

## TERMS OF REFERENCE FOR CONSULTANTS

1. It is anticipated that the knowledge and support technical assistance (TA) will require 21 person-months of consulting services, comprising at least three national and two international consultants. Areas of expertise required will include minerals industry analysis, policy and regulation, socioeconomic analyses, and environmental economics. These consultants will be engaged by the Asian Development Bank (ADB) in accordance with the Procurement Policy (2017, as amended from time to time) using the quality- and cost-based selection method, with a quality–cost ratio of 90:10 given the high technical complexity. It is anticipated that the consultants will be mobilized during the first quarter of 2018.

### A. Scope of Services

2. The consultants will report to the ADB project officer, through the assigned team leader, on day-to-day activities, and will coordinate with the assigned project officer of the Jiangxi Committee of Chinese People’s Political Consultative Conference (JPPCC), the executing agency of the TA. The consultants will perform the following tasks:

- (i) Review socioeconomic influence of rare-earth industries, and identify opportunities to improve poverty alleviation outcomes in Ganzhou, Jiangxi, People’s Republic of China (PRC).
  - a. Prepare an overview of key socioeconomic characteristics, industrial outputs, income levels, and poverty distribution across Ganzhou, Jiangxi; and
  - b. Analyze the contribution of rare-earth industry to local economy, communities, and livelihoods.
- (ii) Review environmental impacts of rare-earth industry; and identify opportunities to improve environmental performance, remediation, and financing mechanisms in Ganzhou, Jiangxi.
  - a. Prepare an overview of environmental impacts, and influence on local residents of rare-earth industry, including extraction, transport, processing, and waste disposal cycles;
  - b. Estimate the economic value of environmental damages identified; and the costs of remediation, where applicable;
  - c. Analyze the opportunities to improve environmental performance of rare-earth industry, remediation activities, and marginal costs of each option; and
  - d. Assess the options for financing improved environmental performance, including scale, source, eligibility, disbursement mechanisms and poverty alleviation effect.
- (iii) Examine rare-earth industrial structure and regulatory mechanisms in Ganzhou, Jiangxi.
  - a. Prepare an overview of rare-earth industry stakeholders, regulation, and unlicensed operations;
  - b. Prepare an overview of rare-earth geological, industrial, and environmental data sources;
  - c. Analyze the current mechanisms for monitoring production and traceability, licensing, accreditation, and environmental performance reporting; and
  - d. Analyze the current mechanisms to support sustainable.
- (iv) Prepare policy recommendations for improved governance, environmental performance, and poverty alleviation outcomes in Ganzhou, Jiangxi.

- a. Prepare policy recommendations that will support improvements to rare-earth industry environmental performance and outcomes;
- b. Prepare policy recommendations that will improve rare-earth industry contribution to local poverty alleviation outcomes;
- c. Prepare policy recommendations that will improve rare-earth industry monitoring and traceability; and
- d. Develop a roadmap of priority-ranked pilot projects and financing mechanisms that will contribute to improved governance, environmental performance, and poverty alleviation outcomes of the rare-earth industry in Ganzhou, Jiangxi.

## **B. Key Expertise Required**

3. Proposing entities will determine the overall number and the nature of experts which they will require to achieve the objectives of the contract in accordance with their proposed approach and methodology. ADB requires a minimum of two international experts and three national experts, one of which will be expected to act as the team leader.

4. **Mineral industry specialist and team leader** (national, 8 person-months). The specialist should have (i) a post-graduate degree in economics, business, or related field; (ii) at least 10 years of professional experience in technical and/or international cooperation projects (ADB preferred) including management and leadership responsibility; (iii) demonstrated experience in analysis of industry stakeholders, market structure, and trends; (iv) demonstrated capacity to present results of complex analysis in concise and logical manner; (v) demonstrated ability to supervise a team of experts working remotely; and (vi) fluency in both Chinese and English. As team leader, the specialist will be responsible for overall coordination and delivery of the TA outputs, as well as supervision of the other team members. Specific tasks will include the following:

- (i) Take responsibility for day-to-day liaison with ADB, JPPCC, and other national and provincial government agencies who will be supporting the TA-related work;
- (ii) Lead activities of the team to deliver quality and timely outputs, including developing a detailed implementation schedule; and coordinating tasks with relevant specialists of the team;
- (iii) Consolidate inputs from all team members to prepare concise and coherent reports that meet the objectives of the TA, and respond to feedback of ADB and JPPCC;
- (iv) Prepare an overview of rare-earth industry stakeholders, regulation, and unlicensed operations;
- (v) Prepare an overview of rare-earth geological, industrial, and environmental data sources;
- (vi) Analyze the current mechanisms for monitoring production and traceability, licensing, accreditation, and environmental performance reporting;
- (vii) Analyze the current mechanisms to support sustainable practices;
- (viii) Compile and finalize report for Output 3: Rare-earth industrial structure and regulatory mechanisms in Ganzhou, Jiangxi identified; and
- (ix) Present and discuss results at inception, interim and final TA review workshops.

