooperation for Development Planning, **G**: Grant Aid, **L**: ODA Loan, **O**: Knowledge Co-Creation Program, Public-Private Partnerships, Volunteers, etc.]

1.5 An example of noteworthy output

In this section an example of noteworthy output produced in “The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production” (Vietnam) is presented. After introducing the project outline, we present actual noteworthy output sheet and a logic model, an analytical document. Please see Appendix 1. Catalogue of noteworthy outputs in the field of infectious disease control for other outputs.

(1) Project outline

Case (project) name	
(Technical cooperation project) The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production	
Background of case implementation	
<p>In recent years, the number of rubella cases has increased in many countries. In Vietnam, the number of rubella cases was 7,259 in 2011, a remarkably high figure compared with neighboring countries: 169 cases in Laos and 1,096 cases in Cambodia (as the number of cases in 2008 was 873, it shows an increase of about 8 times).</p> <p>Under the national Expanded Program on Immunization (EPI), the Vietnamese government is working to develop a self-sufficiency (domestic production) system for vaccines to maintain a high vaccination rate for priority infectious diseases. In response to such a situation, a JICA technical cooperation project “The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production” (March 2006-March 2010) was implemented with the Center for Research and Production of Vaccines and Biologicals (hereinafter “POLYVAC”) as its counterpart. As a result, domestic production of measles vaccines compliant with the Good Manufacturing Practices (GMP) of the Ministry of Health of Vietnam started in 2009, and these vaccines are used under the EPI in Vietnam. After that, the Vietnamese government implemented national campaigns in 2013 and 2014 and decided on a policy to incorporate measles-rubella combined vaccines into the EPI thereafter. Specifically, it was expected that the first vaccination of measles vaccines would be switched to the measles-rubella combined vaccines (hereinafter “MR vaccines”) at the time of project planning, and there was an urgent need to promote domestic production of MR vaccines. From May 2013 to March 2018, this project was implemented under an implementation system with Kitasato Daiichi Sankyo Vaccine Co., Ltd. as the Japanese implementing agency and POLYVAC as its counterpart.</p>	
Case outline (goals, activities, implementation period, implementing agency, beneficiary, participating Japanese experts, etc.)	
Goals	<p>Overall Goal: Reduction of measles and rubella epidemics in Vietnam</p> <p>Project Purpose: MR vaccines that comply with international standards</p>

	(WHO Current Good Manufacturing Practices, cGMP) are manufactured by POLYVAC
Outputs	<ol style="list-style-type: none"> 1. POLYVAC has appropriate technical capabilities as an MR vaccine manufacturer. 2. POLYVAC can properly produce MR vaccines compliant with the WHO cGMP.
Activities	<ol style="list-style-type: none"> 1-1. Transfer the technology for the production of rubella stock solution through the production process of vaccine stock solution from the seed virus 1-2. Transfer the technologies for final bulk ¹¹, filling, and lyophilization through the production process of MR vaccines 1-3. Transfer the technology for quality control of products 1-4. Collect and analyze information for reduction of the manufacturing cost per unit of MR vaccine 2-1. Establish a validation system for manufacturing and quality control, and establish a validation technology of staff members 2-2. Establish and implement a quality assurance function that conforms to the WHO cGMP standards 2-3. Prepare and implement standard operating procedures (SOP) necessary for processes such as vaccine manufacturing, storage, and product receipt/shipment 2-4. Transfer the technology for the preparation of documents required to meet the WHO cGMP standards and documents requiring approval by the National Regulatory Authority (NRA) 2-5. Conduct performance qualification (PQ) and process validation (PV) for the manufacturing of vaccines from seed viruses 2-6. Provide necessary advice for clinical trials of MR vaccines conducted under the control of Vietnam
Implementation period	May 2013-March 2018
Implementing agencies (Recipient country side)	Center for Research and Production of Vaccines and Biologicals (POLYVAC)
Direct beneficiary	Center for Research and Production of Vaccines and Biologicals

¹¹ "Final bulk" means a material prepared in one container, ready for immediate dispensing, and is recognized as uniform in properties and quality regardless of any part of its contents.

	(POLYVAC)
Cooperating Japanese agency	Kitasato Daiichi Sankyo Vaccine Co., Ltd.
Participating Japanese experts	Chief Advisor, Deputy Chief Advisor, and experts on organizational management, GMP/validation, quality assurance, quality test, and facility/equipment calibration/validation, for 36 people in total and a cumulative total of 98.23 person/month with 226 trips (at the time of the terminal evaluation in August 2017)

Case evaluation results (summary)

As the Vietnamese government adheres to the policy of having a goal of domestic production of vaccines used in Vietnam itself, the project's relevance is extremely high. The effectiveness of the project is also extremely high, as the production of high-quality MR vaccines became possible and because the production system has been confirmed by the National Regulatory Authority (NRA) in Vietnam to be compliant with the WHO cGMP. It was determined that the efficiency is also high because the detailed process control by the project and the smooth implementation of clinical trials on the Vietnamese side are contributing to the achievement of the Project Purpose at a high level. Since this project has made it possible to supply the number of vaccines required for normal vaccination and outbreak response, achievement of the Overall Goal can also be fully expected by continuing the vaccination project. The policy of domestic production of vaccines has been maintained, and various initiatives have been taken to ensure the sustainability of the project effect; therefore, sustainability at the time of the project termination is also sufficiently guaranteed.¹² Based on these facts, this project has obtained high evaluation results in all items from the viewpoint of five evaluation criteria and can be determined to be a project that achieved the Output to be a model for other parties. (From the terminal evaluation)

Major noteworthy output produced in this case

Measles-rubella combined vaccines produced domestically in Vietnam

The process by which the noteworthy output concerned was produced

The noteworthy output was produced through almost all activities related to Outputs 1 and 2.

