



MONGOLIA

TECHNICAL ASSISTANCE REPORT—REPORT ON THE NATIONAL ACCOUNTS MISSION

February 2017

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MONGOLIA

REPORT ON THE NATIONAL ACCOUNTS MISSION

September 5–9, 2016

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October 2016

Contents	Page
Abbreviations	4
I. Executive Summary.....	5
II. Improvements to Source Data and GDP Compilation	7
III. Reviewing the Guide and Completing its Template Tables.....	9
 Annexes	
I. Work Plan for Mongolia’s National Accounts	11
II. Template Tables for the Guide	12
III. Discussion with Extractive Industries Transparency Initiative.....	17
IV. Officials Met during the Mission.....	18
V. Recommended Changes to Annual Enterprise Survey Form.....	20
VI. Items to Clarify to Ensure Adequacy of National Accounts Statistics	22
VII. Four Issues Identified during Visits to Key Stakeholders	24
VIII. Five Issues Identified during Visits to Respondents	25
IX. Statistical Implications of Different Grades of Ore	26

ABBREVIATIONS

<i>2008 SNA</i>	<i>System of National Accounts 2008</i>
AES	Annual Enterprise Survey
BoM	Bank of Mongolia
BPM6	Balance of Payments and International Investment Position Manual, Sixth Edition
CPC	Central Product Classification
EITI	Extractive Industries Transparency Initiative
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GFS	Government Finance Statistics
HS	Harmonized System
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
NSO	National Statistical Office
SNA	System of National Accounts
TA	Technical assistance
VA	Value Added

I. EXECUTIVE SUMMARY

1. **A technical assistance (TA) mission was conducted during September 5–9, 2016, to support the National Statistical Office of Mongolia (NSO) improve measurement of, and decision making with, natural resources in national accounts statistics.** The mission was funded by the Topical Trust Fund on Managing Natural Resource Wealth¹ and furthered development of *Guide to Analyze Natural Resources in National Accounts*² (the Guide). The mission built on work undertaken by the NSO since the previous TA mission conducted in December 2015.

2. **Reliable national accounts statistics are essential for informed decision-making, while informing economic analysis and policy-making.** They also provide the private sector, foreign investors, rating agencies, and the public in general with important inputs in their decision-making, while informing both IMF surveillance and domestic policy. In Mongolia's case, natural resource industries are key drivers of the economy, so it is important to make sure that the data are accurate and detailed to reflect this importance.

3. **The natural resource industries play a particularly significant role in the Mongolian economy.** Some of the following features highlight the policy importance:

- Even with recent falls in commodity prices, mining directly constituted 17 percent of GDP in 2015, with wider indirect effects on the rest of the economy in other activities such as transport, finance, and government.
- Mining has been growing rapidly. Between 2010 and 2015, mining value added at constant prices grew by 88 percent, compared to 55 percent for the rest of the economy.
- The impact on the economy is complicated by the volatile prices. For instance, the implicit price deflator for mining value added fell by 11 percent from the commodity price peak in 2011 to the most recent data for 2015. In contrast, for the rest of the economy, the deflator rose by 39 percent during the same period.

As such an important driver of the economy, it is particularly important that statistics for the mining industry are comprehensive and well presented.

4. **Mongolia's national accounts statistics were considered as broadly adequate for Fund surveillance according to the most recent IMF Staff Report but require further development to enhance their suitability for domestic policy work.** The NSO is commended for compiling the existing GDP and continuing to implement the current

¹ Donors are Australia, The European Union, Kuwait, The Netherlands, Norway, Oman, and Switzerland.

² A draft is available from <https://www.imf.org/external/pubs/ft/qna/na.htm>.

international standard (*System of National Accounts 2008 (2008 SNA)*). Over the past decade, the NSO has made steady progress in national accounts statistics, in improvements in data sources and techniques, as well as adding the production of quarterly GDP and Supply and Use Tables. The mission developed a work plan to assist further development of national accounts statistics (Annex I).

5. **The mission found several areas for further improvement in national accounts statistics, to incorporate into the work program.** These include: the need to cement the NSO's new institutional structure and enhance its staff's skills mix; the necessity to improve coordination among stakeholders—notably the NSO, Bank of Mongolia, Ministry of Finance, and Mongolian Customs; and the need for improvements to existing survey forms to compile enhanced estimates of GDP.

