



# Environmental Monitoring Report

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Project Number: 39229-033  
December 2018

## MON: Agriculture and Rural Development Project - Additional Financing–Environmental Monitoring Report (January–December 2017)

Prepared by the Project Management Unit of Agriculture and Rural Development Project for the Asian Development Bank.

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**Asian Development Bank**

## CURRENCY EQUIVALENTS

(As of 25 December 2018)

Currency Unit	–	tugrug (MNT)
MNT1.00	=	\$0.000378
\$1.00	=	MNT 2,642.01

## ABBREVIATIONS

ADB	–	Asian Development Bank
ARDP	–	Agriculture and Rural Development Project
CRK	–	Citizens' Representatives' Khural
DEIA	–	Detailed Environmental Impact Assessment
DE	–	Department of Environment
EA	–	Executing Agency
EARF	–	Environmental Assessment and Review Framework
EIA	–	Environmental Impact Assessment
EID	–	Environmental Information Database
EMP	–	Environmental Management Plan
ETD	–	Environment and Tourism Department
GASI	–	General Agency for Specialized Inspection
GEIA	–	General Environmental Impact Assessment
GOM	–	Government of Mongolia
GRM	–	Grievance redress mechanism
IEE	–	Initial Environmental Examination
MET	–	Ministry of Environment and Tourism
MLEIA	–	Mongolian Law on Environmental Impact Assessment
OSHC	–	Occupational Safety and Health Center
PPB	–	Project Participating Bank
PPE	–	Project Participating Enterprise
PMU	–	Project Management Unit
REA	–	Rapid Environmental Assessment
SID	–	Specialized Inspection Department
WSSA	–	Water Supply and Sewerage Authority

## GLOSSARY

<i>city</i>	–	Administrative unit: provincial level
<i>district</i>	–	Administrative unit: sub-province
<i>khoroо</i>	–	Smallest administrative unit: village level
<i>ger</i>	–	Traditional round-shaped and portable dwelling

## NOTES

In this report, "\$" refers to US dollars.

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## SUMMARY PROJECT INFORMATION

GENERAL INFORMATION	
Project title:	Additional financing of the Agriculture and Rural Development Project (ARDP)., MON 39229-033
Date of project effectiveness:	2016-2020
Executing agency:	Ministry of Finance (MOF)
Implementing agency:	Ministry of Food, Agriculture and Light Industry (MOFALI)
PMO (name of agency):	ARDP, Project management unit (PMU)
PMO Environment Officer (name, email):	Ts. Davaasuren, environment consultant, tsdavaa@ardp.mn
ADB web link to EMP:	<a href="http://www.adb.org">www.adb.org</a>
Domestic web link to EMP:	<a href="http://www.ardp.mn">www.ardp.mn</a>

ENVIRONMENTAL SAFEGUARD MONITORING	
ADB environment safeguard category:	B
Environmental report prepared as per ADB requirements for this category:	Initial Environmental Examination / Environmental Assessment and Review Framework
Annual period covered by this report:	2017
Agency/person responsible for internal* environmental monitoring:	ARDP, PMU
Overall status of environmental safeguards:	In total of 14 subprojects including both financed under the original project and approved for additional financing subprojects (28) from 2010 through 2017 of the ARDP involved in the monitoring of 2017 have been operating in compliance with ADBs safeguard requirements and applicable national laws and procedures related to environmental protection and occupational safety, hygiene and employees' health issues. All project activities, including implementation of EMPs are on track and monitored regularly on yearly basis.

ADB = Asian Development Bank, EMP = environmental management plan, EMR = environment monitoring report, LIEC = loan implementation environment consultant, PMO = project management office.

\*See Section III.3 for definitions of internal, external, compliance, and independent compliance monitoring.

## **INTRODUCTION**

1. The main purpose of this environmental monitoring report (EMR) is to present overall project performance of the ARDP in compliance with the Safeguard Policy Statement (SPS)<sup>1</sup> of the Asian Development Bank (ADB) and describe and assess progress for implementation of the environmental management plans (EMPs) of sub-projects implemented under the ARDP project for the reporting period for 2017.
2. This EMR consist from:
  - 1) Project performance of ARDP. It includes background information about the project, summary of subprojects involved in monitoring of 2017, project activities related to information disclosure, grievance redressing and training and capacity building.
  - 2) Environmental performance progress of sub-projects. It describes: (i) progress in implementation of environmental management plans (EMP); (ii) environmental compliance with national requirements; (iii) information disclosure and public consultations; (iv) grievance redress mechanism; (v) training and capacity building; and (vi) an overall assessment of key achievements and lessons learned during the reporting period.

### **1. PROJECT PERFORMANCE OF THE ARDP**

#### **1.1. Background**

3. Additional Financing of the Agriculture and Rural Development Project, funded by the Asian Development Bank (ADB) loan, will primarily help Mongolia increase the value addition on its rich yet underutilized livestock and other agricultural resources through (i) value chain investments (VCIs) by agro-enterprises and cooperatives; (ii) capacity strengthening of primary producers and processors; (iii) improvement of marketing and technical capacity of agro-enterprises and cooperatives; and (iv) development of Mongolian product brand(s). The project will be implemented during 2016-2020.
4. The Ministry of Finance (MOF) is the executing agency and the Ministry of Food, Agriculture and Light Industry (MOFALI) is the implementing agency.
5. The project is expected to increase primarily the agro-processing capacity and secondarily primary agricultural production in Mongolia, and hence increase value addition to agricultural resources. The increased capacity will lead to employment generation, and indirectly benefit herders, farmers, and primary processors through the PPEs' increased demand for raw materials.
6. The project will contribute in enhancement of value chain development (VCI) in Mongolia through the development, design and implementation of a series of subprojects.
7. Following sub-sectors are supported by the project:
  - Meat, meat products;
  - Milk, dairy products;
  - Selective breeding of livestock;

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<sup>1</sup> ADB. 2009. Safeguard Policy Statement. Manila.

- Intensive farming;
- Seed production, excluding potato;
- Hide and leather;
- Wool and cashmere;
- Apparel;
- Bee-farming;
- Berry;
- Greenhouse.

8. A PMU, on behalf of the executing and implementing agencies, was established to oversee all the work, and have the final responsibility for the compliance with the project safeguard documents. The national environment safeguard consultant in PMU carries out initial environmental assessment, oversees compliance with Government of Mongolia, and ADB environment requirements. Ministry of Environment and Tourism (MNE) is represented in the Project Steering Committee (PSC), which endorses subprojects financing, also approves some subprojects delegated by ADB<sup>2</sup>.

9. The project is categorized as B for environmental safeguards. An environmental assessment review framework (EARF) was prepared to describe the process and steps that will be followed for the subprojects that have not yet been identified. During the project implementation, the national environment safeguard consultant in PMU oversees environmental performance of subprojects and conducts monitoring and reports to ADB on an annual basis. The report describes progress with implementation of the EMP and compliance issues and corrective actions.

10. In total, environmental assessments of 9 subprojects were performed in 2016-2017 in accordance with the Environmental Assessment and Review Framework (EARF) that was prepared by ARDP in compliance with Mongolia's environmental regulations and ADB's Safeguard Policy Statement (2009) additionally.

