

## TECHNICAL ASSISTANCE COMPLETION REPORT

Division: Energy Division, East Asia Department

TA No./Country and Name		Amount Approved: \$500,000.00	
4566-PRC: Poverty Reduction in Coal Mine Areas in Shanxi Province		Revised Amount:	
Executing Agency: Shanxi Provincial Development and Reform Commission	Source of Funding Poverty Reduction Cooperation Fund	Amount Undisbursed: \$18,500.22	Amount Utilized: \$481,499.78
TA Approval Date:	TA Signing Date:	Fielding of First Consultants:	TA Completion Date Original: 30 April 2007 Actual: 31 March 2008
15 February 2005	24 June 2005	28 November 2005	Account Closing Date Original: 30 April 2007 Actual: 31 March 2008

### **Description**

Coal mining is mostly undertaken in three types of mines, namely (i) key state-owned coal mines (KSOCMs), (ii) local state-owned coal mines (SOCMs), and (iii) town and village coal mines (TVCMs). It is estimated that in 2003, KSOCMs, which include the large, mechanized coal mines, accounted for about 48% of total coal production in the People's Republic of China (PRC) while SOCMs produced about 17%. At the same time, TVCMs and illegal small coal mines produced about 35%. Small coal mines, defined as mines that produce not more than 300,000 tons of coal a year, make up about half of the SOCMs, most of the TVCMs, and all illegal coal mines, employ about 2 million miners. For further development of its coal resources, the Government is giving priority to the construction of large, mechanized mines and the modernization and production improvement of existing large and medium coal mines. With regard to small coal mines, the Government is pursuing the closure of those mines that have failed to adopt required safety practices, operated without a license, or are considered illegal. It is estimated that since 1998, more than 16,000 TVCMs and tens of thousands of small, illegal coal mines have been closed. Closure of TVCMs has led to increased unemployment of mostly poorly educated manual workers with little or no formal mine training. Reemployment of such miners in SOCMs or KSOCMs has been difficult given the inability of many to successfully complete training programs to be re-skilled for employment in mechanized mines. Further, because of their higher productivity, new and modern coal mines require relatively fewer miners than the closed TVCMs, while miners at TVCMs usually include migrant workers from other provinces for whom the concerned provincial government has no legal obligation to provide an alternative livelihood. As a result, closure of TVCMs will directly affect the poor who do not have much opportunity of finding alternative livelihoods except in other illegal coal mines. Experience shows that local governments are more inclined to close small or illegal coal mines if the economic and social impacts of such closure can be mitigated by the opening up of new, large coal mines that would provide local governments with a replacement source of revenue and job creation programs to reduce social deprivation among redundant miners who do not have the skills, aptitude, and knowledge to work in modern, mechanized coal mines.

In 2003, Shanxi province had 84 KSOCMs, 448 SOCMs, and about 4,000 small coal mines, including TVCMs and illegal coal mines, which employed about 290,000 persons. Shanxi provincial government (SPG) had not yet developed any specific poverty reduction or training programs for redundant miners. Sometimes the local Poverty Reduction Bureau provided training in basic education, basic agriculture, or animal husbandry to some laid-off miners as part of the assistance provided to all the poor in a particular area, or the provincial branch of the National Coal Administration Bureau may have provided technical training to some others for their reemployment in larger coal mines. However, available budgets were insufficient and most laid-off miners did not receive any assistance and were unable to find any alternative income unless they accepted work in other small, illegal coal mines. The development of a comprehensive assistance program for areas with a relatively high incidence of small coal mines closures was therefore required to develop an environmentally sustainable and safe coal mining industry, reduce unemployment, and raise the living standards of poor rural communities.

### **Expected Impact, Outcome and Outputs**

The expected impact of the technical assistance (TA) was reemployment of miners made redundant by closure of small coal mines in sustainable jobs in the southern part of Shanxi province.

Outcomes were (i) successful development of a socioeconomic and environmental mitigation program to reduce poverty and environmental impacts in poor areas worst affected by closures of small coal mines in southern part of Shanxi province and (ii) training and job creation programs for redundant mine workers in southern part of Shanxi province.

Outputs were (i) practical policy recommendations for local government; (ii) design of specific assistance programs; (iii) action plan for implementing training and job creation schemes; (iv) monitoring, supervision, and evaluation system; and (v) implications and resource requirements for wider application of the program in Shanxi province and the PRC.