6. **The mission's analysis also showed that the draft IMF Natural Resource Industries Template is applicable to the Mongolian context and provides important information.** The template brings together a range of indicators in a standard framework. It shows a range of economic variables including production, exports, employment, investment and financing and the linkages between them, thereby substantially enhancing the inputs to policy makers in their decision-making. Aggregates and details in a set of tables are designed to support different kinds of economic analysis. In the case of Mongolia, the analysis emphasized the importance of price and purchasing power effects while underlining the need for better Supply and Use Tables compiled with improved source data. When data for more countries become available, it will be possible to compare with other countries on factors such as ratios of government revenue to value added or involvement in secondary processing. Mongolia has contributed to this project via its participation in this meeting and hosting the Ulaanbaatar Group on Statistics for Economies based on Natural Resources.³

7. **Against this background, this TA report focused on two key work areas that will make progress towards the production of adequate national accounts statistics which enable informed domestic policy work.** Those are the following:

- **Improvements to source data and GDP compilation focusing on the natural resource industries (Section II):** National accounts statistics reflect the underlying economic activity when they are compiled using appropriate source data and international standards; and
- **Reviewing the Guide and completing its Template Tables (Section III):** The NSO provided useful feedback on the Guide and completed the Template Tables for Mongolia (Annex II). The mission also conducted discussions with the Extractive Industries Transparency Initiative (EITI) Secretariat, Mongolia (Annex III) and

³ <http://unstats.un.org/unsd/methods/citygroup/ulaanbaatar.htm>.

several other stakeholders (Annex IV). These reinforced the essential role of both the NSO and the Guide for fulfilling Mongolia's status as an EITI Compliant Country.

8. To support these two priority areas, the mission developed a work plan for the coming eighteen months (Annex I), which includes the following priority actions:

- Modify the Annual Enterprise Survey (AES) form and procedures to support improved measurement of natural resources;
- Support data collection with visits to major enterprises; and
- Improvements on selected items on coal export duties, volumes, and capital work on own accounts.

9. Progress will be reviewed as a part of future technical assistance missions. The Fund provided relevant training during the current mission and remains available to provide ongoing assistance as required.

II. IMPROVEMENTS TO SOURCE DATA AND GDP COMPILATION

10. The source data and compilation methods used to compile Mongolia's national accounts statistics were assessed as broadly adequate in the most recent IMF Staff Report. Source data include the NSO's Annual Enterprise Survey (AES); Monthly Report on Industrial Production, exports and imports records from Mongolian Customs; Balance of Payments compiled by the Bank of Mongolia; and Government Finance Statistics (GFS) compiled by the Ministry of Finance. The methods used by the NSO to compile national accounts statistics (such as GDP) with these data are based on international standards.

11. Further work is required to resolve inconsistencies and improve coherence of source data. The mission identified a need to improve coordination between stakeholders – by way of example, information held by the Bank of Mongolia to (appropriately) adjust exports data reported by customs for the Balance of Payments is likely to assist the NSO compiling consistent estimates of GDP. In consultation with Mongolian enterprises, the mission developed a series of improvements for the AES form (Annex V) and provided guidance (Annex VI) to ensure consistency of transactions in natural resources in various source data. The mission also conducted discussions with Mongolian Customs, Bank of Mongolia, and Ministry of Finance and recommends improved coordination between these stakeholders (Annex VII).

12. The NSO should continue implementing international standards to improve adequacy of national accounts statistics for domestic policy work. The mission recommends the NSO extend the international best practice methodology underlying estimates of copper mining to other natural resources – this was supported by several key users. Following improvements to the AES form (Annex V), appropriate source data are expected to be available to implement international standards in Mongolia's national

accounts. Several improvements have been identified (Annex VIII), including improved estimation of investment activity undertaken by the natural resources extraction industries which is expected to increase the level of Mongolia's GDP.

13. The NSO has begun a new structure after a period of institutional instability.

The restoration of the NSO will provide a basis for making improvements that has been lacking recently. Because of several rounds of restructuring, there was a diversion of managerial time away to arrangements and away from statistical functions and needed improvements. The new structure restores the NSO as an independent organization, not combined with other functions in a way that is out of line with good international practice. In the new structure, national accounts are compiled by eight staff within the NSO Economic Statistics Department. A number of staff are relatively new, and will gain from experience and attending IMF training courses.

14. The NSO would benefit from increasing its contact with the largest enterprises.

The NSO arranged for the mission to have meetings with a number of mining enterprises, which yielded insights into the wide range of different contracting arrangements and accounting practices. Because a small number of large enterprises have a crucial effect on the economy, it is particularly important that they fully understand the questionnaires and report correctly. Face-to-face contact to clarify questions from reporters and compare different data sources would improve data quality. Best practice is to have a Large Business Team who have face-to-face visits with the largest enterprises to improve motivation, answer questions, and enhance data quality and timeliness. (If the number of macro-economically significant businesses in Mongolia is sufficiently small that a separate team is unnecessary, the approach of intensive contact can still be applied.)

