## Final Workshop Report

To the Communities and Small-Scale Mining (CASM) Secretariat regarding the Communities and Small-Scale Mining Regional Network in China (CASM-China)



Small Gold Concentrating Mill, Lingbao City, Henan Province, China CASM-China Case Study and County Meeting, August 2-6 2005

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### Lingbao: A Typical Artisanal and Small-Scale Mining Area in China

CASM-China coordinated and undertook its third field workshop study from July 28 to August 6, 2005, to the Xiaoqingling Mountains, Lingbao, Henan Province. The Xiaoqingling Mountains are located at the intersection of Henan, Shaanxi and Shanxi provinces, southeast of the famous Qingling Mountains. Its core is in Lingbao municipality, where the county of Sanmen Gorge is located, in western Henan province (see Figure 1). Lingbao is called 'a Gold City' in China, and is also well-known for its reputation as "the Apple Country" and "the origin of Taoism." Lingbao has a population of 723,000 people, covering an area of 3,007 square kilometres, and includes 10 towns and 7 villages. In 2003 it was approved as an official tourist city.

By late 2004, 24 mining licences had been issued to artisanal and small-scale mining (ASM) operations, over half of the total mining licences in Lingbao. ASM employs 1,363 people, mining 317,500 tons of ore with a value of about US\$7 million, accounting for 3.5% of the municipality's production. Seven kinds of minerals are produced by ASM, including gold, iron ore, limestone, and other building materials, but gold mining accounts for one third of the total value.

Over the past 30 years Lingbao has produced over 7,408 ounces of gold and was the second largest gold producing city in the country for over 21 consecutive years. The state-owned gold industry produced 80 percent of GDP in the municipality. In 1996, the gold industry in Lingbao underwent a major restructuring and thousands of ASM workers were repatriated, 358 mine pitheads were closed and 9,023 pieces of ASM equipment were destroyed.



Figure 1 Location of Linbao Municipality, Henan province, China

# Intercommunication, regularization and standardization in Lingbao - a successful model of regulation in ASM

The Xiaoqingling Mountains were notorious for their illegal ASM operations in the late 1990s and early 2000s. But now it has become one of the successful cases in the ASM regulation in China, based on the following three aspects.

First, a network was established by the Geological Bureau of Lingbao to provide mutual support and communication. This network linked local governments, community residents and mine enterprises and allowed an easy flow of information and communication between different stakeholders.

Second, regularization created a new and efficient management system. To date the new management system as resulted in 21 regulations to guide local mines and administration, including a uniform accountable system for internal administration, a tracking system for administrative faults, and a dynamic inspection system ensuring implementation and enforcement of laws and regulations. One example is the partnership for setting ore and transportation allocations for different mines, based on a monthly reporting system, with each ore truck having at least one card and one list that indicated its ore and transportation allocation, thus maintaining a daily record for each truck.

Third, standardization initiated a full transformation in the local mineral administration. The Geological Bureau of Lingbao changed its approach from closing small mines to leading an integrated approach to address mine exploration and start up, operations and closure. Miners must justify the feasibility of a new operation in addition to applying for registration and the appropriate permits. During operation, the bureau allocates production and transportation rights to control overproduction. The bureau also ensures miners carryout required procedures dealing with any bankruptcy, ownership transfers, closure or shutdown.

### Consolidation- an effective and efficient ASM strategy

The consolidation of the gold industry in Lingbao city is a successful model of ASM regulation which could be modeled in other areas of China. Consolidation was undertaken as follows. First, the eight local state-owned gold mines were consolidated into three major companies, controlling 75% of the proven gold reserves in the Xiaoqingling Moutain area. Second, all of the town and village enterprise gold mines, or ASM mines, were gradually merged into new enterprises, which were then reorganized through mergers and acquisitions. Almost all small-scale mines realized improvements through consolidation, winning great benefits in terms of either socio-economic progress or increased resources and improved environmental performance.

One example is the Shuangxin Gold Ltd. Company, which was established by merging the Wenyu Gold Mine - an old state-owned large mine of China with the Mr. Guo Gold Mine - a small-scale mine. In the new enterprise, Wenyu received 55% of the shares, Mr. Guo 40% and Henan Gold Company, a provincial government corporation, the remaining 5%. Shuangxin is considered the first merger between a large-scale state-owned mine and a small-scale private gold mine in China. Mr Guo was a peasant farmer before 1992. Through small-scale gold mining, he was become locally wealthy by the late 1990s. In 2004, he merged his mine with a bankrupt state-owned gold enterprise, providing 200 workers with continued employment and producing around US\$0.6 million in gold annually. In addition, he ran another small gold mill and owned a diversified agricultural business. Some further side business in recreational activities like fishing and tourism are also in progress. In his village of Chengcun, Mr. Guo is playing a leading role in improving rural infrastructure and helping poverty reduction, and demonstrating how ASM can lead to economic diversification.

Mr. Guo is one of several other successful small-scale gold miners, who have helped Lingbao realized profits about US\$29 million in 2004, an increase of 36.5 percent from before consolidation. Table 1 describes some of main small-scale mining related businesses now in operation in Lingbao.

#### Conclusion

ASM regulation consolidation has rationalized the small-scale gold mining industry in Lingbao, with improvements in production, employment, environmental performance and increased diversification. Regulation and consolidation of the gold industry in Lingbao city is a successful model of ASM regulation which could be modeled in other areas of China.

Initiator	Name	Year Founded	Investment (\$US)	Capacity	Benefits
Mr. Guo Xiaohong	Ore Concentrating Mill of Changhong Wells and Lanes Company	2005	\$1,400,000	Mill capacity: 200 tonnes/day	Annual Production: US\$3,600,000 Annual Profit US\$330,000 Employment: 300 people Other: Will rebuild 3 kilometres village road.
Mr. Guo Xiaohong	Chengcun West Comprehensive Farmland Development	1992	\$140,000	A wild ravine has been developed into comprehensive farmland, including 8.7 hectares of apple trees, 1.3 hectares of peach trees, 1.3 hectares of almond trees, 1.3 hectares of pear trees, 4 hectares of fast growing poplar trees, and 1.3 hectares for vegetables. A hog barn was built within the farmland, raising 42 sows and 200 commercial pigs.	Annual Production: 600 pigs Other: The pig manure is converted to 10 cubic meters of methane. 7 sheds will be built vegetables production. 4 pools will be used for fish raising. Several pavilions and towers will be built for recreational fishing.
Mr. Zhao Ziyi	The Second Mill of Ore Concentrating Experiment	2001	\$780,000	Mill capacity: 150 tonnes/day, Mine capacity: 2 pits with total capacity of 120 tonnes/day.	Employment: 40 people Local tax revenue: US\$50,000
Mr. Zhang Jude	The First Mill of Ore Concentrating Experiment	2000	\$960,000	Mill and mine capacity: 150 tonnes/day	Annual Production: US\$2,400,000 Annual Profit US\$310,000 Employment: 60 people
Mr. Guo Shanshui	The iron Powder Agglomeration Mill of Sanlian Company	2004	\$1,100,000	Mill capacity: 200 tonnes iron ore/ day producing 80 tonnes of magnetite concentrate/day Concentrates are further processed into ball iron products with the capacity of 100 Tons daily.	Annual Production: US\$3,100,000 Annual Profit US\$360,000 Employment: 100 people

 Table 1 Several typical ASM transformation cases in Lingbao City, Henan Province,

 China