### **Delivery of Inputs and Conduct of Activities**

The TA consisted of the following activities: (i) preliminary analysis and preparation of outline policy recommendations (key issues and policies identified acceptable and selected study area), (ii) identification of options for training and reemployment programs based on international experience (sharing international experience relevant to SPG), (iii) development of a specific assistance program for the study area including a plan for monitoring its social and

environmental impacts and an action plan for implementing training and job creation schemes (assistance program and plans accepted by all stakeholders), (iv) implementation of the program in the study area and assessment of the implications of wider application throughout Shanxi province and the PRC (effective guidelines and implementation plan, effective monitoring system and training), (v) consultation workshop, and (vi) dissemination workshop.

An international consulting firm (the Consultant) from Canada (associated with national experts) was engaged in accordance with the Asian Development Bank's (ADB's) *Guidelines on the Use of Consultants* to carry out the TA. The international consulting team comprised five specialists (total of 9 person-months) and the national consulting team comprised five specialists (total of 22 person-months). The consulting services inputs were adequate to achieve the TA objectives and the tasks were carried out as outlined in the Terms of Reference (TOR). However, there was a delay in TA implementation, which led to an extension of the TA implementation period by 24 months. The delay was caused by the late signing of the TA letter and the longer time taken for consultant recruitment. During the contract negotiations, COSO and EAEN approved the extension of the TA completion date based on the expected completion date of the consulting contract. A second extension was made due to the difficulties in identifying the locations for pilot studies and data collection. The last extension was to give more time for the remaining claims of the consultants and to allow sufficient time for closing of the TA account. Despite the delay, the Executing Agency (EA) and Jincheng municipal government (JMG) were satisfied with the implementation. The performance of the Consultant was satisfactory.<sup>1</sup> The consultation and dissemination workshops were well organized and efficient. The Final Report was submitted in March 2007. Performance of the EA and JMG was also satisfactory, particularly in providing office, communication and transportation facilities, and assigning counterpart staff who were fully involved in the study. ADB provided supervision through regular correspondence and review missions and its performance was considered satisfactory.

#### **Evaluation of Outputs and Achievement of Outcome**

The TA was completed within the approved budget and the quality of outputs and outcomes was satisfactory. The EA and JMG expressed that the TA outputs generally met the expectations and the TA results were useful in supporting the Government's objective to develop alternative economic activities and mitigate social and environmental impacts of the closure of coal mines. The following outputs were developed under the TA: (i) potential industries for diversification of the local economy, (ii) support mechanism for small and medium enterprises, (iii) compensation mechanism and training program for displaced workers, and (iv) environment management model for mine closure. Also, computable general equilibrium (CGE) modeling and social accounting matrix (SAM) technique were introduced to quantify impact of coal output changes on the macro economy, employment, household consumption, enterprise revenue, household income and government revenue. The TA contributed to the development of the policy for addressing unemployment issues in Shanxi province. SPG issued administrative order number 13 in May 2007 to diversify the local economy by supporting eight key industries, thereby creating new employment opportunities and strengthening the social welfare system such as social insurance, unemployment assistance, and construction of apartments for low income population.

The TA findings were disseminated through a workshop on 10 March 2007, where international and national experts were invited to present papers and participate in discussions. Training was held for 3 days from 15 to 17 April 2007 for selected provincial government leaders to expose the participants to the latest trends and international best practices in alternative economic activities after coal mine closure. The TA implementation took about 22 months instead of the planned 6 months. The TOR was met and the main objective was achieved.

#### **Overall Assessment and Rating**

The TA was assessed as successful. The TA was relevant because it identified alternative economic activities associated with small mine closures in Shanxi province. The physical TA implementation was efficient. It was implemented within budget. The TA is likely to be sustainable because the EA and JMG have a high level of ownership of the TA.

#### **Major Lessons**

The high level of ownership by the EA and JMG contributed to a successful TA implementation. Further, close cooperation between the EA, JMG and the Consultant, and flexibility during TA implementation provided good TA results. Introduction of CGE modeling and SAM was appreciated by the policy makers since these allow quantifying the impact on the macro and micro economy in the province associated with changes in coal output. Dissemination workshop was limited to stakeholders in Shanxi province, including representatives from the provincial office of the State Administration of Worker's Safety, which is a national-level organization. Participation of decision-makers from the national level, as well as other coal producing provinces, would have improved the dissemination of study findings.

#### **Recommendations and Follow-Up Actions**

It is recommended to strengthen and diversify coal industries in coal methane capturing, utilization and recycling of waste coal for job creation, as well as mitigation of environmental damage. It is also recommended that the ADB continue the dialogue with SPG and JMG during the review of the ongoing loan<sup>2</sup> to monitor the impact of TA in terms of number of miners re-employed and/or the amount of poverty reduced.

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<sup>1</sup> ADB Consultant Performance Evaluation report classified the consultant as "satisfactory".

<sup>2</sup> ADB. 2004. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the People's Republic of China for the Coalmine Methane Development Project*. Manila (Loan 2146-PRC).