1) Project management and communication with relevant parties: By August 2017, a total of 36 JICA experts were dispatched to Vietnam a total of 226 times, and a total of 44 personnel in the Vietnamese counterpart were also dispatched to Japan to attend training for a total of 1,450 days. In particular, a management team led by JICA experts implemented progress and operation management in minute detail in cooperation with the Vietnamese counterpart. In the event of a technical problem, timely discussions for countermeasures were held through video conferences, emails, etc., via local staff (Japanese-Vietnamese interpreters) hired for the project. By contrast,

¹² Production of single doses, breeding of SPF rabbits (rabbits with the guaranteed absence of specific pathogens, which are used for product safety testing), passing of the WHO prequalification, etc.

technical cooperation has been promoted since the launch of the project by keeping in mind that POLYVAC becomes independent as a vaccine manufacturer, and POLYVAC has taken initiatives for management related to vaccine production with indirect support from JICA experts. The education system for new employees and the inventory management system are also functioning properly. In addition, most of the staff members in POLYVAC have continued to work for POLYVAC from the preceding project, fostering a relationship of trust with JICA experts, and communication was well maintained throughout the project period.

2) Ownership and independence: POLYVAC places great importance on independence as a vaccine manufacturer, and the level of ownership of POLYVAC for this project, which aims to manufacture MR vaccines compliant with the WHO cGMP, is high. In particular, for POLYVAC to be financially independent as a vaccine manufacturer, it has been working on the development of single-dose products and the breeding and growing of SPF rabbits within POLYVAC under the cooperation of JICA experts. If these initiatives are realized, it is expected to contribute to the reduction of manufacturing costs by mass production as well as the stabilization of finances along with an income increase. (From the terminal evaluation report)

Process by which the noteworthy output was used

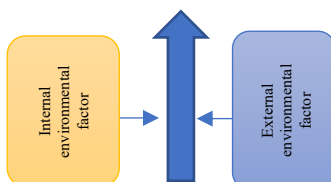
The Drug Administration of Vietnam (DAV) of the Ministry of Health, which is in charge of licensing the NRA in Vietnam, issued a marketing approval certificate (registration number: QLVX-995-17) on March 27, 2017, for the MR vaccines made by POLYVAC (product name: MRVAC), about one year ahead of schedule. In response to the subsequent changes in regulations regarding the sales of vaccines in Vietnam, a small-scale rollout of MR vaccines was launched in four provinces in February 2018 for the reconfirmation of safety prior to full-scale use in EPI, which uses about 40,000 doses. Based on its results, a vaccination campaign is scheduled to be rolled out nationwide from April of the same year (Source: project completion report). Subsequently, the MR vaccines produced domestically in Vietnam were incorporated into the EPI in March 2018, and vaccination for children in Vietnam commenced. In recent years, MR vaccines have also been used for epidemics among those including adults (Source: “Technical Cooperation for MR Vaccine Production in Vietnam - Capacity Building - Access to Healthcare - Sustainability - Daiichi Sankyo Company, Limited.”

(https://www.daiichisankyo.co.jp/sustainability/access_to_healthcare/capability/in_vietnam/)

(2) Logic Model of “The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production”

Overall Goal (Impact): Regarding the Overall Goal of “reduction of measles and rubella epidemics in Vietnam,” the coverage of measles vaccination conducted under the EPI has been maintained at 95% or more for the first vaccination (for 9-month-old children). For the second vaccination (for 18-month-old children), measles-rubella combined vaccines (MR vaccines) have been used since 2016, and the vaccination coverage improved from 86% in 2013 to 95% in 2016. Therefore, **it is highly probable that the long-term “reduction of measles and rubella epidemics in Vietnam” will be achieved.**

(Promotional factor) A clinical trial using MR vaccines manufactured in accordance with the WHO cGMP standards was conducted in 2016, and in March 2017, significantly ahead of the expected schedule, a marketing approval certificate was issued by the Drug Administration of Vietnam of the Ministry of Health.



(Promotional factor) The Ministry of Health of Vietnam set out a strategy to cover 100% of EPI vaccines and 30% of commonly used vaccines by domestic production by 2020. In addition, a high level of production capacity of POLYVAC was demonstrated during the outbreak of measles in 2014.

Project Purpose (outcome): “The MR vaccines that comply with the international standards (WHO Current Good Manufacturing Practices, cGMP) are manufactured by POLYVAC”

Degree of achievement: **For the following indicators 1 and 2, the purposes were achieved at the completion of the project.**

Indicator 1: Manufacturing license for MR vaccines is issued by the Drug Administration of Vietnam of the Ministry of Health.

Indicator 2: There are other data and information that can explain the enhanced capacity of POLYVAC as a vaccine manufacturer compliant with the WHO GMP. (Source: terminal evaluation)

Sustainability of outcome:

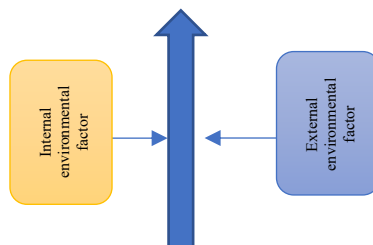
Policy and institutional aspects: Since the Ministry of Health of Vietnam set out a strategy to cover 100% of EPI vaccines and 30% of commonly used vaccines by domestic production by 2020, it has a policy to continue using the “vaccines produced by POLYVAC” in the EPI in Vietnam even after the end of the project period.

Financial aspect: Since POLYVAC can become independent as a vaccine manufacturer, the overseas sales of vaccines produced by POLYVAC and the sales of SPF* rabbits were prepared. In contrast, after the end of the project period, POLYVAC needs to further strengthen its financial base to properly renew its equipment, etc.

Technical aspect: Through JICA’s cooperation to date, including the preceding project, POLYVAC has acquired the ability to comply with the WHO cGMP and produce measles vaccines and MR vaccines.

*Rabbits with the guaranteed absence of specific pathogens, which are used for product safety testing

(Promotional factors) POLYVAC, which is a C/P institution, had a high level of ownership to be independent as a vaccine manufacturer. In addition, in the event of a technical problem, a timely response was taken through video conferences, emails, etc.



No notable factors

Output: The following Outputs 1 and 2 were generally achieved by the time of project completion. (Source: ex-post evaluation)

Output 1: POLYVAC has appropriate technical capabilities as an MR vaccine manufacturer

Output 2: POLYVAC can properly produce MR vaccines compliant with the WHO cGMP

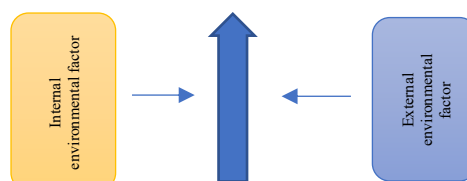


This project contains the following intellectual properties/systems that can be candidates for “**noteworthy output.**”
“Measles-rubella combined vaccines produced domestically in Vietnam”

(Notable promotional factors)

1. Consideration was given to provide ownership and independence, such as having daily morning meetings, weekly meetings, and eight working groups run by the counterpart.