11. The project classification of category B was confirmed for the Additional financing of ARDP as four subprojects received funding (out of nine) was classified as B category and five of them as category C.

12. Based on the environmental assessment of proposed activities of these subprojects, no significant adverse environmental impacts were expected, and climate risk was considered low. The impacts have been assessed and mitigated through the implementation and monitoring of the environmental management plans (EMP) during project implementation.

## **1.2. Subprojects Involved in Monitoring of ARDP in 2017**

13. In total, 14 subprojects were involved in monitoring of 2017 as one subproject, Mon Meat out of 15 subprojects has received funding from both stages of ARDP. List of sub-projects involved in monitoring, their sector, location, ADB categorization, environmental assessment conducted for the subproject in compliance with GOM environmental requirement, loan approval information and status of implementation are presented in below table (Table 1).

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<sup>2</sup> PSC approves subprojects under USD 600,000, with ADB approved C for environment category. ARDP send a REA checklist to ADB for review and clearance for proposed category of environment assessment.

**Table 1. List of Sub Projects Involved in Monitoring of 2017**

#	Company	Sector and business	Location, city/aimag	ADB cat.	GOM EA	Approved		Loan status
ARDP Original stage (2009-2015)								
1	Erdenet Carpet	Wool processing and Carpet making	Orkhon	B	DEIA	ADB	2010	Re-paid, 2018
2	Mogol Noos	Wool processing	Tuv	B	DEIA	ADB	2011	Re-paid, 2018
3	Mon Meat	Meat processing	UB, Khentii	B	GEA <sup>3</sup>	ADB	2011	Re-paid, 2017
4	Vitafit	Milk processing	UB, Khentii	B	DEIA	ADB	2012	In imp-n
5	Altai Cashmere	Cashmere de-hairing and knitwear	UB	B	DEIA	ADB	2012	In imp-n
6	Darkhan Minj	Tannery and leather manufacturing	Darkhan Uul	B	DEIA	ADB	2012	Re-paid, 2017
ARDP Additional financing (2016-2020)								
1	Noos Ireedui	Wool processing	Uvurkhangai	B	DEIA	ADB	2016	In imp-n
2	Denimon	Apparel	UB	C	GEA	PSC	2016	In imp-n
3	Gobi	Cashmere processing and manufacturing	UB	B	DEIA	ADB	2016	In imp-n
4	Khan Brand	Dairy processing	UB	C	GEA	PSC	2016	In imp-n
5	Mongolian Cattle	Intensive farm	Khovd	C	GEA	PSC	2016	In imp-n
6	Russkie kolbasy	Meat processing/ sausage making	UB	C	GEA	PSC	2016	In imp-n
7	Davshilt Trade	Meat processing/	UB	C	GEA	PSC	2016	In imp-n
8	Mon Meat 2	Meat processing: slaughtering and sorted meat	UB, Khentii	B	GEA	ADB	2016	In imp-n
9	Sor Cashmere 2	Cashmere production	UB	B	GEA	ADB	2016	In imp-n

14. During the monitoring period PMU visited 2-3 times subprojects of category B such as Erdenet Carpet, Mogol Noos, Mon Meat, Vitafit, Darkhan Minj, Noos Ireedui, Gobi and Sor Cashmere except Altai Cashmere, primary processing of which was operational few months a year. PMU visited subprojects of category C such as Denimon LLC, Khan Brand LLC, Mongolian Cattle LLC, Russkie kolbasy LLC and Davshilt Trade LLC.

### 1.3. Project Information Disclosure

15. Project information was disclosed through channels such as meeting, trainings, website of the ARDP project and PPBs, brochure and via phone. As companies approaching the PMU tell, information also is spread through informal channel. PMU has developed and posted own website ([www.ardp.mn](http://www.ardp.mn)) and placed detailed information about the project and its requirements for public that include information about ADBs and national safeguard requirements.

<sup>3</sup> General Environment Impact Assessment

16. During the reporting period, the PMU has conducted series of trainings for enterprises, PPBs, government officials and other audience in order to provide with project information and explain its requirements, including environmental impact assessment, public consultation and GRM requirements. List of information dissemination trainings and meetings conducted by PMU in 2017 were presented in the Table 2.

**Table 2. Information Dissemination Trainings and Meeting Conducted by PMU in 2017**

#	Training	Description	Date	Participants
1	Project introductory training for companies of Khentii <i>aimag</i>	Project introduction. ADBs safeguard requirements and GOM legal framework and requirements.	27 Nov.	76
2	Project introductory training for companies of Sukhbaatar <i>aimag</i>		28 Nov.	47
3	Project introductory training for companies of Dornod <i>aimag</i>		30 Nov.	60
4	Training session for enterprises participating in REACH <sup>4</sup> project (USAID)	Project introduction. ADB and GOM safeguard requirements Environmental assessment of subprojects	20 Nov	35
5	Round table meeting for PSC members and project implementing agencies	Project introduction. Project assessments, including environmental impact assessment conducted by PMU	3 Feb.	20
6	Training for Project development team of Local administration of <i>soums</i> in Tuv province	Introduction to ARDP (objective, selection, criteria, VCI processes; application; assessment, approval)	16 Jan.	120

17. In total of 6 project information dissemination trainings and meetings with 358 participants were conducted in 2017 by ARDP PMU. During these training and meetings PMU provided the company managers, commercial bank employees and government officials with detailed information of ARDP, ADBs safeguard requirements and GOM legal framework and requirements, including public consultation, GRM and environmental assessment

#### **1.4. Grievance Redressing**

18. In 2017 the PMU included about GRM of the ARDP in the internal procedure of the project. It was posted on the ARDP website ([www.ardp.mn](http://www.ardp.mn)).

19. Only one grievance was received through the project website during the reporting period. ARDP received a complaint from Manager of “Mongol Shevro” LLC on 5 October 2017. The

<sup>4</sup> This is a USAID funded project with the objective to improve credit access to SMEs via consultancy work. Capacity building within participant enterprises by this Project in all areas of their business is expected to improve creditworthiness of the participants.

CEO of the company wanted to know more about project requirements and needed some clarifications and PMU provided with detailed info on requirements for the project.

20. During the meetings with company management, trainings for interested business entities and farmers, subproject proposal improvement and assessment stages all PPEs were required to establish GRM in compliance with ADB requirements by PMU. The Environmental consultant in PMU provided with detailed guidance how to develop internal procedure on complaint redressing and establish a grievance redress mechanism (GRM) at the company that covers concerns from different stakeholders including employees, local community, suppliers, contractors, subcontractors and other interested parties and take corrective actions. In addition, the PMU recommended all company management to introduce their company's policy and procedure on GRM to different stakeholders, community and other interested parties using different means such as meetings, trainings, posting on company's websites and bulletin on information board of the company, and report implemented corrective actions etc.

### 1.5. Training and Capacity Building

21. During the monitoring period, a total of 5 capacity building trainings were conducted by PMU (Table 3). The training covered following topics: Project introduction and requirements (Business analysis, financial analysis, social and environmental assessments), ADBs and GOM Environment and Social Safeguard Policy and requirements, environmental assessment, public consultation and GRM of sub projects.

