

Country Name	<b>Project on Capacity Building for Occupational Health</b>
People's Republic of China	

**I. Project Outline**

Background	<p>The frequent occurrence of occupational disease in recent years had emerged as a serious social problem in China. Under these circumstances, the government of China had strengthened its measures by developing the "Occupational Disease Prevention and Control Act" (enacted and enforced in 2002, revised in 2011) and the "National Prevention and Control Plan for Occupational Disease" (2009-2015). However, the measures against the occupational disease were not fully functional due to 1) lack of related laws and standards, 2) insufficient capacity of supervision/management as well as collecting/analyzing information, and 3) insufficient knowledge of workers themselves regarding occupational disease. The insufficient measures were reported as headlines in Chinese media and rapidly attracted attention in the society and the Chinese government was required to take immediate action toward this problem.</p>												
Objectives of the Project	<p>In China, through capacity improvement of the central government and related technical institutions for work environment management and health management against dust and organic solvents, improvement of such capacity of relevant government and related technical institutions in the model area, and improvement in the awareness and self-management skills in the work environment and health management spheres of companies and employees in the model area for prevention against occupational health risks, the project aimed to enhance working environment and health management in the model area for prevention against occupational disease caused by dust and organic solvents, thereby contributing to the introduction of the measures of occupational health, developed by the Chinese side based on the results of the model area, in other areas in China.</p> <ol style="list-style-type: none"> <li>Overall Goal: The measures of occupational health developed by the Chinese side based on the results of the model area are introduced in other areas in China.</li> <li>Project Purpose: The work environment and health management in the model area is enhanced for prevention against occupational disease caused by dust and organic solvents.</li> </ol>												
Activities of the Project	<ol style="list-style-type: none"> <li>Project Site: Beijing Municipality, Suzhou City of Jiangsu Province (the model area)</li> <li>Main Activities: <ol style="list-style-type: none"> <li>Central level: Development of training material and implementation of training on work environment management, Development of training material and implementation of training on medical check-ups (occupational disease diagnosis) for medical workers, Development of materials on work environment and health management for managers and employees of companies, etc.</li> <li>Model area: Development of training material on work environment management, Development of training material and implementation of training on work environment management for supervisors, Development of materials on medical check-ups (occupational disease diagnosis) for medical workers, etc.</li> <li>Model area: Monitoring of development and implementation of companies' improvement plans, Implementation of training on work environment and health management of companies, etc.</li> </ol> </li> <li>Inputs (to carry out above activities) * The numbers are cumulative. <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Chinese Side</td> </tr> <tr> <td>1) Experts: (Long-term) 4 persons, (Short-term) 33 persons</td> <td>1) Staff Allocated: 61 persons</td> </tr> <tr> <td>2) Trainees Received: (in Japan) 213 persons, (in Malaysia) 3 persons</td> <td>2) Land, facilities: Office and facilities for the project</td> </tr> <tr> <td>3) Equipment: OA equipment, dustmeter, noise meter, etc.</td> <td>3) Local cost</td> </tr> <tr> <td>4) Local cost</td> <td></td> </tr> </table> </li> </ol>			Japanese Side	Chinese Side	1) Experts: (Long-term) 4 persons, (Short-term) 33 persons	1) Staff Allocated: 61 persons	2) Trainees Received: (in Japan) 213 persons, (in Malaysia) 3 persons	2) Land, facilities: Office and facilities for the project	3) Equipment: OA equipment, dustmeter, noise meter, etc.	3) Local cost	4) Local cost	
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Project Period	March 2011 – March 2016	Project Cost	(ex-ante) 350 million yen, (actual) 453 million yen										
Implementing Agency	<p>China Safe Production Supervision Administration (SPSA), China Academy of Safety Science and Technology (CASST), National Health and Family Planning Commission (NHFP), Chinese Center for Disease Control and Prevention (CDC), Suzhou SPSA, Jiangsu CDC and Suzhou CDC (the model area)</p> <p>Note: By the reorganization of government agencies in 2012, the Ministry of Health was merged with a part of National Population and Family Planning Commission, and reorganized as the National Health and Family Planning Commission (NHFP). After the project completion, by the organizational reform of the government agencies in March 2018, the China SPSA was reorganized as the Ministry of Emergency Management, without authority in occupational health. The Department of Occupational Health under the China SPSA was merged with National Health Commission of the People's Republic of China (NHC) and became the Department of Occupational Health under NHC. The Suzhou Safe Production Supervision Administration (SPSA) was reorganized as the Suzhou Administration of Emergency Management, without authority in occupational health. Instead, the Suzhou Health Commission (HC) came to have authority in duties regarding occupational health.</p>												
Cooperation Agency in Japan	Ministry of Health, Labour and Welfare												

