

Ex-Ante Evaluation

South Asia Division 1, South Asia Department

Japan International Cooperation Agency

1. Basic Information

- (1) Country: India
- (2) Project Site/ Target Area: State of Nagaland (Population: about 1.98 million (Census 2011))
- (3) Project Title : The Project for the Establishment of the Medical College Hospital at Nagaland Institute of Medical Sciences and Research, Kohima)

Loan Agreement : February 20, 2024

2. Background and Necessity of the Project

- (1) Current State and Issues of the Health Sector and Priority in India

The Government of India is promoting policies to improve social services to achieve economic development and balanced social development. In the health sector, however, there is significant room for improvement in both quantity and quality, for example, the number of hospital beds (0.5 per 1,000 population, World Bank, 2017) is well below the global average (2.9 per 1,000 population, World Bank, 2017), as well as the number of physicians/medical doctors (0.9 per 1,000 population, OECD, 2019), below the World Health Organization (WHO) standard of "at least one physician per 1,000 population" (WHO, 2018). In terms of quality, the resulting neonatal mortality rate (19 per 1,000 live births, UNICEF, 2021) and maternal mortality rate (130 per 100,000 live births, World Health Organization, 2020) are both much higher than Japan's current levels (0.8 and 3.3, respectively, Japan Ministry of Health, Labor and Welfare, 2021) and SDG targets for 2030 (12 and 70, respectively).

Under these circumstances, the Government of India's National Health Policy 2017, aims to achieve Universal Health Coverage (UHC) and provide quality health services to all at a cost that is affordable to all. In addition, the government announced the National Plan for Health (Ayushman Bharat) in 2018, which promotes improved access to health services by strengthening the primary health system and creating the National People's Health System (PM-JAY). To address the shortage of human resources in the health sector, the Centrally Sponsored Scheme (CSS) promotes the development of medical colleges and university hospitals, especially in Special Category States.

Nagaland, where "The Project for the Establishment of the Medical College

Hospital at Nagaland Institute of Medical Sciences and Research, Kohima" (hereinafter referred to as "the Project") will be implemented, is one of the states in India with a particularly low level of health and medical care, ranking 25th out of 28 states in terms of Goal 3 (Health and Well-being) of the SDGs (Administrative Commission of India, 2021). The first problem is the lack of advanced medical infrastructure. Although there are secondary medical facilities such as district hospitals, there are no tertiary medical facilities. When advanced treatment or testing is needed, patients must be referred and transported to out-of-state medical facilities. Therefore, the establishment of tertiary care facilities is an urgent issue from the perspective of establishing a referral system and continuum of care (CoC) in the state.

The second problem is the shortage of physicians and the training system for medical personnel. Although the state has several nursing schools and a certain number of nurses, midwives, community health workers, the first medical college in the state just opened in September 2023, and there is no medical college hospital in the state as a place for clinical education and research institutions. As a result, the training of physicians and specialists is dependent on outside the state (e.g., the number of physicians per 1,000 population in the state is 0.33 (WHO, 2016), which is much lower than the national average in India (0.61) Nagaland State Health Department, 2020), and there is a need to establish a system for medical human resource development in the state, centered on medical college hospitals.

The third problem is the inaccessibility of health services in the state. Because almost all of the area in the state is mountainous, 44% of health facilities are located in hilly areas, and 28% are accessible only by bad roads with frequent landslides (Nagaland State Health Department, 2020). In addition, most medical facilities are not well served by public transportation networks, and patients must use taxis or private vehicles. Patients are required to bear the indirect and direct costs (labor time and transportation costs) associated with transportation. Besides, the majority of the state's medical facilities are unevenly distributed between Dimapur, the state's largest city, and Kohima, the state capital, making improving access to medical services in the state an urgent issue.

In view of this situation, the State Government is planning to establish the Medical College Hospital at Nagaland Institute of Medical Sciences and Research, Kohima (hereinafter referred to as "MCH") in the state capital, Kohima, to establish a tertiary care medical service delivery system centered on MCH

and to strengthen the medical human resource development system, thereby improving access to medical care for the people of Nagaland. This is positioned as a key project in the health sector in India and the state of Nagaland.