22. In total 264 people from PPBs and companies participated in the trainings. Participants have obtained information on ADB and GOM safeguard requirements, project environmental impact assessment requirements and procedures. Among PPBs Khan bank was very active to receive trainings on ARDP processes, procedures of selection, requirements and lessons learnt during both original and additional financing and use of format developed by PMU.

**Table 3. Trainings for PPBs and Companies**

#	Training	Description	Date	Participants
1	Capacity building training for Khan bank managers and customer relations officers, and Khan bank client companies' managers	Project introduction. ADB's safeguard requirements and GOM legal framework and requirements. Environmental assessment procedures of sub projects. Public consultation and GRM.	3 Feb.	50
2	Capacity building training for Khan bank managers and staffs, and company managers		23 March	50
3	Capacity building training for PPBs' branch officers, and company managers		7 Apr.	70
4	Capacity building training seminar for GCG Fund and commercial banks, and company managers		9 Aug.	29
5	Capacity building training for PPB's loan officers, and company managers		18 Dec.	65

## **2. ENVIRONMENTAL PERFORMANCE PROGRESS OF SUBPROJECTS**

23. The current project monitoring confirmed that with project implementation all subprojects have brought improvement in overall environmental performance, positive environmental and social benefits, including improved occupational safety and hygienic condition for work places and capacity building of management of PPEs and job creation at local level.

24. Overall, the environmental and OSH performance of most PPEs was in compliance with the national requirements. These mainly include environmental permit, contracts for consumption and waste disposal, assessment and compliance with standards. All companies had extended contracts with government and local authorities on water consumption, sewage discharge, waste disposal and transportation, and fire safety evaluation in compliance with applicable national laws and government procedures. A wool, cashmere and sheepskin production companies which procure and use some hazardous and toxic chemicals for their dyeing workshops (Gobi, Erdenet Carpet, Darkhan Minj) obtained special permission on chemicals purchase and use.

### **2.1. Progress in implementation of EMPs**

25. Environmental management plans (EMP) of the sub-projects are the primary reference document for the government and ADB for all environment-related mitigation, monitoring, reporting, and training activities for the sub-projects. The EMPs were prepared for 2017 as part of the ADB and Mongolian safeguard requirements. The content of the EMP includes: mitigation measures for environmental safeguard risks; environmental monitoring and reporting; training and capacity building; grievance redress mechanism (GRM), roles and responsibilities for EMP implementation; and cost estimates.

26. EMP has two parts: i) Environmental protection plan (EPP) and ii) Environmental monitoring program. The budgets on mitigation and monitoring measures were estimated and included in the EMP of the PPEs.

27. Environmental protection plan (EPP). All PPEs have developed EMPs for 2017 that contain the potential environmental impacts and mitigation measures for the different sites of the project (if project has >2 sites for implementation), and a responsible principal person, a department or a contracted company/institution responsible for implementation of these measures.

28. For sub-projects of ARDP, the key common potential impacts and/or issues of concern were: water consumption, waste water discharge and solid waste disposal, and chemicals use and handling. Also, some potential occupational hazards such as excessive dust, noise, hot or cold temperature in some units at PPEs that might cause some negative effect on health of the employees. EPP includes OSH training and medical check-ups for company employees.

29. All subprojects have implemented environmental protection and mitigation measures in order to mitigate, minimize and prevent above mentioned potential impacts. The table 4 presents common potential impacts for 14 PPEs and implemented mitigation measures.

30. Environmental monitoring program. The environmental monitoring program includes monitoring of: (i) water quality by sampling water supplied by centralized supply system or well water; (ii) waste disposal and transportation; (iii) water pollution by sampling of waste water discharged from the plant; (iv) soil pollution by sampling of soil; (v) air pollution by sampling of

the ambient air; (vi) workers health; (vii) work place condition by measuring hygienic parameters (indoor air temperature, humidity, lighting, noise, vibration, dust etc.); and (viii) compliance with national legislations and standards.

**Table 4. Implementation of EMPs**

Potential impacts/ issues	Mitigation measures implemented	Implementation status	Note
<b>1. Environmental protection plan</b>			
<b>1) Surface and underground water degradation and pollution</b>	Renewed /extended contact with local authority on water consumption and discharge;	All PPEs	
	Improved maintenance of water and waste water discharge piping system due to regular control and renovation work;	All PPEs	
	Established/improved in-house waste water treatment facility;	4 PPEs	Erdenet Carpet, Mogol Noos, Noos Ireedui, Darkhan Minj
	Reduced water consumption and waste water discharge by re-using water used in primary processing;	4 PPEs	Erdenet Carpet, Mogol Noos, Noos Ireedui, Darkhan Minj
<b>2) Soil pollution and degradation</b>	Transported solid waste and sludge to local landfills in accordance with contract with local government;	All PPEs	
	Improved temporary waste and sludge disposal site/point by building fence and covering its floor with cement;	Most PPEs	
	Placed sign on the parking and road connecting the plant and main/local road;	Most PPEs	
	Planted trees and bushes on the plant area;	Most of PPEs	
	Covered access road and free space outside of the plant with cement mix;	Most of PPEs	
	Placed signs for vehicle parking and plant premises;	Most PPEs	
<b>3) Handling of chemicals</b>	Updated/improved internal procedure on chemicals handling;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj
	Renovated and improved maintenance of chemicals storage;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj
	Placed MSDSs for chemicals in the rooms and storage and workshops where they were kept and used;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj
	Established hand/eye wash sinks in the units where chemicals handled and stored;	1 PPE	Gobi
<b>4) Occupational safety, hygiene and workers health</b>	Replaced/improved lighting in plant units;	Most PPEs	
	Provided workers with applicable PPEs;	All PPEs	
	Improved maintenance of equipment and machines due to regular inspection;	All PPEs	

Potential impacts/ issues	Mitigation measures implemented	Implementation status	Note
	Workers were provided with safety instructions at the beginning of each shifts by unit supervisors;	All PPEs	
	Conducted workers trainings on occupational safety and health, and safe operation of equipment and machines by the company and with cooperation of professional organizations;	All PPEs	
	All employees were involved in health check-ups 1-2 times a year;	All PPEs	
	Work place condition assessment was conducted by specialized agency/local SID and its follow up action was implemented;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj
	Established/improved and renovated workers rest rooms, showers, changing rooms and rest area etc.);	Most PPEs	
	Work place condition was improved due to renovation of plant/units or relocation of entire plant to new building;	Most PPEs	
	Installed/upgraded or renovated air ventilation system in main operation units;	6 PPEs	Erdenet Carpet, Mogol Noos, Gobi, Darkhan Minj, Noos Ireedui, Gobi
5) Disaster prevention (Fire, flood and strong wind etc.)	Built and maintained dam outside of the plant;	1 PPE	Noos Ireedui
	Developed emergency preparedness plan;	4 PPEs	Erdenet Carpet, Gobi, Vitafit, Darkhan Minj
	Placed set of fire extinguishing equipment and tools in all plant units and checked its readiness;	All PPEs	
	Workers were involved in trainings on use of fire extinguishing equipment and tools, and providing first aid to others during the fire;	Most PPEs	
	Renovated roof of the warehouse and plant premises;	5 PPEs	Mogol Noos, Gobi, Denimon, Khan Brand, Davshilt trade
6) Public participation and GRM	During the GEIA/DEIA of the subprojects all companies introduced project proposal to local residents through local government and Public Khural (CRK) at <i>soum</i> , bag and khoroo level and got official approval of them;	All PPEs	
	Some projects which have DEIA conducted, submitted implementation report of their EMP to local government in annual basis;	5 PPEs	Erdenet Carpet, Gobi, Vitafit, Darkhan Minj, Noos Ireedui
	Most companies handled employees' complaints in accordance with the company's internal labour procedures;	All PPEs	

