

A-4. Project Design Matrix

1. Project Title	The JICA Partnership Program on Project for Stopping the Accident Fatality rise by EMS development & Road safety (SAFER Project)		
2. Project Implementing Organization	Mittaphab Hospital, Ministry of Health, Lao PDR University of Tsukuba, Japan and Japan Research Institute for Social Systems		
3. Project Term	June 2021 – July 2024		
Project Summary	Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Contribute to improve the livelihood of Lao citizens by reducing the social and economic losses caused by road traffic crash (RTC) deaths and injuries.</p>			
<p>Project Goal Strengthen the capacity of Emergency Medical Service (EMS) in the Vientiane Capital (VTE), which would contribute for stopping the increase of RTC-related deaths and injuries. (the impact of COVID-19 on EMS will considered)</p>	<p>More than 0% reduction in RTC deaths in VTE from applying the EMS principle of “Right Care, Right Time, Right Place”.</p>	<ul style="list-style-type: none"> • Data from the EMS Support System (ESS) • Data from central hospitals • Data from rescue teams • Data from the Lao National Road Safety Committee (LNRSC) 	<ul style="list-style-type: none"> • Reduction of deaths due to RTCs will be continuously set as the priority of the Lao government • Measures for reducing instant deaths by serious RTCs, thorough safer roads, vehicles and road users will be strengthened by the leadership of LNRSC • Compliance of road safety laws and regulation will not decrease drastically
<p>Output 1 The ESS is developed and introduced successfully to VTE.</p> <p>Output 2 The ESS is utilized and EMS in VTE is strengthened.</p> <p>2-1. The function of command and dispatch is optimized by using the ambulance monitoring system at dispatch center.</p>	<ul style="list-style-type: none"> • 0 rescue teams and 0 hospitals successfully implement the ESS. • More than 0 cases are processed by the ESS. • More than 0 % of data are processed by the ESS. • More than 0 cases had the trauma team activated regarding prehospital information. • CCC of Mittaphab Hospital and a single EMS call number “1195” have been set. 	<ul style="list-style-type: none"> • Data from the ESS • Data from central hospitals • Data from rescue teams • Data from LNRSC 	

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<p>2-2. The system of activating trauma teams regarding prehospital information is established at 3 central hospitals.</p> <p>2-3. Data on RTC deaths and injuries are analyzed and utilized through activities.</p> <p>Output 3 The impact of COVID-19 is under control of EMS. (Regarding COVID-19 information, we follow the regulations of the Lao government)</p> <p>3-1. The function of command and dispatch is integrated, and the CCC of Mittaphab Hospital is set.</p> <p>3-2. The capacity of all ambulances and 3 central hospitals are monitored at the CCC and utilized through EMS activities.</p> <p>3-3. The system to screen infection risk of patients is established and measures on infection prevention based on the screening results are promoted.</p>	<ul style="list-style-type: none"> • More than 10 calls are placed to the Dispatch Center and Consultation Center. • More than 10 reports on EMS capacity monitoring are submitted from rescue teams and hospitals. • More than 10 cases are taken by rescue members; doctors and nurses take measures against infectious diseases according to the screening results. • More than 10 surveys are carried out by the rescue teams with the questionnaire about command & dispatch. • More than 10 trainings are held (& trainees) on command & dispatch and trauma team activation. • More than 10 trainings are held (& trainees) on infection prevention for rescue members, doctors and nurses. • More than 10 meetings are held (& participants) to review the post-crash response. • More than 10 seminars are held (& participants) about RTC prevention. 		<ul style="list-style-type: none"> • Traffic and RTCs at Vientiane Capital will not increase any more than expected. • prehospital care providers belonging to 8 rescue teams will not decrease drastically • VR 1623, the largest among 8 rescue teams, will not withdraw throughout the project period • Hospital doctors and nurses belonging to 3 central hospitals will not decrease drastically • Tablets which will be used for ESS can be obtained at Lao market