15. The following specific improvements identified by the mission. More details are provided in Annex I.

- The AES could be more user-friendly by having completion instructions to clarify difficult areas as well as a contact name, e-mail address, and phone number. For example, one enterprise was not sure whether data should be reported on a cash or accrual basis. In many countries, completion instructions cover common queries.
- The quality mix of mineral products could be taken into account in production and export data (Annex IX). For example, enterprises explained that black coal and copper ore came in different grades which yielded different prices and the proportions could change substantially over time. By not separating different ore grades, changes in the quality mix over time will be misinterpreted as a change in price. By collecting data separately for each grade, better volume indexes could be derived. Another complication in recording quantities is that copper ores can be measured at dry or wet weight (i.e., taking into account variations in moisture content) and questionnaires

should make clear that the dry weight should be used consistently for statistical reporting.

- Mineral exploration and site preparation should be included in capital formation. It appears that some work done by an enterprise's own staff may be omitted in some cases, and the AES could be clearer in this regard.
- Export duties on coal should not be included in output or value added at basic prices. The sales values reporting by enterprises were found not to exclude export duties (i.e., were at producers' prices). Hence, the values of duties should be deducted from the sales value to obtain the value at basic prices when the exporter has paid the duty.
- Output and value added should be valued in the national accounts as at the time of production. This practice differs from business accounting where holding gains or losses that occur between production and sale are not separated. While some enterprises advised that the minerals are sold shortly after production, others advised that sales only take place after transport and storage in Chinese warehouses, possibly up to five months later. It is therefore important to use quantity data or make inventory valuation adjustments to remove the effect of subsequent price movements.
- The current tax amnesty has identified that production in previous years may have been understated, even by large enterprises. Liaison with tax authorities and enterprises is needed to identify any need for revisions to earlier data.
- The informal sector is poorly covered generally, and also in the case of artisanal mining. The extent of gaps could be assessed from other sources, such as household expenditure survey data on coal purchases for heating and cooking, and using labor force surveys and the population census for indicators of mining employment outside the large corporations.

III. REVIEWING THE GUIDE AND COMPLETING ITS TEMPLATE TABLES

16. **The mission found that the template was feasible in Mongolia.** This presentation will allow systematic presentation of data to focus of the resource extraction industries.

17. **The importance of price and purchasing power effects was recognized.** The Mongolian national accounts data currently focus on production, but income data are particularly needed. For example, at times of falling commodity prices, the same level of GDP volumes means that real income is falling, because of the higher cost of imports in relation to exports.

18. **The pilot exercise highlighted that a number of template items are dependent on Supply and Use Tables or other sophisticated data sources.** As a result, these items will preclude some smaller countries from completing the data or mean that other countries will

be able to complete the tables only annually and only for less recent periods. Possibly, these more sophisticated items could be made supplementary, with the core items more timely and universal. Another enhancement to understand the structure of the resource industries would be to include a table on the extent that minerals are processed locally or sent abroad unprocessed. International comparisons and trends would be important for understanding the impact of these industries. It would also be useful to add resource and non-resource GDP volume growth rates to the tables.

ANNEX I. WORK PLAN FOR MONGOLIA'S NATIONAL ACCOUNTS

Priority ¹	Outcome Description	Verifiable Indicators	Completion Date
H	Modify the Annual Enterprise Survey form to support improved measurement of natural resources	Modified survey form used for 2016 Annual Enterprise Survey	December 2016
M	Establish a Memorandum of Understanding with EITI Secretariat, Mongolia to ensure an annual reconciliation between: (a) financial data reported by Mongolian enterprises; and (b) coverage of units in the extractive industries	Memorandum of Understanding agreed and first meeting held	November 2016
H	Complete implementation of revised organizational structure, policies and procedures implementing re-establishment of the NSO as an independent statistical office. Ensure development of national accounts methodology is undertaken by Economic Statistics Department.	Organizational structure, policies, and procedures established National Accounts development activity undertaken by Economic Statistics Department	December 2016
H	Output (intermediate consumption) of natural resources industries are valued at basic (purchasers') prices and exclude export duty paid to Mongolian Customs	Export duty paid to Mongolian Customs is excluded from output and intermediate consumption	December 2017
H	Output and gross fixed capital formation of the natural resources industry are exhaustive	Own account capital formation is included in output and capital formation.	December 2017
M	Volume movements for output of the natural resources industry and exports of natural resources products reflect quality changes in natural resources products	Volume movements for output and exports of natural resource products other than coal reflect quality changes	December 2017
H	Establish Balance of Payments Committee with membership from NSO, Mongolian Customs and BoM	Initial meeting held	December 2016