2. A technology transfer implementation method was established to allow the counterpart to acquire technology reliably and efficiently and to allow even third parties to see the current situation. (Practice of visualization)



(Obstructive factor)
It was difficult to procure inexpensive and high-quality materials, spare parts, and consumables.

Activities

(3) Noteworthy output sheet

Item	Matters to be specified	Contents
1. Name	Identification of noteworthy output (that which is still in use at present)	<p>Measles-rubella combined vaccines* produced domestically in Vietnam</p> <p>*Combined vaccine effective for two diseases such as Measles and Rubella</p>
2. Type	Select the type to which the good/service, such as institutions/policies, organization, technology, human resources, and infrastructure, belong	Technology
3. Category	Categorize by scheme/region/approach to be taken (testing/research/early warning) and type of infectious disease	<p>Scheme: Technical cooperation project</p> <p>Region: Asia</p> <p>Approach to be taken (testing/research/early warning): Research</p> <p>Infectious disease: Measles and rubella</p>
4. Importance	Describe the key points by which this noteworthy output was selected (e.g.: consistency with global trends in infectious disease control)	<p>While the WHO's current Good Manufacturing Practices (cGMP) were complied with, support was provided for the capacity building of human resources and manufacturers required to produce Measles-Rubella combined Vaccines (MR vaccines), in addition to measles vaccines, and this has enabled domestic production of inexpensive and safe MR vaccines.</p> <p>In recent years, the number of rubella cases has increased in Vietnam, and not only is the health of children with rubella infection impaired, but also, although it has not surfaced so far, there is a growing awareness of the risk that pregnant women infected with rubella give birth to children having congenital rubella syndrome (CRS); therefore, the importance of implementing rubella prevention measures is becoming widely recognized. In response to such a situation and advice from the WHO,</p>

		the Vietnamese government launched a campaign for the measles-rubella combined vaccines (MR vaccines) using imported vaccines in 2014. As a routine vaccination, the second measles vaccination was switched to MR vaccines. Under these circumstances, there was an urgent need to promote domestic production of MR vaccines.
5. Current usage status of noteworthy output	Whether the noteworthy output is still in use at present after the project completion	The Drug Administration of Vietnam (DAV) of the Ministry of Health issued a certificate of conformity to the Good Manufacturing Practices (GMP) in August 2016 for measles vaccines, rubella vaccines, and MR vaccines of the Center for Research and Production of Vaccines and Biologicals (POLYVAC) that produces MR vaccines. Since then, POLYVAC's products have been continuously used for routine vaccination in Vietnam. The MR vaccines produced domestically in Vietnam were incorporated into the national Expanded Program on Immunization (EPI) in March 2018, and vaccination for children in Vietnam commenced. In recent years, MR vaccines have also been used for epidemics among those including adults.
6. Main user	Identify users of the noteworthy output	Center for Research and Production of Vaccines and Biologicals (POLYVAC)
7. Direct beneficiary and population	Identify the beneficiary if user and direct beneficiary are different	Children and adults who need routine vaccination
8. Problem and issues solved	Whether or not the problems that were identified at the time of planning have been resolved.	It has enabled the efficient production of high-quality MR vaccines that could not be produced in Vietnam before, and the budget burden for routine vaccination has been reduced. Moreover, it has become possible to prepare for the urgent situation of a measles/rubella epidemic.
9. Name recognition of noteworthy output	To what extent and how the project is recognized by citizens and the government of the country concerned, such being featured in newspapers, research literature, and	The project that produced noteworthy output has been highly acclaimed in Vietnam and received the most prestigious "Minister of Health Award" in September 2017 that recognizes achievements in the medical field in Vietnam.

	academic societies in the country concerned. If such is the case, add international recognition and overseas application cases.	
10. Details of JICA cooperation	Introduce the name of the project associated with noteworthy output, as well as the total cooperation period up to 2021, not only for the target project but also for the target organizations/institution	Project name from which noteworthy output was identified: The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production Cooperation period: May 2013-April 2018 Related projects: Grant Aid Project “The Project for the Construction of the Facilities for Measles Vaccine Production” (2003-2005) and technical cooperation “The Strengthening Capacity for Measles Vaccine Production” (2006-2010) were implemented for the same implementing agency (Center for Research and Production of Vaccines and Biologicals (POLYVAC)). In particular, the experience, knowledge, and skills obtained from the preceding project, “The Strengthening Capacity for Measles Vaccine Production” (2006-2010), were effectively used in implementing this project.
11. Noteworthy output use phase	Since all undertakings are to be implemented as some kind of project, clarify in which phase of the project the noteworthy output should be used and the theme and scheme.	The noteworthy output is used for the prevention of measles and rubella
12. Points to keep in mind when using noteworthy output	Indicate some points to keep in mind, such as how noteworthy output can be used to become effective, as it is not necessarily the case that noteworthy output is always effective when used.	There is a point for the production of the noteworthy output as follows. The conditions for use are the ability to manufacture vaccines based on the standards of vaccine manufacturing, standards of breeding and management of experimental animals, and the Good Manufacturing Practices, as well as the existence of properly managed and maintained equipment. In the case of the project concerned, there was a preceding technical cooperation project “The Strengthening Capacity for Measles Vaccine

		<p>Production” from March 2006 to March 2010, and the above preparations were already made.</p> <p>In addition, the project is a rare example in which the vaccine production technology was transferred by a Japanese private firm through ODA technical cooperation project. It will be a good reference project of cooperation between government and private sector without using a certain scheme entitled as “public-private partnership” (From the terminal evaluation report)</p>
13. Presentation of specific content	Add a link to the actual study reports/evaluation reports	<p>“The Strengthening Capacity for Measles Vaccine Production” Summary of mid-term review report (https://www2.jica.go.jp/ja/evaluation/pdf/2015_120036_6_2_s.pdf), ex-ante evaluation report (https://www2.jica.go.jp/ja/evaluation/pdf/2013_120036_6_1_s.pdf), and terminal evaluation report</p> <p>Search for Evaluation Reports Project Evaluation Project JICA - Japan International Cooperation Agency</p>

1.6 Implementation organization of evaluation

Members of the study team and responsible tasks are as follows.