<p>Activity 1. Develop and introduce the ESS</p> <p>1-1. Confirm the needed improvements to VR1623, where prototype has already been introduced.</p> <p>1-2. Improve the system design which could be useful for all rescue teams and 3 central hospitals in relation to 1-1.</p> <p>1-3. Develop the system, such as central server, in-vehicle equipment and in-hospital data collection.</p> <p>1-4. Introduce the system to all rescue teams and 3 central hospitals and confirm the needed improvements through the trial operation.</p>	<p style="text-align: center;">Inputs</p> <p>Laos side</p> <p>1) Collaborators, trainees and trainers in the field</p> <ul style="list-style-type: none"> - Medical personnel in the Emergency Department of Mittaphab Hospital (doctors and nurses) and co-medicals involved in trauma care - Medical personnel and co-medicals in the Emergency Department of Mahosot hospital and Setthathirath hospital - Rescue teams in VTE - Members of LNRSC (especially MPWT) 		

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<p>1-5. Improve the system and establish the operation system.</p> <p>1-6. Develop the function to analyze the data through discussion with related sectors and operate in all rescue teams and 3 central hospitals.</p> <p>Activity 2. Utilize the ESS and strengthen the EMS in VTE</p> <p>2-1. Optimize the function of command and dispatch by using the ambulance monitoring system at dispatch centers</p> <p>2-1-1. Explain the ambulance monitoring system to all rescue teams.</p> <p>2-1-2. Cooperate with rescue teams, discuss how to command and dispatch by using the ambulance monitoring system.</p> <p>2-1-3. Train dispatchers on command and dispatch by using the ambulance monitoring system.</p> <p>2-1-4. Train dispatchers on command and dispatch at Khon Kaen Hospital (KKH).</p> <p>2-2. Establish the system to activate the trauma team regarding prehospital information at 3 central hospitals</p> <p>2-2-1. Explain to all rescue teams and 2 central hospitals (Mahosot and Setthathirath Hospital) and obtain an understanding on sharing prehospital information before patient arrival.</p> <p>2-2-2. Cooperate with rescue teams and educate rescue members who can share prehospital information before patient arrival.</p> <p>2-2-3. Discuss with rescue teams and UHS Lao on how to train rescue members to treat patients with standard prehospital care.</p> <p>2-2-4. Cooperate with 2 central hospitals, discuss</p>	<ul style="list-style-type: none"> - The staff of the University of Health Science of Laos (UHS Lao) - Others (citizens, students, and educators) <p>2) Facilities</p> <ul style="list-style-type: none"> - Emergency Department, Outpatient waiting room, and parking lot of Mittaphab Hospital - A meeting room for education and training in Mittaphab Hospital - Office in Mittaphab Hospital (for CCC, planned) - Stations that belong to each rescue teams where rescue members stay <p>Japan side</p> <p>1) Dispatch Japanese Experts</p> <ul style="list-style-type: none"> - Project Manager (1 person) - Vice Project Manager (1 person) - Global Health Specialist (1 person) - Emergency Medicine Specialist (1 person) - Road Traffic Specialist (1 person) - Information Engineering Specialist (3 persons) - Education Specialist (1 person) - Social Implementation Specialist (2 persons) - Prehospital Care Specialist (3 persons) - Project Coordinator (1 person) <p>2) Equipment</p> <ul style="list-style-type: none"> - Equipment needed to introduce and maintain the system plus facilitate human resource development <p>3) Training facilities</p> <ul style="list-style-type: none"> - University of Tsukuba, JRISS 	<ul style="list-style-type: none"> • Competing rescue team or hospitals to the already-existing 8 rescue teams and 3 central hospitals will not be established • UHS Lao, LNRSC (especially MPWT) and Thailand sectors (KKU and KKH) will show good understanding and cooperation of the project through the project period • Flood disasters (especially Mekong river) or power outages, which will threaten the EMS, will not occur through the project period • Project efforts by 8 rescue teams and 3 central hospitals will not decrease drastically due to the COVID-19 response