¹ H – High, M – Medium, L - Low

ANNEX II. TEMPLATE TABLES FOR THE GUIDE

**Template Table 1. Importance of the Natural Resource Industries in GDP
[2014, million togrog]**

ISIC code^a	Description	Consolidated Output	Value Added (VA)	Taxes on Products^b	Subsidies on Products	VA plus taxes less subsidies, or GDP^c	Percent of GDP
0500	Mining of coal and lignite	1,081,730	383,903	6,086	0	389,989	1.75%
0600	Extraction of crude petroleum and natural gas	1,125,185	442,283	0	0	442,283	1.99%
0700	Mining of metal ores	6,451,581	2,636,387	18	0	2,636,405	11.86%
0800	Other mining and quarrying	137,913	39,990	3,113	0	43,103	0.19%
0900	Mining support service activities	458,987	158,467	323	0	158,790	0.71%
2420 ^d	Manufacture of basic precious and other non-ferrous metals, components involving initial processed of extracted minerals	0	0	0	0	0	0%
4930 ^d	Transport via pipeline of natural resource products	0	0	0	0	0	0%
5221 ^d	Service activities incidental to land transportation, LNG liquefaction component	na	na	na	na	na	na
	Natural Resource Industries	9,252,387	3,661,031	9,540	0	3,670,571	16.51%
	All Industries in the Economy	28,171,199	20,151,728	2,075,327	0	22,227,055	100
<p>a. <i>International Standard Industrial Classification of All Economic Activities, Rev.4 (ISIC).</i> b. Taxes on products of the natural resource industries omit VAT that is deductible to the purchaser. Total payments of VAT are included in the total for all resident units of taxes on products. c. Total for all resident units equals GDP. d. Only the relevant parts of the <i>ISIC</i> code are included.</p>							

**Template Table 2. Disposition of the Income of Natural Resource Enterprises
[2014, million togrog]**

Line	Description	Value	Percent of GDP
1	Output	9,271,286	41.71%
2	Natural resource products	7,932,108	35.69%
3	Other products	1,339,178	6.02%
4	Intermediate consumption at purchasers' prices	5,610,255	25.24%
5	From domestic units, excluded government	na ^d	
6	Fees and other purchases of government services	na ^d	
7	Imported	na ^d	
8	Value added at basic prices	3,661,031	16.47%
9	Compensation of employees	765,780	3.45%
10	Resident	na ^e	
11	Non-resident	na ^e	
12	Other taxes less subsidies on production	87,875	0.40%
13	Gross operating surplus	2,807,376	12.63%
14	Property income, payments net of receipts	na ^e	
15	Interest	na ^f	
16	Dividends	na ^f	
17	Of which, to government	na ^g	
18	Reinvested earnings on direct foreign investment	na ^e	
19	Rent (royalties, bonuses, licenses, and production entitlements)	na ^f	
20	Of which, to government	na ^g	
21	Current transfers, net	na ^f	
22	Taxes on income and other current taxes	na ^f	
23	Net transfers from state owned enterprises	na ^f	
24	Other current transfers	na ^f	
25	Gross Saving	na ^e	
26	Gross capital formation	na ^f	
27	Gross fixed capital formation	na ^f	
28	Consumption of fixed capital	455,570	2.05%
29	Net fixed capital formation	na ^f	
30	Change in inventories	na ^f	
31	Capital transfers (paid less received)	na ^f	
32	Acquisitions less disposals of non-produced, non-financial assets	0	0.00%
33	Net Lending	na ^e	41.71%
Addendum:			
	Government revenue from payments by the natural resource enterprises ^a	na ^g	
	Taxes less subsidies on products purchased by natural resource enterprises ^b	na ^g	
	Taxes on products sold by natural resource enterprises, less subsidies	na ^g	
	Total government revenue related to natural resources	na ^g	
	<i>Memo: Total government revenue from all sources</i>	na ^g	
	Exports of natural resource products (in local currency) ^c	8,138,585	36.62%

Line	Description	Value	Percent of GDP
	Memo: Total exports	11,371,881	51.16%
	Depletion of reserves	na ^e	
	Value of reserves (local currency)	na ^e	
	Total assets (local currency)	na ^e	
<p>a. Sum of lines 6, 12, 17, 20, 22, 23, and applicable portions of 32. b. Deductible or reimbursable VA is excluded. c. Re-exports are excluded. If downstream products made from local natural resources are included, their presence should be noted. d. The allocation of intermediate consumption between imports and domestic production is undertaken in basic prices. e. Industry detail of the relevant aggregate is not compiled. f. This information could be compiled from the AES if required, but was not available during the mission. g. This information could be compiled from the Revenue Template if compiled for 2014.</p>			

Template Table 3. Labor in the Natural Resource Industries

	Employment	Compensation of Employees	Hours Worked ^a	Compensation of Employees per employee
	Employees	million togrog		togrog
Natural Resource Industries ^b	43,600	765,780	na	17,563,761
All other industries	641,700	5,086,706	na	7,926,922
All Industries (TOTAL = 1+2)	685,300	5,852,486	na	8,540,035
<p>a. If actual hours worked are not estimated, full-time equivalent (FTE) employment or unadjusted employment may be used. b. If the natural industries are defined differently from the set of natural resource enterprises covered by Table 2, the compensation of employees for the natural resource industry may differ from the corresponding number in Table 2. If this occurs, the effect of the difference in definitions should be noted.</p>				