MCH is the first medical college hospital in the state, and the construction of a maternal and child health care ward (100 beds) in the hospital is underway with the state government's own funds under the central government support scheme. For this Project, requests for the construction of a medical college hospital (400 beds) other than the maternal and child care ward, have been stated.

(2) Japan's and JICA's Cooperation Policy and Operations in the Health Sector

The Northeast region of India lies at the convergence of Japan's "Free and Open Indo-Pacific" policy and India's "Act East" policy, and support for this region is extremely important in terms of Japan's foreign policy strategy. Japan's Country Assistance Policy for India (March 2016) identifies "health and sanitation" as one of the priority areas and states that this sector will be addressed as part of the development of basic social services. The JICA Country Analysis Paper for India (March 2018) states in the "Basic Social Services Improvement Program" that health services should be further expanded to improve the living conditions of the poor. In addition, the JICA Global Agenda for Health emphasizes the establishment of a quality health system, which ensures that everyone can receive medical treatment without suffering hardships by strengthening diagnosis and treatment capacity of core hospitals, and this Project is consistent with these policies and analyses.

Furthermore, this Project is in line with one of the specific support measures of JICA's Initiative for Global Health and Medicine, an initiative in support of then Prime Minister Suga's speech at the UN General Assembly on September 25, 2020, to "strengthen diagnosis and treatment systems". As of October 31, 2023, a total of five ODA loans (totaling 124,248 million yen) had been approved for the health sector in India.

(3) Other Donors' Activities

The World Bank (WB) is implementing the "Nagaland Health Project" in Nagaland (approved in 2017 with an agreed amount of US\$60 million). The project supports the renovation of primary and secondary health facilities, the

provision of medical equipment, and the implementation of a hospital information management system. The project also supports the training programs to improve hospital operation and maintenance capacity and the establishment of nursing schools, thereby promoting improvements in the quality and accessibility of medical services in the state.

3. Project Description

(1) Project Description

① Project Objectives: This Project aims to establish a tertiary health service delivery system in Kohima, Nagaland, by developing a Medical College Hospital (MCH) and strengthening the medical human resource development system through clinical education, thereby contributing to the promotion of UHC in the region.

② Project Components :

- 1) Construction of MCH (number of beds: 400, gross floor area: about 49,270 m², building area: about 4,480 m²)
- 2) Provision of medical and related equipment to MCH
- 3) Provision of IT equipment to MCH and training for MCH staff on the use of IT
- 4) Soft components (support for the establishment of a medical human resources development system, establishment and enhancement of an MCH operation and maintenance management system, and support for the introduction of telemedicine systems at MCHs)
- 5) Consulting services (detailed design, bidding assistance, equipment procurement and construction supervision, support for environmental and social considerations, DX promotion in the health sector, and training for equipment maintenance at MCH)

③ Project Beneficiaries (Target Groups): Final beneficiaries (residents of target areas where access to tertiary health services will be improved: approximately 1.98 million people)

(2) Estimated Project Cost: 13,365 million yen (including Japanese ODA loan 10,008 million)

(3) Schedule (Cooperation Period): February/2024-October/ 2035 (141 months) The commencement of MCH being put into use (October 2030)

is considered as the completion of the Project.

(4) Project Implementation Structure

1) Borrower: President of India

2) Guarantor: N/A

3) Executing Agency: Department of Health and Family Welfare, Nagaland (hereinafter referred to as "DHFW")

4) Operation and maintenance system:

The Nagaland Institute of Medical Science and Research (NIMSR), a department within DHFW that oversees medical education institutions in the state, will be responsible for the operation of the MCH. The medical facilities established and medical equipment installed will be systematically maintained by NIMSR in accordance with standard maintenance procedures. An agreement has been reached with the State Ministry of France to secure a budget for hiring the necessary personnel. Regarding the repair of medical equipment and the supply of spare parts, the executing agency has agreed to enter into a comprehensive maintenance and management contract with the contractor to ensure regular maintenance and prompt repair. The operation and maintenance costs of the MCH will be paid from DHFW's annual budget. There is no particular concern from a financial standpoint, as the State Ministry of Finance confirmed its commitment to the budget allocation for this Project.