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<p>activation of trauma teams and assist in the establishment of the system.</p> <p>2-2-5. Train doctors and nurses of 3 central hospitals about trauma team activation at Khon Kaen University (KKU).</p> <p>2-3. Analyze data on RTC deaths and injuries; utilize through activities</p> <p>2-3-1. Cooperate with 2 central hospitals, collect in-hospital data of trauma patients who are transported by ambulances.</p> <p>2-3-2. Cooperate with LNRSC, collect data on RTC deaths and injuries.</p> <p>2-3-3. Share ESS data with LNRSC.</p> <p>2-3-4. Cooperate with hospitals, rescue teams, universities and LNRSC; discuss the analysis system and analysis/utilization of data.</p> <p>2-3-5. Cooperate with 2 central hospitals and 8 rescue teams, hold conferences about post-crash review and discuss the capacity building of EMS.</p> <p>2-3-6. Cooperate with LNRSC and rescue teams; hold citizen-targeted seminars about RTC prevention.</p> <p>Activity 3 Place the EMS in VTE in control of the impact of COVID-19 (Regarding COVID- 19 information, we follow the regulations of the Lao government)</p> <p>3-1. Integrate the function of command and dispatch and set up the CCC of Mittaphab Hospital</p> <p>3-1-1. Explain to all rescue teams and obtain an understanding on establishing the CCC.</p>	<p>Thailand side</p> <p>1) Instructors from Thailand</p> <ul style="list-style-type: none"> - The staff of KKU (Department of Emergency Medicine) - The staff of KKH (Trauma and Critical Care Center) <p>2) Training facilities in Thailand</p> <ul style="list-style-type: none"> - KKU (Department of Emergency Medicine) - KKH (Trauma and Critical Care Center) 	<p>Pre-conditions</p> <ul style="list-style-type: none"> • Project team will be set at Mittaphab hospital and rescue teams • Good communication between the project teams of Lao and Japan will be continued • A system for multiple sectors arrangement and project monitoring management will be established • Good project understanding and cooperation of 8 rescue teams, Mahosot hospital and Setthathirath hospital will be shown through the project period
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<p>3-1-2. Cooperate with rescue teams, discuss how to command and dispatch at the dispatch center (DC).</p> <p>3-1-3. Set up the DC at Mittaphab Hospital with the function of command and dispatch for all the emergency calls.</p> <p>3-1-4. Train the dispatchers how to command and dispatch at the CCC.</p> <p>3-1-5. Set up the additional function of receiving consultations about emergency health problems under the CCC.</p> <p>3-1-6. Train the rescue members how to give advice at the consultation center (CC).</p> <p>3-2. Monitor the capacity of all ambulances and 3 central hospitals at the CCC and utilize through EMS activities</p> <p>3-2-1. Explain to all rescue teams and 2 central hospitals (Mahosot and Setthathirath Hospital) and obtain an understanding on monitoring ambulance capacity for dispatch and hospital capacity for receiving patients respectively.</p> <p>3-2-2. Introduce the system to all rescue teams and 3 central hospitals to monitor their capacity.</p> <p>3-2-3. Cooperate with rescue teams and train rescue members how to share the information on the capacity for ambulance dispatch.</p> <p>3-2-4. Train dispatchers how to dispatch an ambulance according to the capacity for ambulance dispatch.</p> <p>3-2-5. Cooperate with 2 central hospitals and train doctors and nurses how to share information on the capacity for receiving patients.</p> <p>3-2-6. Train rescue members how to select an appropriate hospital to transfer according to hospital capacity for receiving patients.</p>		
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<p>3-3. Establish a system to screen infection risk of patients and promote measures on infection prevention based on the screening results</p> <p>3-3-1. Explain to all rescue teams and 2 central hospitals (Mahosot and Setthathirath Hospital) and obtain an understanding on screening infection risk and taking measures on infection prevention.</p> <p>3-3-2. Introduce the system to the CCC, all rescue teams, and 3 central hospitals to share the infection screening results.</p> <p>3-3-3. Train dispatchers how to screen infection risk prior to ambulance dispatch.</p> <p>3-3-4. Train rescue members for taking measures on infection prevention based on the screening results provided by dispatchers.</p> <p>3-3-5. Train rescue members how to screen infection risk prior to transferring to hospitals.</p> <p>3-3-6. Train doctors and nurses of 3 central hospitals for taking measures on infection prevention based on the screening results provided by rescue teams.</p>		
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