**II. Result of the Evaluation**

<Constraints on Evaluation>

- Due to the organizational reform of the government, it was impossible to conduct interviews to NHC and provincial HC, therefore, information was collected mainly through their official web sites.

<Special Perspectives Considered in the Ex-Post Evaluation>

- Due to the limitation of the survey period and resources, it was difficult to conduct a questionnaire survey to many persons involved. The achievement of the Indicators of the Project Purpose was qualitatively verified through questionnaires and interviews to those at government agencies and related organizations at the central level as well as those concerned in Suzhou City.
- It is considered that the activities toward the model companies in the project were implemented to verify the effectiveness of measures and to plan appropriate measures for occupational health. This means that Indicator 2 of the Project Purpose terminates its significance upon completion of the project. Therefore, this ex-post evaluation does not verify the continuation status of Indicator 2. Also, as a part of information to verify the continuation status of the effects aimed by the project, information about the implementation status of the improved measures for occupational health in the model area was collected not only from the model companies but also from the companies in the model area as a whole through the questionnaires and interviews to the Suzhou Administration of Emergency Management (former Suzhou SPSA), CASST, etc.

1 Relevance

<Consistency with the Development Policy of China at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation, in the Summary of 11th Five-Year Plan (2006-2010) for National Economic and Social Development, there was a description about comprehensive prevention and treatment of occupational disease as a part of the improvement of the health standard. At the time of the project completion, the National Prevention and Control Plan for Occupational Disease (2009-2015) stressed the reduction in incidence of occupational disease as well as in occupational hazards and accidents.

<Consistency with the Development Needs of China at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation, the incidence of occupational disease in 2008 was 13,744, according to the report on the national occupational health administration activities in 2008 and occupational disease was a serious issue. At the project completion, in Suzhou City of Jiangsu Province, where the level of economic development was high compared with other areas of China, the problem of occupational health was getting increasingly obvious.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

In the Economic Cooperation Program for China formulated in October 2001, priority was given to the areas such as conservation of environments, the improvement of living standards and social development in the inland regions, human resource development, institutional building, and technology transfers.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by project completion. 80% of officials and other related personnel at central administrative organizations and related technical institutions and in the model area answered that work environment management and the capacity of health management instruction were improved. Including other three indicators regarding activities of model companies such as improvement plans of occupational health, the targets of all the four indicators were achieved.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have continued after the project completion. At the government agencies and related technical institutions at the central level, the capacity of work environment management and health management instruction has been maintained and training and instruction on work environment management has been continuously conducted. At the government agencies and related technical institutions in Suzhou City, the model area during the project, due to the organizational reform, in Suzhou City, the number of staff with the capacity to instruct on the related duties was reduced to 50%, while at Jiangsu CDC, 80% or above of the staff in charge of occupational health supervision/inspection and occupational disease diagnosis/examination have maintained the capacity of instructing on occupational health, and the technical level of doctors for occupational disease diagnosis has been improved. At all the companies in the model area, including the model companies, according to the information of the Suzhou Administration of Emergency Management, work environment management and health management upgraded by the improvement plans have been continuously implemented based on the laws and regulations.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. The CASST has been disseminating the effects of the project in the areas other than the model area, through training and publication, and, as a result, several cases of companies utilizing the project effects have been observed. It is considered that the utilization of the project effects in other areas has been in progress.