(5) Collaboration and Sharing of Roles with Other Donors

1) Japan's Activities: None

2) Other Donor's Activities: The WB's "Nagaland Health Project" provides technical assistance for the development of primary and secondary medical facilities and medical human resource development. Between the medical facilities supported by the project and MCH, efforts will be made to strengthen the comprehensive medical system by fostering medical personnel through personnel exchange, providing medical training opportunities at MCH, and strengthening the referral system through medical data linkage.

(6) Environmental and Social Considerations

① Category: B

② Reason for Categorization: The Project is not located in a sensitive area, nor has sensitive characteristics, nor falls into sensitive sectors under the JICA Guidelines for Environmental and Social Considerations (April 2010), and its potential adverse impacts on the environment are not likely to be

significant.

- ③ Environmental Permit : An environmental impact assessment (EIA) report for the Project is not required under Indian law, but an environmental permit from the State Level Environment Impact Assessment Authority (hereinafter referred to as "SEIAA") is required. The permit is scheduled to be obtained after the completion of the detailed design of the Project and approximately six months prior to construction.
- ④ Anti-Pollution Measures: Air quality, water quality, noise/vibration, and waste during construction are expected to meet domestic emission and environmental standards, but dust control through water sprinkling, speed limits for construction vehicles, and other mitigation measures will be implemented. Once the facilities are in service, medical wastewater will be discharged into the general sewage system after being detoxified by wastewater and effluent treatment facilities installed at each facility as a unit. Waste from medical facilities will be classified and stored according to laws and regulations, collected by designated contractors, and disposed of at medical waste treatment plants designated by the state government. Radioactive waste will also be disposed of in accordance with the waste management plan based on the guidelines of the country.
- ⑤ Natural Environment: The Project area does not fall in or near sensitive areas such as national parks, etc., and undesirable effects on the natural environment are assumed to be minimal.
- ⑥ Social Environment: The Project will be implemented on public land, and there will be no land acquisition or involuntary resettlement. In response to requests from local residents regarding safety and pollution control measures during the construction period, JICA explained that all safety measures and pollution control measures will be taken to the maximum extent possible under the JICA Guidelines for Environmental and Social Considerations. It has been confirmed that there are no particular objections to the implementation of this Project.
- ⑦ Other/Monitoring: During construction, the contractor will monitor air quality, water quality, noise/vibration, waste, etc., and during service, the executing agency will monitor the same items.

(7) Cross-Sectoral Issues

- ① Climate change related issues: None
- ② Poverty measures and considerations: Access to medical services for the poor is expected to be improved by reducing medical costs through the construction of public tertiary care facilities and by reducing the cost of transportation and other patient burdens through the deployment of telemedicine systems.
- ③ Participatory development: None
- ④ Considerations for the persons with disability: The facilities to be developed in the Project will be designed from the perspective of universal design, with slopes and handrails installed to allow wheelchair access, and passageways and restrooms designed to be wide enough. The facility will also be designed to guarantee information to visually impaired, hearing impaired, and intellectually handicapped people who need reasonable accommodation in terms of communication.

(8) Gender Category: ■GI (S) Gender Informed (Significant)

<Reason for Categorization> Through the survey and discussions with the executing agency, it was confirmed that the original facility design plan had wards with large, mixed-gender rooms, and that there was insufficient consideration for female inpatients. Therefore, this Project plans to design multiple wards with separate rooms for men and women in order to maintain an environment where female patients can be safely admitted, and has an indicator that the said plan will be reflected in the facility plan and used. It has also agreed with the executing agency to regularly discuss gender issues from the patient perspective within the hospital. In addition, it has agreed with the executing agency to consider the gender balance of the health care workforce so that not only patients but also female health care workers engaged in MCH can maintain a comfortable working environment.