Potential impacts/ issues	Mitigation measures implemented	Implementation status	Note
<b>7) Environmental management</b>	All necessary contracts on utility service (water well permit, water use and waste water discharge, solid waste transportation and disposal) were made/extended with local authority;	All PPEs	
	Obtained special permission on import and use of chemicals from MET;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj
	Developed EMP and prepared its implementation reports;	All PPEs	
	Implemented follow-up action of state/local inspection such as to improve lighting and air ventilation in work place, improve workers supply of PPEs, reduce noise by placing barriers in plant units, improve chemicals storage/room maintenance, improve record keeping, monitoring of waste water pollution etc;	All PPEs	
	Improved/updated internal procedures of the company, e.g. procedure on occupational hygiene and sanitation, Procedure on occupational hygiene, Procedure on Safe handling of chemicals, Procedure on supply, provision and use of PPEs, GRM, Instruction on safe operation of equipment etc.;	All PPEs	
	Unit responsible for occupational safety and hygiene was established at the company and operational;	2 PPEs	Erdenet Carpet and Gobi
<b>2. Environmental monitoring program:</b>			
<b>1) Water quality</b>	Conducted sampling of well/centrally supplied water	7 PPEs	Erdenet Carpet, Mogol Noos Vitafit, Darkhan Minj, Noos Ireedui Gobi, Khanbrand
<b>2) Waste water pollution</b>	Conducted waste water samplings	6 PPEs	Erdenet Carpet, Gobi, Darkhan Minj, Noos Ireedui, Mogol Noos
<b>3) Soil pollution</b>	Conducted soil and air sampling	5 PPEs	Erdenet Carpet, Gobi, Darkhan Minj, Noos Ireedui, Mogol Noos
<b>4) Work place condition</b>	Performed occupational work place assessment;	3 PPEs	Erdenet Carpet, Gobi, Darkhan Minj

31. Internal monitoring of implementation of EMPs is conducted by PPEs and external monitoring is performed by applicable state agencies and inspectors, and local government officers and environmental rangers (at *soum* level).

32. Project management unit (PMU) of the ARDP conducts monitoring of environmental performance to ensure that PPEs are implementing mitigation and monitoring measures as described in their EMPs based on site visit findings, visual observation and review of the inspection reports conducted by local inspection authorities, results of analysis and measurements performed by certified laboratories (e.g. air and water quality, dust levels, noise emissions), enquiry from local professional and inspection authorities, records and reports for internal monitoring of PPEs.

33. The table 4 shows that most PPEs implemented mitigation measures to reduce water and soil pollution and degradation, improve workplace occupational safety and hygiene, take care about workers health and conducted workers trainings on occupational safety and health and safe operation of equipment and machines. Photos taken by the PMU team during from site visits to Wool scouring and dehairing plant of Mogol Noos LLC in Tuv aimag, Cashmere production factory of Gobi JSC in Ulaanbaatar, Meat processing plant of Mon Meat Trade LLC in Khentii aimag, Garment plant of Denimon LLC, Meat processing plant of Davshilt Trade LLC, Wool and cashmere production plant of Sor Cashmere LLC and Khan brand LLC in Ulaanbaatar are presented in Annex 1.

34. All PPEs have involved their employees in medical check-ups 1-2 times annually in accordance with MLOSH. Most PPEs have contract with local health providers on general health checkups for their employees. During the health check -ups conducted in 2017 nobody was diagnosed with occupational disease.

35. Few PPEs such as Erdenet Carpet, Gobi, Darkhan Minj which use hazardous and toxic chemicals implemented measures to improve handling of chemicals. These three companies had work place condition assessment/evaluation and implemented follow up actions in accordance with recommendation provided by the assessment authority/company to improve occupational safety and hygiene of factory units<sup>5</sup>.

36. Few companies conducted monitoring on water and waste water as these companies were required by national requirements due to their technological specification. However, ARDP required most PPEs to conduct monitoring on waste water, soil and air as part of their internal monitoring.

37. The budget for EMPs of sub-projects for 2017 is presented in the table 5. The cost estimates in the EMPs include the costs for the mitigation measures, training, and monitoring.

**Table 5. The Estimated Cost for EMPs of Sub-Projects for 2017**

#	Sub-project name	Environmental management plan, MNT '000			Implementation
		Environmental protection plan	Environmental monitoring program	Total	
1	Erdenet Carpet	81,364.0	2,880.0	84,244.0	55%
2	Mogol Noos	25,196.2	1,000.0	26,196.2	62%
3	Mon Meat 2	21,310.0	1,000.0	22,310.0	70%

<sup>5</sup> In accordance with national requirements (Law on occupational safety and hygiene) entities are required to have work place assessment whenever employer creates a new workplace or changes orientation of production or service or conducting operations using raw material which contains toxic or dangerous chemical substances.

#	Sub-project name	Environmental management plan, MNT '000			Implementation
		Environmental protection plan	Environmental monitoring program	Total	
4	Vitafit	18,476.0	1,520.0	19,996.0	95%
5	Altai Cashmere	7,287.2	1,000.0	8,287.2	90%
6	Darkhan Minj	3,500.0	425.0	3,925.0	83%
7	Noos Ireedui	25,140.0	1,250.0	26,390.0	95%
8	Denimon	8,750.0		8,750.0	80%
9	Gobi	1,071.457		1,071.457	90%
10	Khan Brand	8,000.0		8,000.0	60%
11	Mongolian Cattle	23,810.0		23,810.0	80%
12	Russkie kolbasy	9,210.0	500.0	9,710.0	72%
13	Davshilt Trade	18,170.0	900.0	19,070.0	70%
14	Sor Cashmere 2	13,650.0	500.0	14,150.0	75%
	<b>TOTAL COST</b>			<b>1,346,295.40</b>	

38. During the project implementation period small PPEs had encountered problem with development of EMPs and monitoring reports due to frequent change of personnel who were in charge of OSH and environmental issues of the companies. Capacity of newly hired or replaced employees was low. They need in environmental management capacity building trainings in order to understand legal requirements, procedures to develop EMPs and monitoring reports, and practice to implement mitigation and monitoring measures.

39. The PMU organized capacity building training for PPEs in order to assist to companies to develop EMPs and prepare of monitoring reports in 30 May 2018. The PMU feels that PPEs need in such trainings every year either by PMU specialist if relevant by the specialised Agencies or professionals PMU will hire with short term contract.

## 2.2 Environmental compliance with national requirements

### Compliance with national standard requirements.

40. During the project monitoring period, environmental compliance with national standard requirements remained satisfactory as major environmental issues were properly considered and managed in accordance with EMPs of PPEs. Summary of environmental compliance of subprojects with national standard requirements is presented in the table below (Table 6).

