



Application of inspection technologies and development of a knowledge transfer platform for realizing bridge maintenance management in Tajikistan

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Project summary

Objective Create an environment for human resource development for bridge maintenance management in Tajikistan by constructing a platform for effective knowledge transfer from Japan

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Period 2021/04~2023/03 (2 years)



Recent trends in socio-economic development

Population

9.54 million (2020)

GDP

\$3,658 (international-\$, 2020)

Real GDP growth rate

+4.5% (**4th in the world in 2020**)

Achievement of SDGs as of 2020



Infrastructure development is a major challenge

State of road infrastructure

Background

- ❖ 2,194 bridges were under the management of the Ministry of Transport as of 2016
- ❖ Most were constructed during Soviet era
- ❖ Freeze-thaw and carbonation are the primary deterioration mechanisms

Challenges

- ❖ Maintenance management is not being carried out due to a lack of funding, knowledge, and skilled workers (JICA, 2016)
- ❖ Tajik engineers who receive training in Japan have difficulties applying training contents due to differing conditions



Issues for maintenance management

Construction quality issues



Progression of deterioration

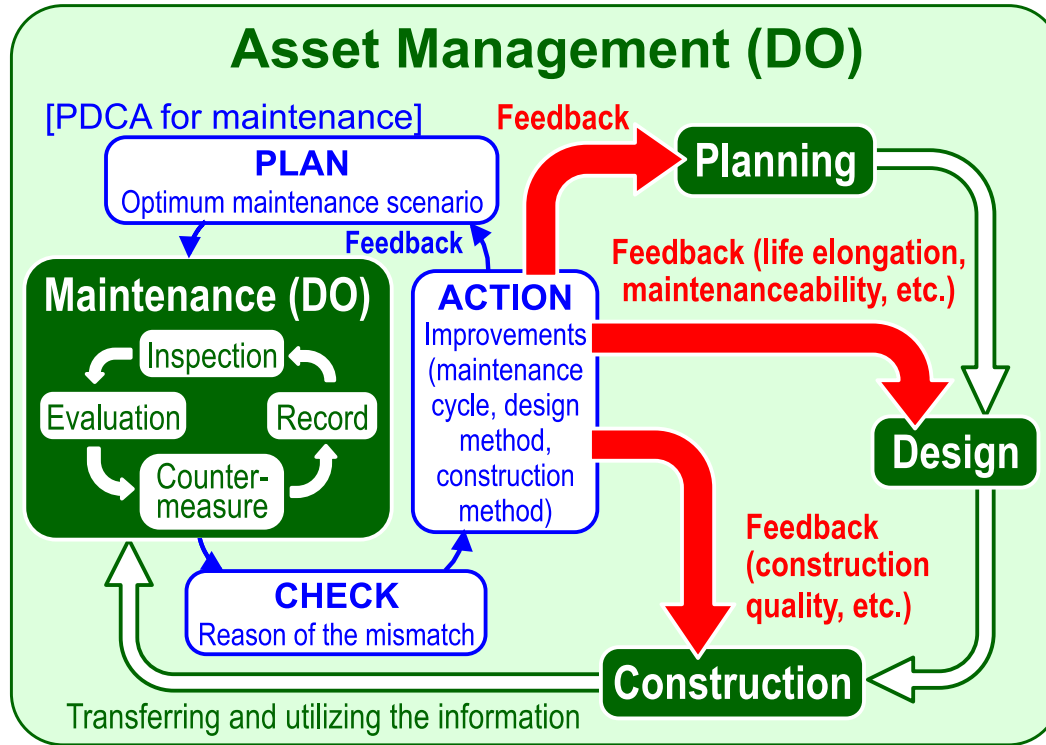


Presence and extent of damage



Maintenance management is critical issue for ensuring the safety of new and in-service road bridges

Maintenance and life cycle management



Visual and non-destructive inspection is necessary for initiating maintenance management of road bridges



Need to tackle barriers to the implementation of inspection (human and technical)

Research framework and current activities

Area	Knowledge transfer platform (human-oriented)		Technology utilization platform (technique-oriented)
Goal	Nurture future human resources	Develop current human resources	Demonstrate effect inspection methods
Issues	<ul style="list-style-type: none"> ❖ Bridge engineering not attractive job opportunity ❖ Lack of interest in bridge and/or maintenance engineering as career ❖ Confounding factor: lack of appropriate education on said topics 	<ul style="list-style-type: none"> ❖ Lack of training for personal development (esp. for maintenance) ❖ Too busy with work tasks to focus on training ❖ Difficult to apply knowledge/techniques from Japan (other countries) to situation in Tajikistan 	<ul style="list-style-type: none"> ❖ Lack of equipment and guidelines for implementing maintenance (inspection)
Activities	<ul style="list-style-type: none"> ❖ Survey of current CE students on interest 	<ul style="list-style-type: none"> ❖ Survey of previous JICA trainees to evaluate difficulties in using knowledge from Japan 	<ul style="list-style-type: none"> ❖ Carry out field investigation with select appropriate tools

Current activities

Survey planning and development

Consultation with colleagues and discussion with consultant to plan demonstration inspection



Thank you for your attention