(9) Other Important Issues:

- ① DX promotion activities: As part of DX promotion activities in the state's health sector, the project plans to provide support at three levels: data development and utilization within MCH, data linkage and mutual use (including telemedicine) with other medical facilities in the state, and action plans for data utilization in state health administration, while utilizing the existing data linkage infrastructure (which the Central Government of India and the World Bank are currently promoting).

- ② Possibility of collaboration with new technical cooperation projects in the future: Considering the challenges in the health sector in Nagaland and the knowledge that Japan has, it is expected that joint research, joint training, etc. will be conducted in the areas of telemedicine, disaster medical care, and care for the elderly. Therefore, it has been agreed with the executing agencies to pursue these possibilities through technical cooperation projects and other schemes after the opening of the MCH in Nagaland.

4. Targeted Outcomes

(1) Quantitative Effects

Outcomes (Operation and Effect Indicators)

Indicator	Baseline (Actual value in 2021)	Target (2032) 【2 years after project completion】
Number of outpatients (persons/year)	0	323,025
Number of inpatients (persons/year)	0	109,500
Bed occupancy rate (%)	0	75
Number of specialist physicians (*) per 100,000 population in Nagaland	8.85	16.22
Number of physicians (**) per 1,000 population in Nagaland	0.33	0.42
Number of medical students who received clinical education at MCH (persons/year)	0	100
Number of telemedicine (D to D (****)) performed at MCH (cases/year)	0	960
Number of patients transported out of state (person/year)	269	81
Number of participants in IT training at MCH (persons/year)	-	932

MCH is constructed and used according to facility plans based on gender perspectives	0	1
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(*) Specialist physician: a physician who has completed a postgraduate course (3 years).

(**) Physician: A person who holds a medical license granted to medical graduates who have completed an undergraduate course (5.5 years) in a medical education curriculum in India.

(***) D to D (Doctor to Doctor) : Telemedicine connecting physicians.

(2) Qualitative Effects

Improve access to health services in the state, improve the medical human resource development system in the state, improve patient and family satisfaction with health services, and properly manage medical equipment.

(3) Internal Rate of Return

Based on the following assumptions, the economic internal rate of return (EIRR) for the Project is 24.9%. Although the Project generates revenues only from laboratory and drug costs that are borne by outpatients and user fees paid by inpatients' medical insurance, the financial internal rate of return (FIRR) is not calculated because the revenue is not high enough to recover the Project costs.

【EIRR】

- Cost: Project costs, operation and maintenance costs (all excluding taxes)
- Benefit: Benefits from reduced travel costs for patients to access health services, benefits from increased longevity, and benefits from reduced health care costs for patients in private hospitals that would be required if the Project were not implemented.
- Project life: 40 years

5. External Factors and Risk Control

(1) Preconditions: The security situation in the Project area will not deteriorate significantly.

(2) External Factors: The security situation in the Project area will not deteriorate significantly.

6. Lessons Learned from Past Projects

From the ex-post evaluation results of the “National Islamic University of

Health and Medical Sciences Project (evaluation year: 2015)", an ODA loan to the Republic of Indonesia, and other factors, a lesson was learned that for equipment requiring special skills, it is important to clarify as much as possible at the time of project formulation the utilization policy of the procured equipment, including employment and operation plans for engineers. In this Project, it has been agreed with the executing agency that the required human resources for the operation of the MCH will be secured based on a human resource allocation plan, and it has also been agreed with the State Finance Department to secure the necessary budget for the said plan.

7 . Evaluation Results

This Project is consistent with the agenda and development cooperation policies of the Government of India, as well as the cooperation policies and analyses of the Government of Japan and JICA. In addition, the Project is considered to contribute to Goal 3 of the SDGs, "Ensure healthy lives and promote well-being for all at all ages". Therefore, there is a strong need to support the implementation of this Project.

8 . Plan for Future Evaluation

(1) Indicators to be Used.

As indicated in Section 4.