5. **Environmental impact analyst and/or economist** (international, 3 person-months). The specialist should have (i) a post-graduate degree in economics, environmental policy, or related field; (ii) at least 8 years of experience in analysis of environmental impacts and/or remediation; (iii) demonstrated expertise in techniques for rapid assessment and quantitative valuation of environmental costs and benefits; (iv) demonstrated expertise in environmental aspects of mining

projects and/or minerals processing; and (v) proficiency in written and spoken English. Experience in the PRC would be an advantage. Specific tasks will include the following:

- (i) Prepare an overview of environmental impacts and influence on local residents of rare-earth industry, including extraction, transport, processing, and waste disposal cycles;
- (ii) Estimate the economic value of environmental damages identified; and the costs of remediation, where applicable;
- (iii) Analyze the opportunities to improve environmental performance of rare-earth industry, remediation activities, and marginal costs of each option;
- (iv) Assess the options for financing improved environmental performance, including scale, source, eligibility, disbursement mechanisms, and poverty alleviation effect.
- (v) Compile and finalize report for Output 2: Environmental impacts of rare-earth industry and opportunities to improve environmental performance, remediation, and financing mechanisms in Ganzhou, Jiangxi identified; and
- (vi) Present and discuss results at inception, interim and final TA review workshops.

**6. Socioeconomic impact and value chain specialist** (international, 2 person-months). The specialist should have (i) a post-graduate degree in economics, social policy, or a related field; (ii) at least 8 years of experience in analysis of socioeconomic contribution of specific industries or sectors to local economy, communities, and livelihoods, including quantitative and qualitative techniques; (iii) demonstrated experience in analysis of industrial value chains and opportunities for inclusive economic opportunities; and (iv) proficiency in written and spoken English. Experience in the PRC would be an advantage. Specific tasks will include the following:

- (i) Analyze the contribution of rare-earth industry to local economy, communities, and livelihoods;
- (ii) Analyze the potential for further development of mineral value chain to benefit local communities;
- (iii) Compile and finalize report for Output 1: Socioeconomic influence of rare-earth industries and opportunities to improve poverty alleviation outcomes in Ganzhou, Jiangxi identified; and
- (iv) Present and discuss results at inception, interim and final TA review workshops.

**7. Rare-earth policy analyst** (national, 4 person-months). The specialist should have (i) a post-graduate degree in economics, political science, public policy, or related field; (ii) at least 10 years of experience in mining sector policy, including demonstrated expertise in issues relating to rare earths; (iii) experience in preparing policy recommendations with supporting evidence and clear rationale to government decision makers; and (iv) proficiency in both Chinese and English. The specialist will work closely with the team leader and other experts to perform the following tasks:

- (i) Prepare policy recommendations that will support improvements to rare-earth industry environmental performance and outcomes;
- (ii) Prepare policy recommendations that will improve rare-earth industry contribution to local poverty alleviation outcomes;
- (iii) Prepare policy recommendations that will improve rare-earth industry monitoring and traceability;
- (iv) Develop a roadmap of priority-ranked pilot projects and financing mechanisms that will contribute to improved governance, environmental performance, and poverty alleviation outcomes of the rare-earth industry in Ganzhou, Jiangxi;
- (v) Compile and finalize report for Output 4: Policy recommendations for improved governance, environmental performance, and poverty alleviation outcomes of the rare-earth industry in Ganzhou, Jiangxi prepared; and

- (vi) Present and discuss results at inception, interim and final TA review workshops.

8. **Socioeconomic impact and poverty specialist** (national, 4 person-months). The specialist should have (i) a degree in economics, social policy, or a related field; (ii) at least 5 years of experience in analysis of socioeconomic contribution of specific industries or sectors to local economy, communities, and livelihoods; (iii) demonstrated experience in identifying opportunities for inclusive economic outcomes; and (iv) proficiency in Chinese and English. Specific tasks will include:

- (i) Prepare an overview of key socioeconomic characteristics, industrial outputs, income levels, and poverty distribution across Ganzhou;
- (ii) Supporting the international specialist to analyze the contribution of rare-earth industry to local economy, communities, and livelihoods; and
- (iii) Supporting the international specialist to finalize report for Output 1: Socioeconomic influence of rare-earth industries and opportunities to improve poverty alleviation outcomes in Ganzhou, Jiangxi identified;
- (iv) Present and discuss results at inception, interim and final TA review workshops.

9. In addition to the above key experts, the proposing entities should also include in their technical proposals, in the personnel work plan, and in their financial proposal all other “non-key experts” required in accordance with their proposed approach and methodology.

### **C. Reporting**

10. The TA consultants will submit the following reports: (i) an inception report within 1 month after mobilization, (ii) an interim report within 5 months after mobilization, (iii) a draft final report within 10 months after mobilization, and (iv) a final report 1 month after the final workshop. The inception report, revised interim report, revised draft final report, and revised final report must incorporate and address comments received from ADB, JPPCC, and other invited reviewers.

11. All documents will be submitted in both English and Chinese languages to ADB and JPPCC both in hard and electronic copies.