**Table 6. Environmental compliance with national standard requirements**

#	National standard			Environmental compliance
1	Water pollution	MNS 6390:2013	Technical requirements for Primary treated effluent of wool and cashmere factory into the sewerage of central treatment plant:	Most companies made waste water samplings in accordance with EMP. Concentration of Biological oxygen demand (BOD) and Ammonium (NH <sub>4</sub> ) was higher than permissible limits for wool and cashmere production companies such as Gobi, Mogol Noos, Erdenet Carpet and

#	National standard			Environmental compliance
				Noos Ireedui and Darkhan Minj, the sheepskin production.
2	Soil pollution	MNS 5850:2008	Soil quality. Soil pollutant elements and substances	Soil pollution level remained as before the project implementation as all PPEs handled waste generated from their operation and chemicals properly.
3	Occupational work place condition	MNS 5387:2004	Work place air. Measuring methodology of air temperature and humidity of work place.	Some units of textile factories such as Erdenet Carpet, Gobi, Noos Ireedui and Mogol Noos had higher humidity and hot temperature due to their technology specifications. All main units of plants have now well-functioning air conditioning system.
4		MNS 4990:2015	Occupational Safety and Health. Occupational Hygiene. Work place environment.	Hygienic and sanitation condition at most companies were improved to comply with national standard requirements.
5		MNS 4996:2000	Occupational Safety and Hygiene. General requirement of lighting norm and its measuring methodology for work place	Most companies have improved lighting in their operation units in compliance with national standard requirements.
6		MNS 5003:2000	Occupational Safety and hygiene. Requirements for noise measurements	Higher noise level was measured in some units such as spinning, carding, knitting, weaving workshops of wool and cashmere production companies (Gobi, Mogol Noos, Erdenet Carpet and Noos Ireedui). During the site visit workers of these workshops were wearing protective apparel and ear plugs.
7		MNS 5002:2000	Occupational Safety and Hygiene. General requirement of noise norm and safety. Work place environment	
8		MNS 4995:2000	Occupational Safety and hygiene. General requirements for measuring methodology of vibration.	
9		MNS 4994:2000	Occupational Safety and Hygiene. General requirements for vibration norm and safety.	Dust exceeding national standard permissible limits was measured in wool and cashmere sorting units at Mogol Noos, Erdenet Carpet and Noos Ireedui. During the site visit workers of these workshops were wearing protective apparel and masks.
10		MNS 5010:2001	Occupational Safety and Hygiene. General requirements for measuring methodology of dust.	
11		MNS 5028:2001	Occupational Safety and Hygiene. Requirements for determining toxic substance in the air of work area.	

#	National standard			Environmental compliance
				All dyeing workshops and storages were equipped with air conditioning system.

## Waste water

41. Waste water pollution level (BOD and NH<sub>4</sub>) of large wool and cashmere production factories such as Erdenet Carpet, Gobi, Mogol Noos, Noos Ireedui (B cat.) were exceeding during the peak season of primary processing of raw material.

42. As an example, sampling results of waste water discharged from the Gobi factory conducted by certified Central Laboratory of Environment and Metrology of National Agency for Meteorology and Environmental Monitoring in February 2017 is presented in Table 7. It showed that concentration of Phosphorus (P<sub>min</sub>), Nitrogen (N<sub>total</sub>), COD and Total suspended solids (TSS) were under permissible standard level of the “Technical requirements for Primary treated effluent of wool and cashmere factory into the sewerage of central treatment plant: MNS 6390:2013” (See Table 7). But concentration of Biological oxygen demand (BOD) and Ammonium (NH<sub>4</sub>), was higher than permissible limits. The Gobi company has taken monitoring and mitigation measures to reduce waste water pollution level in order to meet national standard requirements.

**Table 7. Results of chemical analysis on sewage discharged from the Gobi factory<sup>6</sup>**

#	Indicators	Measure	Permissible limit MNS 6390:2013	Sampling date 2 Feb. 2017
1	pH		6.5-8.5	7.67
2	P <sub>min</sub>	mg/l	5.0	4.796
3	COD	mg/l	800	296.4
4	N <sub>total</sub>	mg/l	30.0	23.34
5	TSS	mg/l	400	123.6
6	BOD	mg/l	400	<b>456</b>
7	NH <sub>4</sub>	mg/l	15	<b>23.2</b>

43. As a result of improved monitoring of waste water and implemented measures by the Gobi company pollution level of waste water was reduced and met national standard requirements. Analysis on waste water conducted by the Central Water Laboratory of Water Supply and Sewerage Authority of the city in October and November 2017 showed that amount of suspended solids, Chemical oxygen demand (COD) and Sulfide were under permissible limits set by national standards. The test results of the last samplings are shown in Table 8.

**Table 8. Results of Chemical Analysis on Sewage Discharged from the Gobi Factory**

Methodology	Parameter	Measuring unit	Permissible limit	Sampling dates	
				17/11/2017	23/10/2017
MNS ISO 10523:2001	pH value		6-9	8.04	7.21

<sup>6</sup> Results of tests taken by certified laboratory of National Agency for Meteorology and Environmental Monitoring

Methodology	Parameter	Measuring unit	Permissible limit	Sampling dates	
				17/11/2017	23/10/2017
MNS ISO 11923:2001	Suspended solids	mg/l	400	15	142.5
MNS ISO 6060:2001	Chemical oxygen demand	mgO <sub>2</sub> /l	800	124.8	280.3
MNS ISO 5597:2006	Sulfide	mg/l	5	0.07	2.75

## Soil pollution

44. Soil pollution level remained as before the project implementation as all PPEs handled waste generated from their operation and chemicals properly in compliance with national regulations and procedures.

45. As an example, results of soil sampling of Gobi JSC conducted by certified the Central Laboratory of Environment and Metrology of National Agency for Meteorology and Environmental Monitoring in 2017 are presented in Table 9. According to soil sampling results, concentration of heavy metals in the soil of factory area was under standard permissible limits set by the MNS 5850:2008: "Soil quality. Soil pollutant elements and substances". Therefore, the soil within the factory area can be considered non-contaminated.

**Table 9. Results of soil sampling of Gobi factory area (mg/kg)**

Heavy metals	Cd	Pb	Hg	Br	Cr	Zn	Cu	Co	Sr	Rb	Zn
Soil sample	1.9	13.6	-	1.2	-	145.4	29.9	5.3	514	159.7	172
MNS 5850:2008	3	100	2	-	150	300	100	50	800	-	-

## Air pollution

46. Most companies did not conduct air quality analysis as they explained these small entities do not generate emission that pollute the air. Only large companies monitored air pollution as it was required by DEIA.

47. As an example, results of air quality sampling of Erdenet Carpet area conducted by the certified Laboratory of Environment and Metrology of National Agency for Meteorology and Environmental Monitoring in 2017 are presented in Table 10. According to it, concentration of main pollutants in the air was under permissible limits of national standard MNS 4585:2016 "Air quality. General technical requirements".