Template Table 4. Contributions of Natural Resource Industries to GDP Volume Change (2013 and 2014 – both in 2010 base year) (billion togrog)

Industry or Industry Group	Value Added in Year t-1, at Prices of the Base Year ^a	Value Added in Year t, at prices of the Base Year ^a	Difference in Levels	Contribution to Percentage Change in GDP Volume
	(1)	(2)	(3) = (2) – (1)	(3) / GDP
Mining of coal and lignite	696.0	594.6	-104.4	-0.7
Extraction of crude petroleum and natural gas	131.3	189.6	58.3	0.4
Mining of metal ores	1,924.6	2,545.0	620.5	4.3
Other mining and quarrying	22.1	20.8	-1.3	0
Mining support service activities	131.9	119.3	-12.5	0
Transport and processing of crude natural resource commodities	na	na	na	na
Natural resource industries	2,905.8	3,469.3	563.5	3.9
All other industries	9,506.1	10,231.3	725.2	5.1
Either VAT or Taxes on products and imports less subsidies ^b	1,938.8	1,781.7	-157.1	-1.1
Gross Domestic Product	14,350.7	15,482.3	1,131.6	7.9

a. Under an annual chaining approach, prices of year t-1 would be used in lieu of prices from a fixed base year.
b. If value added is measured at producers' prices, the unallocated residual will come from VAT, while if basic prices are used the residual will contain all taxes on products and imports less subsidies on products.

Template Table 5. Contributions of Prices Paid and Received by the Natural Resource Industries to the Change in the GDP Price Index since the Base Year (billion togrog)

Industry or Industry Group	Value Added in Year t, at prices of the Base Year ^a	Value Added in 2014, at current prices	Difference in Levels	Contribution to Percent Change in GDP Deflator
	(1)	(2)	(3) = (2) – (1)	(3) / GDP
Mining of coal and lignite	594.6	362.6	-232.6	-1.5
Extraction of crude petroleum and natural gas	189.6	442.3	252.7	1.6
Mining of metal ores	2,545.0	2,628.4	83.4	0.5
Other mining and quarrying	20.8	47.4	26.6	0.2
Mining support service activities	119.3	180.4	61.1	0.4
Transport and processing of crude natural resource commodities	na	na	na	na
Natural resource industries	3,469.3	3,661.0	191.7	1.2
All other industries	10,231.3	16,490.8	6,259.5	40.4
Net Taxes on Products	1,781.7	2,075.3	293.6	1.9
Gross Domestic Product	15,482.3	22,227.1	6,744.8	43.6

Under an annual chaining approach, prices of year t-1 would be used in lieu of prices from a fixed base year

Template Table 6. Effect of Natural Resources on the Terms of Trade

		2010 (reference year)	2013	2014
A: Index numbers (2010 = 100)				
1	Export price index	100	113.3	115.2
2	Import price index	100	114.7	115.7
3	Terms of trade index ($100 * (1) / (2)$)	100	98.8	99.6
4	Export price index excluding natural resources and associated products	100	118.5	130.9
5	Import price index excluding natural resources and associated products	100	115.0	115.8
6	Terms of Trade index excluding natural resources and associated products ($100 * (4) / (5)$)	100	103.0	113.0
<i>Addendum:</i>				
7	Implicit price deflator for GDP	100	133.2	142.9
8	Implicit price deflator for gross final domestic expenditures	100	130.0	141.7
9	Effect of export and import prices on real gross domestic income ^a ($100 * (7) / (8)$)	100	102.5	100.8
10	Implicit deflator for GDP excluding exports and imports of natural resources and associated products	100	138.3	163.8
11	Effect of export and import prices on real gross domestic income excluding natural resources and associated products ($100 * (10) / (8)$)	100	106.4	115.6
B: Percent change since preceding year				
12	Export price index			1.7
13	Import price index			0.9
14	Terms of trade index ($\approx (12) - (13)$)			0.8
15	Export price index excluding natural resources and associated products			10.5
16	Import price index excluding natural resources and associated products			0.7
17	Terms of Trade index excluding natural resources and associated products ($\approx (15) - (16)$)			9.8
<i>Addendum:</i>				
18	Implicit deflator for GDP			7.3
19	Implicit deflator for gross final domestic expenditures			9.0
20	Effect of export and import prices on real gross domestic income ^a ($\approx (18) - (19)$)			-1.7
21	Implicit deflator for GDP excluding exports and imports of natural resources and associated products			18.4
22	Effect of export and import prices on real gross domestic income excluding natural resources and associated products ($\approx (21) - (19)$)			9.4
Also known as the "trading gains index."				