<Other Impacts at the time of Ex-post Evaluation>

Other positive impacts are observed at the time of the ex-post evaluation. According to Jiangsu CDC, the incidence of occupational disease exceeded 1,000 annually before (1,400 cases in 2010, and 1,100 cases in 2011), but such incidence has been declining in general to below 1,000 since 2012. It is especially notable that the annual incidence has been below 900 for the recent three years. However, it is not clear to what extent the project contributed to the declining incidence. No negative impact has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
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(Project Purpose) The work environment and health management in the model area is enhanced for prevention against occupational disease caused by dust and organic solvents.	(Indicator 1) 80% or above of officials and other related personnel at the central government and in the model area answer that the capacity of work environment management and health management instruction is improved.	Status of the Achievement: achieved (partially continued) (Project Completion) • In the questionnaire survey to ask if the capacity of work environment management and occupational disease diagnosis (pneumoconiosis, intoxication by organic solvents, etc.) is improved, 12 persons out of 24 answered “improved” and the remaining 12 answered “very much improved” (100% achievement). (Ex-post Evaluation)	
		Occupational Hazard Research Institute of CASST	- 90% or more of the staff maintain the capacity of instructing work environment management duties. - Training for work environment managers and technical instruction for companies are implemented every year.
		Suzhou Administration of Emergency Management	- As occupational health management duties were transferred to the Suzhou HC after the organizational reform, the percentage of officials with the capacity to instruct on the related duties was reduced from 90% before the reform to 50%.
		Jiangsu CDC	- Among the staff in charge of supervision/inspection of occupational health and diagnosis/examination of occupational disease, 80% or above have the capacity of occupational health instruction. - Before the project, collaboration among doctors for occupational health diagnosis and dissemination of diagnosis technique were concerns, but recently, the technical level of doctors for occupational health diagnosis has been improved through clinical conferences on occupational disease.
	(Indicator 2) 80% or above of the model companies implement their improvement plans.	Status of the Achievement: Achieved (Project Completion) • 91% of the model companies (39 out of 43) completed the implementation of improvement plans by project completion. (The number of model companies was 50 but reduced to 43 during the project period because their operation was suspended by administrative guidance and for other reasons.) • After the project completion, the remaining four companies completed the implementation of the improvement plans.	
	(Indicator 3) Among the companies that implemented their improvement plans, 80% or above answer that the work environment has been improved.	Status of the Achievement: achieved (continued) (Project Completion) • 93% of the model companies (37 out of 40 companies whose data were available) improved work environment through installation of local air exhauster and other measurers, which led to the reduced level of exposure. (Ex-post Evaluation) • According to the information of the Suzhou Administration of Emergency Management, the work environment conditions have been maintained at all 43 companies since their implementation of the improvement plan.	
	(Indicator 4) All the model companies implement medical check-ups regularly.	Status of the Achievement: achieved (continued) (Project Completion) • Medical check-ups were conducted regularly at all the model companies. Pre-employment check-ups were implemented at all the companies with the target persons, except one company. (Ex-post Evaluation) • According to the Suzhou Administration of Emergency Management, the 43 model companies have been continuously conducting medical check-ups based on the criteria of the Occupational Disease Prevention and Control Act since the project completion.	
(Overall Goal) The measures of occupational health developed by the Chinese side based on the results of the model area are introduced in other areas in China.	(Indicator 1) The level of utilization of the method* in the areas other than the model area. *The method established in the model area to strengthen the administration capacity regarding occupational health, which consists of training materials and procedure manuals for witness observation in diagnosis of serious cases of pneumoconiosis.	(Ex-post evaluation) achieved	
		CASST	- Technical training on industrial local air exhauster was conducted for officials in charge of occupational health supervision and administration in the government sector in areas other than the model area, as well as training for occupational health managers at companies, which promoted dissemination of the project effects to the areas other than the model area. - The publication “Risk Assessment and Control Technique of Toxic Chemical Agent” was issued in June 2018, utilizing the project effects.
		Suzhou SPSA	- The training for occupational health managers of companies and occupational health inspection administrators were implemented until the organizational reform in March 2018, utilizing the project effects.
		Suzhou CDC	- Lectures were provided for companies on occupational disease prevention, utilizing the project effects, at the training.
		Zhejiang Academy of Medical Sciences	- The project effects are utilized in the China-Japan Project for Improvement of Diagnosis of Asbestos-related Cancer (March 2018–March 2022) to train doctors for occupational disease diagnosis.
	(Indicator 2)	(Ex-post evaluation) achieved	