Table 1-5. Members and tasks

Members	Responsible tasks
Team leader/Evaluation analysis (Health): Ryujiro Sasao	<ul style="list-style-type: none"> - Formulation of framework of the evaluation study - Schedule control of the entire study - Final quality control of each output - Coordination and communication with JICA - (*) Screening of the projects for the detailed analysis, analysis after screening, questionnaire and interview surveys in and outside Japan, formulation of final outputs such as “noteworthy output”, participation in meetings/seminars, and drafting and editing of the reports
Infectious disease/health and medical system 1: Takaharu Ikeda Infectious disease/health and medical system 2: Tomoko Shibuya	<ul style="list-style-type: none"> - (*) Screening of the projects for the detailed analysis, analysis after screening, questionnaire and interview surveys in and outside Japan, formulation of final outputs such as “noteworthy output”, participation in meetings, drafting and editing of the reports

Human resource development in medical treatment of health: Kazutaka Sekine	- (*) Screening of the projects for the detailed analysis, analysis after screening, questionnaire and interview surveys in and outside Japan, formulation of final outputs such as “noteworthy output”, participation in meetings, drafting and editing of the reports
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*Note: These are tasks common for all the members. More specifically, “screening of the projects for the detailed analysis” and “formulation of final outputs such as “noteworthy output” are the joint work of all the members, fully utilizing their expertise. The detailed analysis after screening is conducted by distributing projects in the team. After the analysis, members conduct checking results and outputs mutually.

1.7 Study period and activity schedule

The study period of the thematic evaluation is from April 2021 to March 2022.

The details of the study schedule are as follows.

Table 1-6. Implementation schedule of the study

Activity item	Time
(1) Formulation of Inception report (Holding the Kick-off meeting)	April (April 19)
(2) (Analysis in Japan 1) Review of reports such as ex-post evaluation in the related filed and analysis	April to August
(3) (Analysis in Japan 2) Formulation of draft noteworthy outputs and knowledge lessons	September to February (2022)
(4) First mid-term report meeting	September 14
(5) Second mid-term report meeting	October 15
(6) Field research (changed from overseas trip to questionnaire survey and collection of information on remote basis)	August to September
(7) (Analysis in Japan 3) Formulation of final report draft based on field research	December to February
(8) Final report meeting	December 27
(9) Information dissemination and collection of comments by organizing seminar (in and outside Japan)	February 3
(10) Formulation of final report	February to March

1.8 Points to keep in mind and constraint

This thematic evaluation deals with “the field of infectious disease control” and the related JICA’s activities are various in terms of diagnosis/treatment, study and early warning and prevention. In addition, the history of JICA’s assistance in the field is very long. Accordingly, it was difficult to cover the entire activities in the evaluation under the time constraint. Therefore,

policy evaluation for the entire field of infectious disease control was not conducted and, instead, effort was made in extracting good samples and lessons which will contribute to future JICA's assistance in the field, and in conducting typological analysis, based on 1.1 Background and objectives of evaluation.

Although it was originally planned to visit several countries for field visit, such plan was cancelled, considering the risks under the global break of COVID-19. Accordingly, the expected field visit was replaced by conducting questionnaire survey to stakeholders of the projects subject to the field research.

Chapter 2. Typological analysis and identification of noteworthy outputs and knowledge lessons produced in JICA Projects in the field of infectious disease control

Each of the noteworthy outputs and knowledge lessons is categorized according to several aspects and analyzed in this chapter.

2.1 Typological analysis of the noteworthy outputs

The table below shows the categorization of noteworthy outputs selected through this thematic evaluation.

Table 2-1. List of the noteworthy outputs

#	Category	Name of noteworthy outputs	Project name	Assistance scheme	Country
1	Institutions/Policies (4 cases)	National guidelines for anti-tuberculosis management, including standard operating procedures (SOP) for external quality assessment (EQA)	Tuberculosis Control Project in Pakistan (2006-2009)	Technical cooperation project	Pakistan
2		SOP (standard operating procedure) with LQAS (lot quality assurance system) including monitoring/supervision Note: this noteworthy output is also categorized as technology.	Tuberculosis Control Project (2008-2011)	Technical cooperation project	Indonesia
3		Implementation model of Chagas disease control (preparation-attack-monitoring phases) in Central America Note: this noteworthy output is also categorized as organizations.	Chagas Disease Control Program (1991-2014)	Technical cooperation project, deployment of experts, volunteer project	Guatemala, Honduras, El Salvador, Nicaragua
4		Production and sales system of locally produced inexpensive and high-quality alcohol hand sanitizer	Preparatory Survey on BoP Business on Infectious Disease Prevention with New Alcohol Hand Sanitizer in Uganda (2012-2013)	Public-private partnership	Uganda

5	Organization (4 cases)	Comprehensive research and training capacity for infectious disease control at Noguchi Memorial Institute for Medical Research (NMIMR)	Infectious Diseases Project at NMIMR (1999-2003)	Technical cooperation project	Ghana
6		Biosafety level 3 laboratory and its maintenance system established at the University Teaching Hospital, the Ministry of Health, Zambia Note: this noteworthy output is also categorized as infrastructure.	Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis (2011-2016)	SATREPS	Zambia
3		Implementation model of Chagas disease control (preparation-attack-monitoring phases) in Central America Note: this noteworthy output is also categorized as institutions/policies.	Chagas Disease Control Program (1991-2014)	Technical cooperation project, deployment of experts, volunteer project	Guatemala, Honduras, El Salvador, Nicaragua
7		A national network of inspection agencies built around the National Institute of Hygiene and Epidemiology (NIHE) in Hanoi	Project for Capacity Development for Laboratory Network in Vietnam of Biosafety and Examination of Highly Hazardous Infectious Pathogens (2011-2016)	Technical cooperation project	Viet Nam