ANNEX III. DISCUSSION WITH EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE

1. The Mongolian Parliament agreed, in October 2015, with the adherence to the Extractive Industries Transparency Initiative (EITI), and instructed the Government to join this Initiative. The Government approved adherence to EITI at their Cabinet meeting, on January 4, 2006.
2. The main objective of the EITI in Mongolia is to become an important factor to strengthen good governance, and to provide information about, the extractive industry to the public. The activity of EITI is coordinated and monitored by the National Council; it is composed of the Prime Minister of Mongolia, the Minister of Mining, representatives from Government (including the Chair of NSO), and representatives from enterprises and civil society (in total 33 members).
3. EITI produce an Annual Report which includes analysis of the extractive industry and economic information of the industry's enterprises. Since 2006, nine Annual Reports have been produced based on the data collected from enterprises which have an exploration license issued by Government, through one of six forms. The forms are revised every year with the consultation of NSO and Ministry of Finance, and include information concerning production (quantity and value), taxes, other payments, donations to local and central government, etc. Starting with 2014, the reporting system was improved and in 2015, e-reporting was launched. More than 900 enterprises submitted their forms electronically in 2015 to EITI.
4. The total number of enterprises included in the 2014 (2015) Annual Report was 1,973 (1,920). EITI declared they have information from more than 90 percent of the total holders of mineral exploration licenses. The mission conducted an initial comparison of consistency between enterprises recorded by EITI and those on the Business Register (BR) hold by the NSO. In 2014, the BR included 1,616 enterprises in the mining industry (of which 894 were considered active) - the difference is explained by many enterprises classified to other industries (e.g., manufacturing). The mission recommended the NSO analyze the data collected by EITI to validate coverage of the BR (and therefore the AES) and the resulting data collected by the AES.
5. The web portal of EITI provides access to the accounts of individual enterprises (<http://e-reporting.etimongolia.mn>). These accounts should be validated with AES data to ensure consistency.

ANNEX IV. OFFICIALS MET DURING THE MISSION

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¹ The NSO comprises five departments (the other two are: Social Statistics; and Information Technology). Each department comprises multiple divisions.

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ANNEX V. RECOMMENDED CHANGES TO ANNUAL ENTERPRISE SURVEY FORM

1. **The objective of the AES is to provide sufficient detail about activities and expenditures of enterprises to compile the annual national accounts.** It is designed to collect business statistics about non-agricultural and non-financial enterprises (organization, turnover and value added, gross capital formation, labor, and the generation of income). The AES contains nine modules: identification (module I), total income (module II) and the breakdown of turnover by activities (module III), total expenditures (module IV), stocks (module V), cost of services (module VI), breakdown of raw material expenditures by types of products (module VII), employment and wages (module VIII), and gross capital formation (module IX).
2. **The mission recommends updating guidelines to facilitate reporting consistent with 2008 SNA concepts and definitions (e.g., accounting basis of turnover, inclusion or exclusion of taxes on products etc.).** The AES is conducted during March and uses the four-digit level of the Central Product Classification (CPC) and the International Standard Industrial Classification (ISIC). A simplified form, containing less detailed on turnover and expenditure, has been designed for small enterprises. The AES sample is selected from the Business Register (BR) – in 2014, the sample for the mining industry comprised 782 of 894 active enterprises approximating the NSO's objective to fully enumerate the mining industry. While AES forms contain guidelines to assist the respondent, the direct contact details of the NSO officer are not indicated and do not assist enterprises to ask questions when completing the form.
3. **The gross capital formation module (module IX) should be modified to explicitly collect details of own account investment activity.** Information provided about gross capital formation clearly differentiates between acquisitions ("increases") and ("disposals") of fixed assets and the relevant sources of finance. No categories are available to identify own account investment activity, which can be important in the case of mineral exploration and site preparation activities.
4. **“Cost Penalty” (module IV) should be defined to ensure the correct reporting of intermediate consumption.** The current guidelines are likely to mislead enterprises as they do not state the reduction in prices due to a reduction in quality should be reflected in total income (module II), not expenditure (module IV, row 413).
5. **Additional detail should be included to facilitate the distinction between taxes and rent.** The AES provides some detail regarding the disposition of income, mainly dividend and interest paid and received (modules II and III), with aggregate detail for taxes paid by enterprises. This item must be disaggregated to enable the 2008 SNA distinction between taxes and rent to be implemented in Mongolia's national accounts.

6. **Reports for individual industries should be disseminated to inform decision makers.** The NSO currently compiles specific reports to analyze information collected by the AES, but does not disseminate the results for decision makers. For minimal additional cost (e.g., building a confidentiality process), these reports could be disseminated: (i) to provide a better knowledge of Mongolia's industry activity; and (ii) to reinforce the importance for respondents of completing the AES form.

7. **Additional detail is recommended for the mining industry form to identify the applicable: (a) phase of production; and (b) contractual arrangements.** The AES form is consistent for all industries other than agriculture and financial services to ensure consistency of collected information. Due to its significance, the mission recommends development of customized form for the mining industry. The form would obtain details describing the phase of production (i.e., exploration, development, extraction and environment remediation); and contractual arrangements (i.e., production sharing, revenue sharing, etc.).