	The level of utilization of the effects at the model companies in the areas other than the model area.	<ul style="list-style-type: none"> <li>• Examples reported</li> <li>1. China Tianrui Group Cement Co., Ltd. installed a local air exhauster in the workplace of cement loading.</li> <li>2. Inner Mongolia Jinyu Biological Chemistry Corp. Ltd. installed a local air exhauster in the workplace of labeling bottles.</li> <li>3. Tianjin Xingang Shipbuilding Heavy Industry Company Limited introduced smoke-free welding torches.</li> </ul>
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Source: Terminal Evaluation Report, Questionnaire and interview

### 3 Efficiency

Although the project cost exceeded the plan, the project period was within the plan (ratio against the plan: 129% and 100%, respectively). The Outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

### 4 Sustainability

#### <Policy Aspect>

Multi-sectoral government agencies jointly formulated the National Prevention and Control Plan for Occupational Disease (2016-2020), the national plan against occupational disease. The Plan lists prevention and treatment of pneumoconiosis as the highest priority and promotes actions such as situation survey, support for patients, work environment preparation, technical improvement in terms of prevention and treatment, clarification of company managers' responsibilities in specific duties and the scope of the responsibilities, and human resource development specialized in occupational health.

#### <Institutional Aspect>

The organizational reform of government agencies took place to establish the implementation structure of occupational health activities. The whole Department of Occupational Health under the China SPSA was transferred to the National Health Commission (NHC) and has been functioning as the Department of Occupational Health under the NHC. The working system was streamlined from the structure of "SPSA division + health division" to a single-line structure of "health division", which enabled more efficient implementation of duties. At the central level, sufficient number of staff are allocated to the CASST and the institutional capacity for training implementation is sufficient. At the China CDC, there is a manpower shortage due to the organizational reform but its staff have enough institutional capacity to conduct training at the time of ex-post evaluation. At the regional level, the Suzhou SPSA became Suzhou Administration of Emergency Management and its duties concerning occupational health were transferred to the Suzhou HC. Consequently, the implementation of duties such as technical transfer is under discussion at the time of ex-post evaluation, and hence the implementation structure of training incorporating the project effects has not been fully organized yet. At the Jiangsu CDC, as the responsibility of field supervision and management of occupational health was transferred from SPSA to CDC, there is a shortage of manpower, but the institutional capacity of training implementation has been well developed. As the government has a keen interest in occupational health, it is expected that the current situation of manpower shortage will be improved. The minor issues such as manpower sufficiency can be attributed to the organizational reform, and it is considered that there are no major problems in institutional sustainability in general.

#### <Technical Aspect>

In spite of the organizational reform in 2018, all the counterpart (C/P) personnel at the China SPSA were transferred to NHC and have been continuously engaged in their duties, which means that the knowledge and skills have been maintained. All the C/P members of the China CDC and CASST have been continuously engaged in their duties and they have sufficient technical capacity. The Suzhou SPSA implemented relevant training until the start of the organizational reform in 2018. After the reform, the duties of safety management have been continuously implemented at the Administration of Emergency Management (former SPSA) but other duties regarding occupational health such as work environment management became out of the responsibility of the Administration. As a result, among 20 C/P members, eight have remained at the Administration of Emergency Management (former SPSA), and other 12 C/P members were transferred to the Suzhou HC. Therefore, it is expected that the project effects be transferred to the Suzhou HC. At the Jiangsu CDC, the current manpower has enough capacity to conduct technical instruction on prevention and treatment of occupational disease in the province. The CASST and the China CDC have been utilizing the training materials developed by the project. However, the Suzhou Administration of Emergency Management and the Suzhou CDC have not utilized the training materials, as the Suzhou Administration of Emergency Management is not in charge of occupational health because of the organizational reform, and at the Suzhou CDC the allocation of duties is still under adjustment. However, the relevant organizations are implementing their duties continuously and appropriately, and no major problems have been observed.