**Table 10. Results of air sampling of Erdenet Carpet factory area**

Date	Parameter	SO <sub>2</sub> mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>
	MNS 4585:2016	0.450	0.200
27-Apr	Near factory	0.004	0.045

Date	Parameter	SO <sub>2</sub> mg/m <sup>3</sup>	NO <sub>2</sub> mg/m <sup>3</sup>
	<b>MNS 4585:2016</b>	<b>0.450</b>	<b>0.200</b>
	Near waste water treatment facility	0.008	0.049
9-Nov	Near factory	0.006	0.043
	Near waste water treatment facility	0.007	0.05

## Occupational Safety and Hygiene

48. Observation during the site visits to companies, findings from interviews with employees, and review of available Occupational work place assessment reports, local inspection reports and other documents related to work place condition of companies confirmed that work place safety and hygiene at most companies has improved.

49. Compliance with Mongolian law on Occupational Safety and Hygiene requirements (2008) for most PPEs was inspected and hygienic measurements in main units of companies conducted by local inspection authorities regularly. According to inspection reports, work place conditions in most units of PPEs have been in compliance with national requirements, and occupational safety condition at all PPEs were evaluated with “low risk”.

50. Safety instructions for workers were provided at the beginning of each shift/day by supervisors, and safety trainings were conducted regularly by PPEs with cooperation of local professional and inspection authorities.

51. Workers of all PPEs were provided with personal protective apparel, equipment and devices in accordance with company’s internal procedures.

52. There were recorded a fire accident at the Gobi JSC and 10 minor incidents<sup>7</sup> at companies such as Erdenet Carpet, Gobi and Russkie Kolbasy during the monitoring period. Most of these incidents were related to improper handling of equipment during their maintenance service. All 10 workers received first aid at the companies and provided with some compensation in accordance with the companies’ internal procedures.

53. A fire accident at the Gobi factory was caused by improper handling of roof renovation work by the contractor. The fire damaged only the exterior layer of the roof of the factory. The company has beard quite large financial damages. No human lives have been lost and no injuries have been sustained as a result of the quick action taken by Gobi company employees and fire extinguishers of Ulaanbaatar city. As lessons learned, the company has been taking various measures to prevent from fire incidents in the future: Fire extinguishers were replaced and placed in all factory units and in the corridors; Emergency trainings for all employees were conducted with cooperation of National Emergency Management Agency twice a year; Renewed and updated Emergency Preparedness Plan of the company; Emergency teams were established at the company; The company strengthened its control on contractors work to ensure compliance with safety requirements etc.

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<sup>7</sup> Minor cuts, wounds, pimple etc.

54. Occupational work place assessment. Three companies such as Darkhan Minj LLC, Erdenet Carpet JSC and Gobi JSC conducted work place assessment evaluation by the specialized agency/company in 2017. According to these work place assessments some hygienic parameters (noise, dust, humidity and temperature) in some units of these companies were exceeding national standard permissible limits.

55. As example, work place condition assessment of all factory units of Gobi factory conducted by Occupational Safety and Health Center of Mongolia are summarized in the table below (Table 11). During the work place condition assessment there was conducted 10 different measurement in 113 work places of the factory.

56. According to the assessment report, work place conditions in most departments of Gobi factory were in compliance with national requirements. The norms of physical measurements in some work places were exceeding or lower than standard requirements.

**Table 11. Results of Hygienic Measurements of Different Work Places of the Factory**

#	Work places	Result of hygienic measurements						
		Air temperature (°C)	Air flow speed, m/sec	Humidity (%)	General lighting (lux)	Noise level (dBA)	Vibration	T dust (mg/m³)
	Permissible standard limits	17-27	0.3-0.4	<75	100 300	85	50* 85**	10
1	Sorting Department	22.4	0.0	62.3	600		-	6.8
2	Scouring Department	22.8-23.2	0.0-0.2	49.9-77.8	40-120	74-75	-	2.7
3	De-haring Department	26.4-27.3	0.1-0.2	66-82.5	70-240	50.9-86.4		
4	Dyeing Department	20.1-24.2	0.1-0.4	51.7-67	103-310	58.3-81.5		
5	Blending and spinning workshop	22-26.3	0.0-0.1	54-78	70-206	65-86		4.6
6	Worsted/Spinning 2	26.7	0.2	54.1	50-400	87.5	-	3.6
7	Finishing workshop of textile factory	22.3-23.5	0.1-0.3	55.8-62.7	120-820	63.5-77		
8	Sewing workshop	22.7-25	0.0-0.1	46-57	220-850	50.9-70	-	3.2
9	Finishing workshop of knitting factory	24-27.3	0.1-0.3	49.4-88.6	150-550	50.9-82.4	70**	
10	Dry cleaning unit of finishing workshop	22.2-27.2	0.0	43.5-51.4	500-850	68.5-71	-	8.3
11	Printing workshop	24.8	0.0	56.2	640	57.8	-	-
12	Weaving workshop	22.7-26.4	0.0-0.2	28.2-50.9	95-600	64-91.6	26	4.2
13	Technical management division	19.6-23.4	0.0-0.4	45-58.7	85-390	65.3-86.3	60	20.3
14	Spinning 1	22.4-27.6	0.1-0.3	43-50	170-830	67-74		
15	Knitting 2	23-27.5	0.0-0.2	40-75	220-700	59.6-74		2.0

Source: Hygienic measurements of Gobi factory. OSH Center, 2017

\*General lighting; \*\*Partial lighting

57. As results of the assessment show the following non-compliances found in some workshops:

- Temperature: Temperature in some areas of de-hairing workshop, finishing workshop of the knitting factory, dry cleaning workshop and ironing units of all finishing workshops was not in compliance with national standard "Occupational Safety and Health. Occupational Hygiene. Work place environment. MNS 4990:2015" as temperature in these workshops was higher compared to acceptable standard limits by 0.2-0.6°C.
- Air humidity: Air humidity in some areas of the scouring, de-hairing, blending and spinning workshops and finishing workshop of knitting factory was not in compliance with national standard "Occupational Safety and Health. Occupational Hygiene. Work place environment. MNS 4990:2015" as air humidity in these workshops was higher compared to acceptable standard limits by 2.8-7.5%.
- Air flow speed: Air flow speed in most workshops of the factory was not in compliance with national standard "Occupational Safety and Health. Occupational Hygiene. Work place environment. MNS 4990:2015" as it was lower compared to acceptable standard limits by 0.1-0.4 m/sec.
- Lighting: Lighting in some areas of scouring, de-hairing, blending and worsted spinning workshops was not in compliance with national standard "Occupational Safety and Hygiene. General requirement of lighting norm and its measuring methodology for work place. MNS 4996:2000" as lighting in these workshops was lower compared to acceptable standard limits by 60-180 lux.
- Noise: Noise was in some areas of de-hairing, blending, spinning and weaving workshops was not in compliance with national standard "Occupational Safety and Hygiene. General requirement of noise norm and safety. Work place environment. MNS 5002:2000" as it was higher compared to acceptable standard limits by 1-6.6 dBA.
- Vibration: Vibration near spinning equipment was 72 dBA by exceeding acceptable standard limits by 13 dBA. Vibration in this part was not in compliance with national standard "Occupational Safety and Hygiene. General requirements for vibration norm and safety. MNS 4994:2000".
- Total dust: Dust in work place of air conditioning maintenance mechanic was not in compliance with national standard "Occupational Safety and Health. Occupational Hygiene. Work place environment. MNS 4990:2015" as it was higher compared to acceptable standard limits by 10 mg/m<sup>3</sup>.
- Emission of chemicals substance. Emission of Ammonia and Acetic Acid in dyeing workshop was measured in dyeing workshop. Emission of Ammonia in dyeing workshop was not in compliance with national standard "Occupational Safety and Health. Occupational Hygiene. Work place environment. MNS 4990:2015" as it was 115.3 mg/m<sup>3</sup> by exceeding acceptable standard limits by 6.6 times.
- Ergonomic risk: Ergonomics risk indicators for workers was evaluated using Reba checklist during the occupational work place assessment. Table 12 presents ergonomic risks for workers in different workshops. According to the evaluation some workers such