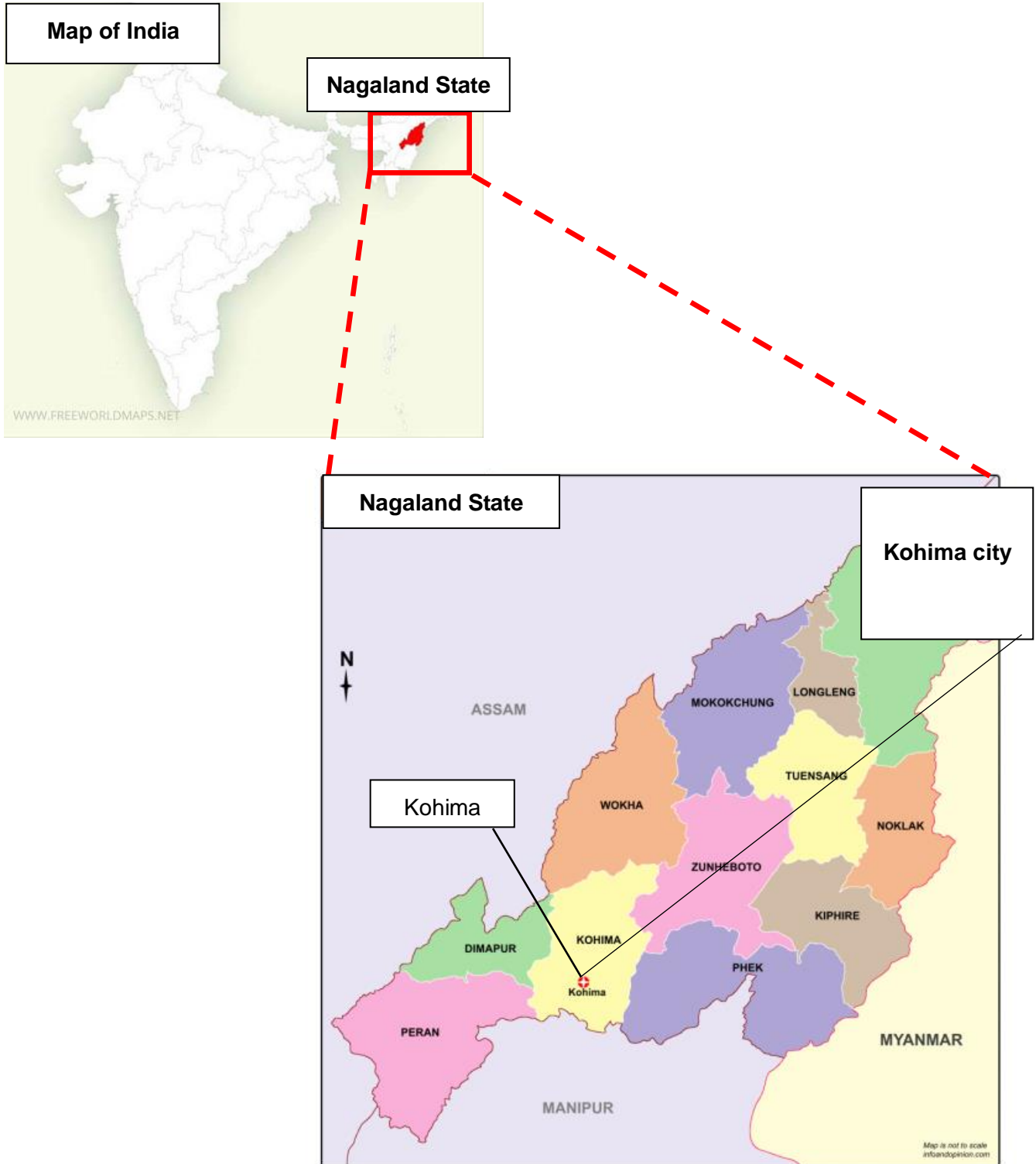
(2) Future Evaluation Schedule

Ex-post evaluation: 2 years after project completion

END

Appendix: Map of the Project for the Establishment of the Medical College Hospital at Nagaland Institute of Medical Sciences and Research, Kohima

Map: The Project for the Establishment of the Medical College Hospital at Nagaland Institute of Medical Sciences and Research, Kohima



Source: Free World Map, Info and Opinion