**ANNEX VI. ITEMS TO CLARIFY TO ENSURE ADEQUACY OF NATIONAL ACCOUNTS
STATISTICS**

Issue	Description
HIGH PRIORITY	
Contractual currency	Mongolia's national accounts are denominated in domestic currency. If contracts for natural resources are specified in domestic (foreign) currency, changes in the exchange rate will not (will) impact output and exports of the natural resources industry.
Timing of change of (economic) ownership	<i>SNA 2008</i> values exports of natural resources products at free on board (fob) and therefore assumes the change of economic ownership occurs at the port. This is a pragmatic approximation as some transactions will occur at the mine head, others at the non-resident's location. Information is required to validate the appropriateness of this assumption, and therefore whether adjustments to output and / or exports are required to ensure consistency between GDP x production and GDP x expenditure
Treatment of own account mineral exploration	Own account mineral exploration refers to mineral exploration undertaken: (a) for the unit; and (b) by the unit's own employees. It is essential to ensure: (a) expenses are recorded in data items used to construct intermediate consumption and compensation of employees; and (b) the value of the own account mineral exploration is separately identified (so it can be added as a secondary output); and (c) the value of own account output is included in fixed capital formation. Where no separate value is provided by the survey respondent, the value can be estimated using a non-market valuation.
Prices used to value output	<i>2008 SNA</i> para 3.146 requires output to be valued at basic prices which describe the prices receivable by the producer from the purchaser. It is necessary to understand whether this valuation refers to the spot price (at time of ownership change), a fixed long term contract price, a variable long term contract price, a regulated value, or some other arrangement. ¹ Another possibility is where the reported price is net of proceeds from hedging with financial derivatives (transactions involving hedging should be recorded elsewhere). It is therefore necessary to ensure the basic price is reported in source data for both output and exports.
Consistency of quantity data	An annual reconciliation should be undertaken to ensure the quantity reported by the monthly production survey (used to compile quarterly GDP) is consistent with the quantities underpinning values reported in the Annual Enterprise Survey.
Appropriateness of quantity data for volume extrapolation	Movements in the quantity (i.e., tons of natural resource) are appropriate when there is negligible change in quality. Anecdotal evidence should be obtained from Annual Enterprise Survey respondents to determine whether the quality (e.g., water / ore content) of natural resources produced in the current period differs from five years ago. If so, revisions to volume estimates of GDP are warranted.
Reporting of "Lease" Payments	"Lease" payments made by AES respondents should be excluded from data items which comprise intermediate consumption. Further questions should be asked to ensure the (<i>2008 SNA</i>) distinction between financial and operating leases is approximated by financial reporting standards and therefore data reported in the Annual Enterprise Survey.
Subcontracting	Where mining enterprises report expenditure for subcontracting, this should be confirmed as expenditure for the relevant service, not goods provided by the subcontractor. This issue is especially significant for labor hire companies and impacts compensation of employees.

¹ A possible arrangement is that the price is not determined until the purchaser takes economic ownership of the natural resource and can assess its quality (e.g., water / metal content or a given ore via an agreed procedure at a later date. The price is determined according to an agreed schedule specified in the contract. In the case, estimates should be used and revised once prices are determined at a later date.

Treatment of export duties	Export duties are a tax on product and should be excluded from (included in) the basic (purchasers') price used to construct output (exports) in current prices. We understand that resident units have not excluded export duties from sales. If they have not excluded export duties from sales, the value of export duties (presumably recorded in expenses) must be deducted from the reported value for sales.
LOW PRIORITY	
Reference period of reported data	Mongolia's national accounts are compiled for a calendar year. It is critical to ensure value and volume data reported by survey respondents matches this requirement - especially when there are significant changes in volumes (e.g., a project starts or concludes) and / or material changes in the price of natural resources during the calendar year. Mismatched reporting periods are most likely where resident units are controlled by a nonresident parent who faces a different set of regulatory requirements. Instance of annual reporting for periods other than a calendar year are immaterial in Mongolia
Major destinations of the natural resource product	Allocating output of natural resource products between intermediate consumption (i.e., sales to resident units) and exports (i.e., sales to nonresident units) is critical to correctly estimate GDP. This detail is currently collected on the AES form. If possible, country detail of sales to non-residents will enable confrontation with merchandise exports.