8	Human resources (4 cases)	A total of 277 laboratory technicians having enhanced capabilities in 64 countries	Strengthening Laboratory Techniques and Surveillance System for Global Control of HIV and Related Infectious Diseases (1993-2019)	Knowledge Co-Creation Program	Worldwide
9		Human resources who can implement effective measures to address antimicrobial resistance (AMR) and healthcare-associated infections, including COVID-19	Antimicrobial Resistance and Healthcare-Associated Infections Control (2003~)	Knowledge Co-Creation Program	Worldwide
10		More than 1,700 human resources (in 92 countries) developed in the international tuberculosis training that has been conducted for nearly 60 years	International Training Courses on Tuberculosis Control (1963~)	Knowledge Co-Creation Program	Worldwide
11		Healthcare workers with enhanced capabilities to conduct surveys in line with the provisions of the Pacific Programme to Eliminate Lymphatic Filariasis (PacELF)	(Volunteer project) Support for Elimination of Lymphatic Filariasis: 14 Pacific countries in Oceania (2004-2015)	Volunteer project	14 Pacific countries
12	Infrastructure (3 cases)	Biosafety level 3 (BSL-3) laboratory	The Project for Improvement of Noguchi Memorial Institute for Medical Research (1998-1999)	Grant aid	Ghana
13		Hospitals, CDCs, and Emergency Care	Public Health Project (2004-	ODA loan	China

		Centers with improved functions	2010)		
6		Biosafety level 3 laboratory and its maintenance system established at the University Teaching Hospital, the Ministry of Health, Zambia Note: this noteworthy output is also categorized as organization.	Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis (2009-2013)	SATREPS	Zambia
14	Technology (7 cases)	Rapid diagnostic kits for Ebola virus disease	Project for Surveillance of Viral Zoonoses in Africa (2009-2013)	SATREPS	Zambia
2		SOP (standard operating procedure) with LQAS (lot quality assurance system) including monitoring/supervision Note: this noteworthy output is also categorized as institutions/policies.	Tuberculosis Control Project (2013-2018)	Technical cooperation project	Indonesia
15		The Campinas University Hospital's medical care manual including a rapid test method for fungal detection	The Project for New Diagnostic Approaches in the Management of Fungal Infections in AIDS and Other Immunocompromised Patients (2010-2013)	SATREPS	Brazil
16		Procedure manual in Portuguese on the DNA microarray, LAMP method, β -glucan	The Project for New Diagnostic Approaches in the	SATREPS	Brazil

		measurement, fungal susceptibility testing, and the real-time PCR method	Management of Fungal Infections in AIDS and Other Immunocompromised Patients (2010-2013)		
17		Diagnostic techniques for infectious diseases including COVID-19	The Project for Development of Innovative Research Technique in Genetic Epidemiology of Malaria and Other Parasitic Diseases in Lao PDR for Containment of Their Expanding Endemicity (2014-2019)	SATREPS	Lao PDR
18		Lead compounds produced through joint research between Japan and Indonesia	Project for Searching Lead Compounds of Anti-malarial and Anti-amebic Agents by Utilizing Diversity of Indonesian Bio-resources (2015-2020)	SATREPS	Indonesia
19		Measles-rubella combined vaccines produced domestically in Vietnam	The Project for Strengthening Capacity for Measles-Rubella Combined Vaccine Production (2013-2018)	Technical cooperation project	Viet Nam

JICA has strategically implemented its projects in line with international trend by utilizing the accumulated knowledge from the past projects and also knowledge shared in international community in the cooperation in the field of medical treatment for health including the infectious disease control. JICA has aimed for implementing effective high quality projects in this way. Based on such policy, JICA promoted measures against mainly three major infectious diseases (HIV/AIDS, tuberculosis, and malaria) in the first half of the 2000s. Since then the revised version of International Health Regulations: IHR has been emphasized after experiencing the newly or re-emerging infectious diseases such as SARS, bird flu, Ebola virus disease and JICA has adopted cross disease approach in addition to individual disease control approach¹³.

With regard to individual disease control approach, JICA considers the use of SATREPS and public- private partnership from the viewpoint of JICA’s comparative superiority and existence of relevant resources in Japan. When we review the noteworthy outputs extracted in the thematic evaluation based on the above policy situation, it is confirmed that JICA has produced many outputs related to three major infectious diseases through continuous cooperation over time, although cross disease approach including the formulation of laboratory network is observed in project implementation after 2010.

Next, trend of distribution of noteworthy outputs are summarized as follows. First, Figure 2-1. shows the distributions of the 19 selected noteworthy outputs by category. Of these, the largest number of noteworthy outputs are categorized as 'technology' (7), followed by 'policy/system, 'organizations' and 'human resources' (4 for each), and 'infrastructure' (3).

Institutions/policies:

Three of the four noteworthy outputs categorized as policy/system were generated through technical cooperation projects. They are national guidelines and standard operating procedures for

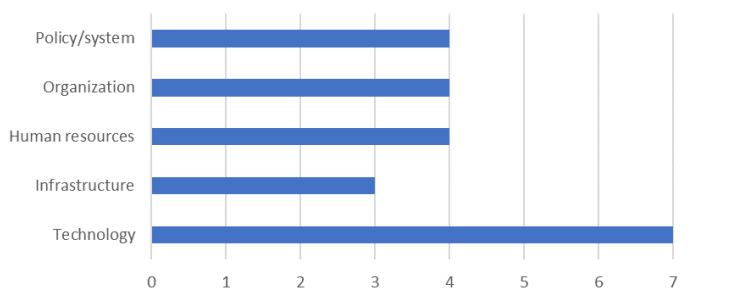


Figure 2-1. Distribution of the noteworthy outputs by category

The other one was a business knowhow to develop business in developing countries, which is generated through public-private partnership. (As it has a nature of business system, it belongs to “Institutions/policies” according to our definition.)