as spinning machine operator and washing machine operator in knitting factory was scored at 8 and have high ergonomic risk. Also press ironman, dryer machine operator and ironman in dry cleaning unit was scored at 6 and 7 and have medium level of risk. The ergonomic risk factors such as awkward postures, repetitive hand and arm movements etc. might have a negative impact on the musculoskeletal health of these workers.

**Table 12. Measured Ergonomic Risk Scores**

<b>Risk</b>	<b>Medium risk (score 4-7)</b>	<b>High risk (score 8-10)</b>
<b>Work place</b>	<b>Required additional assessment and change of location</b>	<b>Required additional assessment and to take appropriate measures</b>
Dry cleaning unit	Ironman	
Weaving	Raising machine operator	
Finishing	Finisher/fixer	
Blending workshop	Blending machine operator	
Sewing workshop of Knitting factory	Hair remover	
Knitting factory finishing	Press ironman	
Sewing workshop	Sewing machine operator	
Weaving	Dryer machine operator	
Spinning workshop		Spinning machine operator
Blending workshop	Dryer machine operator	
Sorting workshop		
Knitting workshop		Washing machine operator

58. Employees health. During the reporting period, in total 2533 employees of 14 PPEs were involved in general medical screening at the local health providers. Some larger companies such as Erdenet Carpet LLC and Gobi JSC have medical units at their factories to provide basic medical services and first aid to their employees. Some medium size companies such as Mogol Noos LLC, Darkhan Minj LLC, Noos Ireedui LLC and Denimon LLC received medical services through contracted medical service providers.

59. Employees training on OSH and health. During the monitoring period, a series of OSH trainings were conducted by PPEs (Table 13). The training topics were: Occupational safety and health, safety operation of equipment, food safety and hygiene, employees' health and sanitation, fire prevention and emergency measures, company's internal procedures and instructions related to OSH and health etc. In total of 3259 employees from 14 PPEs were involved in occupational safety and hygiene trainings, and 3376 employees from 10 PPEs in employees' health trainings.

**Table 13. Participants in Training Conducted by Subprojects**

#	Subprojects	Training	
		OSH	Health
1	Erdenet Carpet	652	874
2	Mogol Noos	90	75
3	Mon Meat	15	
4	Vitafit	267	207
5	Altai Cashmere	17	

#	Subprojects	Training	
		OSH	Health
6	Darkhan Minj	120	85
7	Noos Ireedui	147	105
8	Denimon	86	102
9	Gobi	1775	1775
10	Khan Brand	67	8
11	Mongolian Cattle	7	
12	Russkie kolbasy	35	35
13	Davshilt Trade	5	
14	Sor Cashmere	110	110
	Total	<b>3259</b>	<b>3376</b>

60. Internal procedures on occupational safety and hygiene. Most PPEs (8 out of 14) updated and developed new internal procedures related to environmental protection, occupational safety and hygiene at the companies as it was recommended by PMU during the assessment in line with national requirements. These were Gobi, Erdenet Carpet, Vitafit, Darkhan Minj, Khan brand, Noos Ireedui, Mogol Noos, Denimon, Russkie kolbasy, among others have updated most of all internal procedures due to expansion of operation, structure change and introduction of ESMS, HACCP and ISO 22000 etc. Some PPEs operating small business with small number of employees (7–22) such as Mon Meat, Mongolian cattle, Davshilt trade have a few internal procedures.

61. As an example, Gobi JSC has been developing number of new procedures related to environmental protection and OSH and updated existing ones in order to improve environmental performance of the company and introduce ESMS since 2017. Newly developed procedures include “Procedure on fire safety, prevention and emergency”, “Procedure on order, supply and use of PPEs”, “Procedure on medical service” etc.

### **Inspection on compliance with national requirements**

62. During the monitoring period state inspectors of SID of Ulaanbaatar city and *aimags* conducted inspection on most company’s compliance against the national legal requirements and standards spelled out in Mongolian Law on Environmental Impact Assessment (2012), Law on Environmental Protection (1995), Law on land (2002), Law on soil protection and prevention from desertification (2012), Law on Air (2012), Law on Water (2012), Law on waste disposal (2017), Law on State Supervision and Inspection (2003), Mongolian Law on Occupational Safety and Hygiene (2008) and relevant government regulations and standards.

63. Some small companies such as Khan Brand, Russkie Kolbasy, Denimon, Davshilt Trade had to make special request to have inspection made, as the agency tends to neglect them due to shortage of capacity of local inspectors to conduct inspection of all companies of their district instead give priority to bigger enterprises in their scheduled inspection.

64. As a result of these inspections most of the PPEs were evaluated with low risk. Some PPEs were recommended to correct causes for non-compliances related to reduction of waste water pollution level, improvement of waste storage (temporary) and work place condition (e.g. lighting, air conditioning system, housekeeping etc.), and chemicals handling and storing, and internal monitoring. They implemented follow up actions in accordance with recommendation provided by state inspectors in timely manner.

## 2.3. Compliance with ADB Requirements

### Information Disclosure and Public Consultations

65. All 14 subprojects included in the monitoring had conducted public consultation meeting with local CRK at the beginning of their project environmental assessments in compliance with ADBs public consultation requirement for B and C category projects. Some subprojects such as Mogol Noos, Mon Meat, Gobi and Khan Brand have informed about implementation of the project and EMP to local government and residents (Table 14).

**Table 14. Information Disclosure About Implementation of the Project and EMP**

<b>Sub project</b>	<b>Local government/CRK</b>	<b>Local Community</b>	<b>Outcome</b>
Mogol Noos	Government and CRK of Bayantsogt soum of Tuv aimag	Residents informed of plant operation and implementation of EMP	Made agreement with local government to cooperate on social responsibility
Mon Meat	Residents of 5 <sup>th</sup> bag of Kherlen soum	Residents informed of plant operation in April and June	About 30 residents were provided with temporary job during the animal slaughtering
Gobi	CRK of 5 <sup>th</sup> khoroo of Khan Uul district	Representatives of CRK of 3 <sup>rd</sup> khoroo informed about new project of the factory expansion	Updated DEIA and EMP was submitted to and approved by the MET
Khanbrand	Government of Khan uul district and CRK of 3 <sup>rd</sup> khoroo of the district	Residents informed of plant operation	Developed cooperation with local government on social responsibility

### Grievance Redress Mechanism

66. All subprojects of ARDP have good experience to handle grievances from the company's employees in accordance with "Internal labour procedure of the company". They received about 898 grievances in 2017. Of which 856 complaints were redressed in accordance with the company's internal procedures on labour (70%) and product quality assurance (30%), and 17 were under redressal, and 25 were rejected as these ones were not relevant to the company. All complaints received from the employees were related to labour relations. Nobody complained about environmental and OSH issues of the company. Most PPEs had little experience to redress complaints from customers' concerning their product quality. They address them in accordance with the company's internal procedure on product quality assurance.