ANNEX VII. FOUR ISSUES IDENTIFIED DURING VISITS TO KEY STAKEHOLDERS

1. **Accounting and valuation issues are variable.** Mongolian Customs confirmed that customs declaration should be based on invoices of the enterprises. Some adjustments are made on exports and imports of goods by the Bank of Mongolia (BoM) to (i) overcome methodological differences between the concepts of Balance of Payments and Merchandise Trade Statistics but also (ii) to correct some under/over evaluations. These corrections are based on information collected by a survey from around one hundred large enterprises in terms of international transactions. The questionnaire covers a wide range of data including direct investment flows, bank accounts abroad and international investment position. Most major enterprises in the natural resources industry are covered by this survey.
2. **Product classification are not integrated.** The Harmonized System (HS) at the six-digit level is used for coding customs records and producing Merchandise Trade Statistics. Specific detail (and extra two digits) is appended to meet national requirements. Negligible validation is undertaken by the Merchandise Trade compilation process in respect of the Central Product Classification (CPC) to support compilation of the annual national accounts. The NSO has not been implied in the preparation and validation of the existing eight-digit classification which does not provide sufficient detail regarding the quality of natural resources (e.g., coal).
3. **There is undercoverage.** No estimate is made to account for informal imports and exports by either Mongolian Customs or BoM to account for the (well-known) shuttle trade across Mongolia's borders.
4. **Coordination is necessary. A Balance of Payments Committee does not exist to discuss** discrepancies between Mongolian Customs, BoM and the NSO and should be established immediately. This committee will be crucial for the implementation of sixth edition of IMF *Balance of Payments and International Investment Position Manual (BPM6)*.

ANNEX VIII. FIVE ISSUES IDENTIFIED DURING VISITS TO RESPONDENTS

1. **Output and intermediate consumption are overstated where data items for income and expenses include export duty.** A subset of respondents indicated: (a) economic ownership of their natural resources changed at Mongolia's border with China; (b) their organization paid export duty (as a separate invoice) to Mongolian Customs; (c) data items reported to the Annual Enterprise Survey for income described the total payment received from a non-resident purchaser; and (d) data items reported to the Annual Enterprise Survey for expenses included export duty. Assuming export duty is currently (correctly) reported as a tax on products, the required commodity balance cannot be achieved as export duty is double counted in existing estimates of GDP. Output must be valued at basic prices and therefore exclude export duty. Export duty should be excluded from intermediate consumption.
2. **Output and capital formation are understated as own account capital formation is inconsistently reported.** Most respondents indicated expenditure for own account capital formation was recorded in data items reported to the Annual Enterprise Survey for expenses on services and labor costs as expected. Respondents indicated these expenses were capitalized under a variety of circumstances¹. Existing estimates are understated as: (a) output does not include the value of any own account capital formation; and (b) fixed capital formation only includes the subset capitalized by respondents. Output and capital formation must include the full value of own account capital formation.
3. **Volume movements for output of natural resources must be inadequate and must be revised.** Respondents indicated most natural resources were exported to China and subject to quality assessment at the China / Mongolia border. The existing form records the quantity of a hybrid product and does not enable the quality (e.g., ore / water content) of natural resource output to be recorded. The NSO is commended for recent changes to adjust reported quantities of copper for changes in quality – this work must be extended to other natural resource products.
4. **Accuracy of survey reporting is likely to improve with additional support from the NSO.** The mission observed: (a) negligible explanatory material was provided with the survey form; and (b) respondents appeared unsure who to contact to clarify reporting requirements. The addition of explanatory material and relevant phone number(s) for the NSO are expected to improve the accuracy of survey reporting.

¹ One respondent indicated expenses for own account mineral exploration were capitalized when they related to a new project. Another respondent indicated expenses for own account capital formation were capitalized when the annual expenditure exceeds 20 percent of the asset's existing value. All respondents indicated the value of own account capital formation was calculated by summing labor and materials.

ANNEX IX. STATISTICAL IMPLICATIONS OF DIFFERENT GRADES OF ORE

1. **Prices vary for different grades of ore produced by the mining industry.** Buyers take into account factors such as the proportion of the desired metal or the proportion of undesirable impurities.

2. **A volume measure that does not take into account these grades may give a misleading result when the mix of different grades is changing.** In the following example, the total quantity is unchanged, but there has been a higher proportion of high-grade ore in year two. The technique that takes into account ore grades incorporates the improved average quality, so shows growth of 4.5 percent. If quality is not taken into account, there is no change in output.

Table – Effect of Different Ore Grades

	Base year price (\$)	Year 1		Year 2		% change in volume
		Output (million tons)	Constant Price Output (Base Year \$)	Output (million tons)	Constant Price Output (Base Year \$)	
High-grade ore	60	100	6,000	150	9,000	50
Low-grade ore	50	100	5,000	50	2,500	-50
TOTAL - Sum of components			11,000		11,500	4.5
TOTAL – Without components	55	200	11,000	200	11,000	0

3. **Different grades of ore behave as if they were different products, even if they are not recognized as separate in the HS or CPC.** If different grades are recognized in a standard way by the industry, it is practical and desirable to provide an extra breakdown in the AES or customs forms where these products are economically significant.