¹³ JICA’s aid policy on cooperation in health sector towards 2015 is stated in “JICA’s cooperation in health sector – Present and Future – (2013)”. https://www.jica.go.jp/activities/issues/health/ku57pq00002cy8ad-att/position_paper_health.pdf
 Technical brief “JICA’s support for infectious disease control: Basic principle” in 2018 presented the policy after that. https://www.jica.go.jp/activities/issues/health/ku57pq00002jvu85-att/infection_control_jica.pdf
 Furthermore, “Initiative for Global Health and Medicine” in 2020 presents the policy towards the future. https://www.jica.go.jp/activities/issues/special_edition/health/index.html

Organization

Four items were generated through technical cooperation projects and SATREPS: a model for infectious diseases control, research and training capacity for infectious disease control, medical facilities with strengthened functions, and a nationwide network of laboratories.

Human resources

Three noteworthy outputs were generated through three Knowledge Co-Creation Programs and one was generated through a volunteer project. The Knowledge Co-Creation Programs resulted in an improved capacity of the personnel in testing and research. These training packages were reviewed each year and some of them were upgraded for advanced courses to be the training courses of better quality.

Infrastructure

Noteworthy outputs were selected one each from grant aid, ODA loan and SATREPS. For example, BSL (Bio-Safety Level) - 3 laboratories in Ghana and Zambia were selected as noteworthy outputs. These laboratories are not simply the installation of equipment but are characterized by special attention to high risk infectious diseases with an emphasis on safety and efficiency of the experimental operations.

Technology

Two noteworthy outputs were generated through technical cooperation projects, and five through SATREPS with wide variety. These contribute to the standardization of technology and typically took the form of diagnosis manuals, diagnostic kits, and vaccines. In addition, a manual was adopted as part of national guidelines and categorized as institutions/policies.

Figure 2-2 shows the types of noteworthy outputs by the assistance scheme. Technical cooperation projects topped the list of the noteworthy outputs, followed by SATREPS.

The types of noteworthy outputs produced by technical cooperation

projects were mostly categorized as institutions/policies, organizations, or technology. The noteworthy outputs produced by SATREPS were related to organizations, infrastructure or technology. In contrast, grant aid and ODA loan led to noteworthy outputs related to infrastructure. Training courses resulted in generating human resources. Public- private

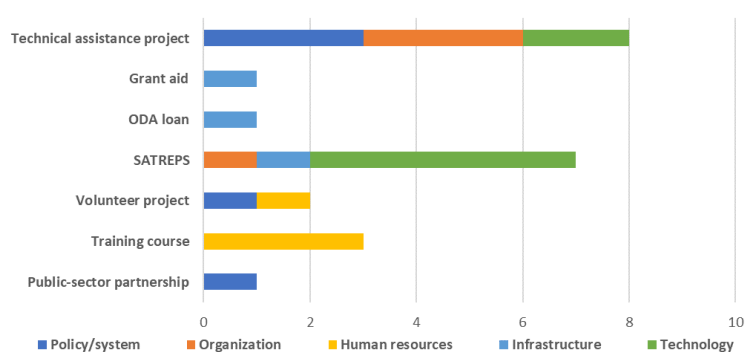


Figure 2-2. Distribution of the noteworthy output by assistance scheme

partnership makes a linkage between private enterprises and developing countries and provided Japanese enterprises with an opportunity to create a business knowhow to develop business, which are also beneficial to citizens in the developing countries.

Figure 2-3 shows the types of the noteworthy outputs by region. Regarding the types of noteworthy outputs, the Asia and Africa regions produced the most noteworthy outputs in various categories.

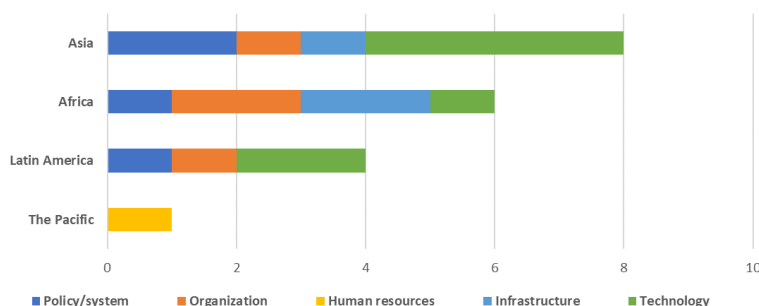


Figure 2-3. Distribution of the noteworthy output by region

Extracted noteworthy outputs reflect factors considered in the screening process such as priority countries, flagship projects and various aid schemes. But the original database from which those noteworthy projects were extracted is that of JICA database with about 400 projects in health sector and regional distribution of noteworthy outputs are influenced by such original regional feature.

2.2 Typological analysis of the knowledge lessons

Table 2-2 shows the knowledge lessons selected through this thematic evaluation, which were categorized into seven themes. These are primarily so-called good practices attributable to the success of the 32 JICA projects, which were included for in-depth analysis. They were identified with reference to terminal evaluation reports, ex-post evaluation reports, and other reports.