#### <Financial Aspect>

According to the interview, the China CDC has sufficient budget allocation. The CASST is not provided budget by the government but has revenue from training and consulting. The Suzhou SPSA had sufficient budget until the organizational reform in 2018 to allocate to relevant training on work environment management for company-related people as well as supervision and inspection for occupational disease prevention targeted for priority companies. After the reform, too, there is no budget problem because in Suzhou City's economy is well developed and the importance of occupational health is well recognized by the government, according to the interview. Staff of the Suzhou CDC also stated that they are allocated sufficient budget during the interview.

Financial Resources concerning Occupational Disease, Work Environment Management and Health Management  
(Unit: 1,000 renminbi)

Year	2015	2016	2017	2018
Suzhou SPSA	1,000	1,000	1,300	1,300
Suzhou CDC	200	200	200	200
Jiangsu CDC	240	260	260	240

#### <Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional and technical aspects. Therefore, the sustainability of the effectiveness through the project is fair.

### 5 Summary of the Evaluation

The project achieved the Project Purpose of enhancement of the work environment and health management in the model area. At the time of the ex-post evaluation, the capacity of officials and those concerned has been maintained in terms of work environment management and health management instruction, and the work environment of model companies and companies in the whole model area

has been in good condition, which means that the project effects have been continued. The Overall Goal of introducing the measures of occupational health based on the results of the model area into other areas has been achieved. As to the sustainability, the policy support has been maintained, the relevant organizations have been implementing their duties, and financial resources have been secured, therefore, sustainability is high.. As to the efficiency, the project cost exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

### III. Recommendations & Lessons Learned

#### Recommendations for Implementing Agency:

- Since the organizational reform of the government agencies in 2018, occupational health has not been the responsibility of the current Administration of Emergency Management, and the C/Ps, especially those at the Suzhou Administration of Emergency Management, has had difficulties in fully utilizing the knowledge and experiences acquired in the project. This is a result of inevitable change that was not predicted at the stage of planning and implementation of the project and it was difficult to take preventive measures in advance. It is considered that each division of the new organizations are continuously implementing their duties regarding formulation of policies as well as implementation of related activities, and these efforts are expected to continue. The implemented agencies are recommended to conduct promotion so that the knowledge and experiences of occupational health accumulated by the officials at the former Suzhou SPSA, including those during the project, will be transferred to each new division in charge, for example, through the collaboration of the on-going project.

#### Lessons learned for JICA:

- The discussions for the post-project activities was started at the early stage of the project through findings of the needs, which paved the way to the implementation of the China-Japan Project for Improvement of Diagnosis of Asbestos-related Cancer, implemented at the time of ex-post evaluation. Finding the needs of the counterpart country before the project completion and active involvement of those concerned, both in Japan and in the counterpart country, in the project formulation will lead to the implementation of a new project after the project completion.
- In the project, the target of the achievement of the Overall Goal was not specifically defined, as the Indicators were qualitative. In the case of the project, the Overall Goal was assessed to be achieved as what was aimed by the Overall Goal was grasped through the description of the Terminal Evaluation Report. To appropriately judge the achievement in comparison to the achievement level initially expected, it is desirable to set the target level even for qualitative indicators.



Training on “Verification and Evaluation of Occupational Health” implemented by CASST (Beijing Municipality, 2018)



“Meeting for Accuracy Analysis of Occupational Disease Diagnosis” implemented by CDC in Jiangsu Province (Wuxi City, 2018)