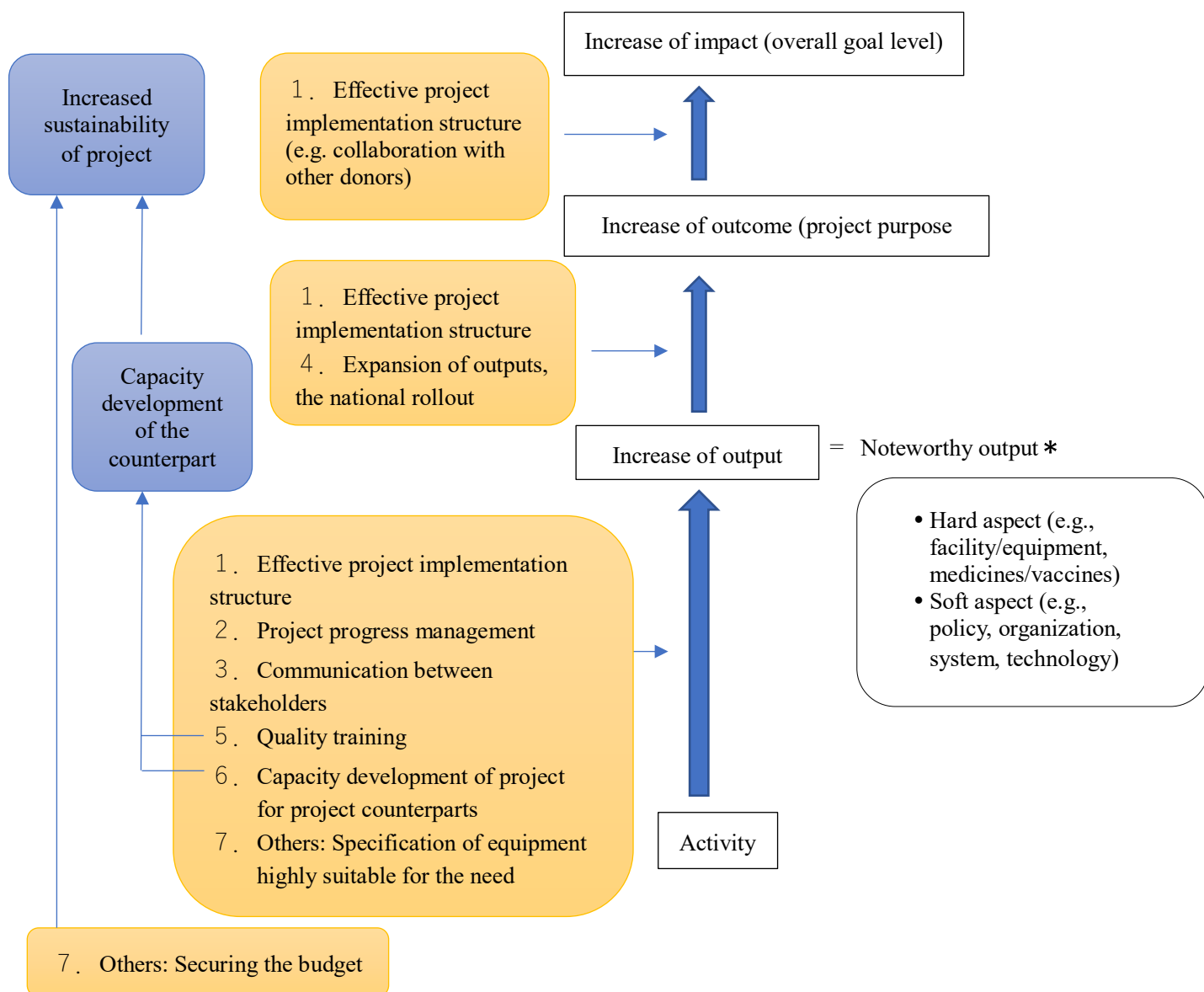
Table 2-2. List of the knowledge lessons

#	Sub-theme	Title	Knowledge lessons (outline)		Typical effect of knowledge lessons
Infectious disease control 1	Project implementation structure	Effective project implementation structure	1	Coordination and partnership with other donors	Impact increase
			2	Partnership with external organizations other than donors	Output increase
			3	Partnership with other JICA cooperation schemes	Impact increase
			4	Measures to improve structures within projects	Output increase
Infectious disease control 2	Project management	Project progress management	1	Increase in collaborative work time through effective schedule management	Output increase
			2	Improvement of an inspection system and motivation increase in the recipient country by adding epidemic diseases and diseases requiring international emergency response as training subjects during the project period	Output increase
Infectious disease control 3	Project management	Communication between stakeholders	1	Periodical progress monitoring and sharing research results through meetings in the laboratory	Output increase
			2	Sharing of goals and vision of the project, and stakeholders' roles in the project	Output increase
Infectious disease control 4	Project management	Expansion of outputs, the national rollout	1	Development of national guidelines for a national rollout	Outcome increase
			2	The successful national rollout of the external quality assurance system for tuberculosis diagnosis	Outcome increase
Infectious disease control 5	Training	Quality training	1	Appropriate duration, facility, number of lecturers and language of training	Output increase, capacity development
			2	Using local instructors and former training participants as lecturers	Output increase, capacity development
			3	Enriching training contents	Output increase, capacity

					development
			4	Flexible revision of the training plans (target disease, country, program content)	Output increase, capacity development
			5	Review of training	Output increase, capacity development
Infectious disease control 6	Capacity development	Capacity development of project counterparts	1	Measures to promote skill transfer	Capacity development, increased sustainability
			2	Involvement of Japanese experts to facilitate effective learning	Capacity development, increased sustainability
			3	Importance of assistance in studying for degrees	Capacity development, increased sustainability
			4	Various measures to supplement cascade training	Capacity development, increased sustainability
Infectious disease control 7	Others	Others	1	Securing financial resources to make the activity sustainable	Increased sustainability
			2	Determining equipment specs that meet or nearly meet the needs	Outcome increase

Knowledge lessons contributed to the smooth implementation of projects and the achievement of results at various levels of project implementation. The following Figure 2-4 illustrates how knowledge lessons contributed to the project in a logic model. Of the seven categories of knowledge lessons identified in this thematic evaluation including “Others”, six are at the activity level, linked to increased quality or quantity of the outputs. The knowledge lessons are also tied to the generation of the noteworthy outputs, which further led to the realization of project objectives and goals. Two knowledge lessons at higher level (1,4) helped the output in realizing the project purpose. The lesson at the highest level, “Effective project implementation structure (e.g., collaboration with other donors)” is effective to building a support system for the target country and covering a wider scope. It is also helpful to enhance efficiency through better resource allocation among donor agencies.

Some knowledge lessons have also contributed to sustaining the project’s impact after its completion through capacity building of counterpart (staff of the implementing agency of the recipient country), or enhancing the project's financial sustainability by securing financial resources.



* Note: The selected noteworthy outputs include ones incorporated into national guidelines and eventually contributed to achievements of the project objectives or higher level goals. Such example is the one generated through Tuberculosis Control Project in Indonesia.

Figure 2-4. Illustrative drawing to show how knowledge lessons lead to generating impacts

Chapter 3. JICA's contribution to and specific measures in addressing COVID-19

The JICA projects in the field of infectious disease control have reportedly contributed significantly to the measures against COVID-19, a previously unknown infectious disease that has spread worldwide since January 2020¹⁴. Accordingly, apart from the identification of noteworthy outputs and knowledge lessons, the thematic evaluation team interviewed stakeholders of such JICA projects with the support of JICA overseas offices and others. The following are two case studies with such interviews on JICA's contribution to addressing COVID-19.

Case studies

Noguchi Memorial Institute for Medical Research in Ghana

In commemoration of the remarkable achievements of Dr. Hideyo Noguchi, the Noguchi Memorial Institute for Medical Research (NMIMR) was established in 1979 with technical and financial support from Japan. The research institute with solid expertise in infectious diseases has been making a significant contribution to preventing the spread of COVID-19 in Ghana and the West African region, as it performed testing of the samples collected from four neighboring countries, which have premature testing skills, in terms of genome analysis and PCR test.

Approximately 500,000 specimens from Ghana and its neighboring counties were processed for PCR tests for COVID-19 by September 2021, and 52,000 cases were confirmed as positive. In addition, JICA's tripartite cooperation involving NMIMR helped deliver training on virology, bacteriology, and parasitology for a total of 42¹⁵ laboratory technicians from nine neighboring countries from 2018 to 2020. In 2020, NMIMR helped enhance test capacity of the neighboring counties through training on PCR tests. The institute is committed to the region's human resource development, providing practical training to the invited researchers and laboratory technicians. In addition, the institute has a plan to receive laboratory technicians as interns or fellows for the training other than JICA's.

NMIMR is not originally mandated to perform laboratory tests but is a research institute of infectious diseases. In the face of the COVID-19 pandemic, the research institute carries out not only testing but also genome analysis and other advanced tests and human resource development to enhance test capacity. This was made possible by the long and evolving history of JICA's technical and infrastructure support and NMIMR's tireless efforts to advance infectious diseases research.

¹⁴ <https://www.jica.go.jp/COVID-19/ja/index.html>

¹⁵ 12 participants from 4 countries in 2018; 15 participants from 9 countries in 2019; 15 participants from 9 countries in 2020

The project for Capacity Development for Medical Laboratory Network on Biosafety and Examination of Highly Hazardous Infectious Pathogens in Vietnam, Laos and Cambodia

(project duration: July 2017 to March 2023)

This project has provided technical assistance for the provincial Centers for Disease Control and Prevention (CDC) in continuous partnership with the National Institute of Hygiene and Epidemiology and Pasteur Institute in Ho Chi Minh from the previous phase. Coupled with the equipment donated, a set of the CDC's knowledge and skills gained through the project was helpful during the early stage of COVID-19 response. Bac Giang, one of five northern provinces that the project targets, was acknowledged and awarded by the national government, which indicates the project contribution was highly appreciated.

In addition, biosafety level 3 laboratories were established at the National Institute of Hygiene and Epidemiology and Pasteur Institute with the support of JICA before the occurrence of COVID-19. These advanced laboratories have played a critical role in COVID-19 response in the country at the time when the risk of COVID-19 was still unknown and the laboratories are in use at the time of this thematic evaluation (December 2021).

According to the stakeholders of the project, what they cared a lot about the project is to have regular communication with their counterparts, to create training opportunities as much as possible, to conduct field visits in order to identify and fully understand actual needs on the ground early and to propose and execute appropriate support. The project experts attribute these behaviors to the effective and timely response to COVID-19.

Chapter 4. Recommendations for JICA's future assistance in the field of infectious disease control

This chapter presents recommendations towards the future project implementation, based on Chapter 2 Typological analysis and identification of noteworthy outputs and knowledge lessons produced in JICA Projects in the field of infectious disease control.

In the typological analysis, we analyzed noteworthy outputs and knowledge lessons extracted in the thematic evaluation. The principle of our recommendations derived from the typological analysis is to make the effective use of those noteworthy outputs and knowledge lessons. The ways of utilizing the assets and points to pay attention to are presented in individual noteworthy output sheets and knowledge lesson sheets. This section provides more general suggestions on how to utilize noteworthy outputs and knowledge lessons.

(1) Noteworthy outputs

It is important to note that noteworthy outputs by themselves are not part of the project objectives. They are tangible or intangible and notable outcomes of the process of JICA's project implementation in the recipient developing countries. However, they can contribute to achieving project objectives or project goals. These are likely helpful for future projects that aimed to address the same or similar issues in the same country or region. Therefore, it is worthwhile to pay attention to the suggested ways of producing or utilizing the noteworthy outputs in the noteworthy catalogue which are linked to the same country, theme or categories of diseases of future projects.

(2) Knowledge lessons

It is expected that the knowledge lessons gained from this thematic evaluation are applicable to projects in the field of infectious diseases control for better project formulation and implementation. There are following points to pay attention to.

- ① Understanding of entire structure of knowledge lessons: The knowledge lessons were categorized into seven themes, which cover a wide range of issues. But the majority of them are related to project implementation organization and project management, which seem to be important in project formulation, planning and implementation in the field of infectious diseases control. Most of those lessons are applicable to JICA's assistance beyond the differences in countries and regions, and types of infectious diseases. Therefore, it is recommended to read through the whole set of knowledge lessons when designing and formulating future projects.
- ② Applying knowledge lessons according to the given situation: The circumstances and environment of specific development projects vary largely. Even projects in the same

country or region may be implemented in different contexts with varying constraints and environment. Therefore, application of the knowledge lessons needs local adaptation by avoiding strict application of the original way. The users should take into account the suggested measures, expected effect, risks and other conditions described in the knowledge lessons sheets carefully in actual application.

- ③ Reference projects: The knowledge lessons provide entry points for designing counter measures and the users may need to make reference to relevant project reports and analyze information of each specific project in details.

In this thematic evaluation, emphasis is placed on “testing, research, and early warning” in the field of infectious disease control towards the future JICA assistance. The following is the review and recommendations from the point of view of macro aspect.

It was confirmed that production and utilization of noteworthy outputs and knowledge lessons have contributed to the realization of high level objectives of individual projects. When we scrutinize each project, however, it was also observed that the good effect was realized not only by single projects but also by a group of projects with the combination of different schemes introduced overtime (not originally planned). Therefore, it is expected to realize even higher level objectives in mid and long-term not only by conducting single projects but also by combining plural schemes and projects intentionally from the designing stage in project formulation. It is also recommended to utilize noteworthy outputs and knowledge lessons extracted in the thematic evaluation in such an occasion of considering combination of plural schemes and projects in a strategic manner.