67. During the project proposal improvement, assessment stage of subprojects and their monitoring all PPEs were recommended to establish GRM in compliance with ADB requirements by PMU. They were provided with detailed instruction how to develop internal procedure on grievance redressing and provided with recommendation to establish a grievance redress mechanism (GRM) that covers concerns from different stakeholders including employees, local community, suppliers, contractors, subcontractors and other interested parties and take corrective actions. In addition, PMU recommended all company management to introduce about the company's policy and procedure on GRM using different means such as during meetings, trainings, posting bulletin on information board, and report implemented corrective actions.

68. During the project monitoring period, some companies have made some progress in establishment of GRM by developing new procedure or updating internal procedure on labour

by including issues related to grievance handling and taking corrective actions in accordance with PMU recommendation.

### 3. CONCLUSION

#### 3.1. Overall compliance of subprojects

69. Overall compliance of subprojects with ADBs and national requirements were assessed by PMU based on above discussed environmental monitoring of 14 PPEs. PPEs overall compliance of main issues such as waste water and waste handling, OSH, training, GRM and implementation of EMP were scored by PMU using own scoring (3-Poor, 4-Fair, 5-Good). 12 PPEs out of 14 with score >24 were assessed with “Good” compliance, and 2 PPEs with <24 was assessed with “Fair” compliance. Overall compliance of subprojects is presented in the table 15.

70. The table 15 shows that most PPEs waste water handling was assessed as “Fair” as they have still problem with waste water pollution level or did not conduct regular monitoring of waste water. Most PPEs have handled solid waste properly in accordance with local government and were scored as “Good”. Most PPEs (10) had conducted environmental, OSH and health trainings for their employees and scored as “Good”, Only subprojects such as Erdenet Carpet, Vitafit, Darkhan Minj and Gobi had established good GRM at their companies and were scored as “Good”, and implementation of EMP for Vitafit, Altai Cashmere, Noos Ireedui and Gobi was “Good” as they implemented 90-95% of planned mitigation measures, and 2 PPEs such as Erdenet Carpet and Khan brand were scored as “Poor” as they implemented 55-60% of planned mitigation measures.

**Table 15. Overall Compliance of Subprojects**

#	Sub-project	Waste water	Waste handling	OSH	Training	GRM	EMP imp-n	Score	Overall compliance
1	Erdenet Carpet	4	5	4	5	5	3	26	Good
2	Mogol Noos	4	4	4	5	3	4	24	Good
3	Mon Meat 2	3	3	4	4	4	4	22	Fair
4	Vitafit	4	5	4	5	5	5	28	Good
5	Altai Cashmere	4	5	5	4	4	5	27	Good
6	Darkhan Minj	4	5	5	5	5	4	28	Good
7	Noos Ireedui	4	5	5	5	4	5	28	Good
8	Denimon	4	5	5	5	3	4	26	Good
9	Gobi	4	5	4	5	5	5	28	Good
10	Khan Brand	5	5	5	5	4	3	27	Good
11	Mongolian Cattle	4	5	5	4	3	4	25	Good
12	Russkie kolbasy	4	5	4	5	3	4	25	Good
13	Davshilt Trade	3	4	4	4	3	4	22	Fair
14	Sor Cashmere 2	4	5	5	5	4	4	27	Good

#### 3.2. Key Achievements

##### Strengthened Capacity Building of PPEs

71. During the monitoring of the subprojects the PMU observed that most PPEs have strengthened environmental capacity of PPEs that could improve overall environmental performance since the project implementation through trainings, instruction and consultation provided by the PMU:

- 1) Management and key specialists of PPEs have gained knowledge on:
  - ADBs safeguard requirements;
  - National laws and procedures related to environmental protection, OSH, and environmental impact assessments;
  - Project proposal development in line with ADB requirements, including environmental assessment issues.
- 2) Most companies have:
  - Developed and implemented environmental protection, mitigation and monitoring measures through EMPs;
  - Obtained environmental permits from and make contracts with applicable government authorities in timely manner in compliance with national requirements;
  - Disclosed information on project activity and conduct public consultation with local community;
  - Have General environmental impact assessment (GEIA) done by local environmental agencies/ and detailed environmental impact assessment (DEIA) by certified assessment entities.
- 3) Most companies learned and improved grievance redressing activities by:
  - developing new procedure or updating internal procedure on labour by including grievance handling issues;
  - appointing personnel responsible for receiving, recordkeeping and delivering to relevant management or department to handle grievances;
  - establishing committee (e.g. ethics, internal control) to control handle grievances etc.

### **Improved Occupational Safety, Hygiene, and Workers Health at PPEs**

72. Most companies improved work place condition by improving occupational safety and hygiene, and workers health in compliance of environmental, OSH and employees health requirements by:

- Developing and enforcing more internal procedures on OSH, workers health;
- Conducting occupational work place assessments by specialized authority/entity;
- Establishing unit/committee or hiring personnel responsible for Environmental protection and OSH at the company;
- Taking measures to improve work place condition such as improving lighting, air conditioning system, providing more space,
- Conducting OSH trainings for employees by company or with cooperation of professional agencies;
- Developing cooperation with local inspection authorities to conduct inspection for the company and get advice on improvement of OSH issues at the company etc.

### **3.3. Key problems**

73. During the reporting period, major problems faced by the subprojects in project implementation were:

- (i) even though all subprojects have developed and implemented EMPs, some of planned mitigation and monitoring measures were not implemented as expected,

and most of the reports on implementation of EMPs submitted by PPEs have sufficient details. Moreover, subprojects do not often have satisfactory understanding about environment risks, and the applicable employees of subprojects need to further improve knowledge, experience and capacity on environmental management, particularly planning and reporting;

- (ii) the frequent change of staffs of some subprojects who were responsible for environmental and OSH issues of the companies or lack of delegation of some responsibilities to others during leave of these staff, even though training on environmental planning and monitoring was provided for PPEs in May 2018, some PPEs still struggle to develop, implement and report on EMPs in timely manner and needs a lot of push and pull from the PMU. It was one of the reason of delay of monitoring report of PMU;
- (iii) the project requires to spend more times to provide subprojects with large amount of information on applicable national regulations, procedures and standards, and the relevant employees of subprojects could understand environmental risks and issues related to the sub-project, environmental compliance with national requirements; and
- (iv) most subprojects do not have grievance redressing mechanisms as mandatory as ADB safeguard requirements, but there is specific national regulation that business entities shall follow.

### **3.4. Solution**

74. In line with various issues PPEs have in implementing the project, the PMU had provided management and key staff of PPEs with repeated instructions and assisted to develop EMP and implement mitigation measures.

75. PPEs need in increased attention to environmental aspects, understanding of environmental responsibility and strengthened capacity to increase understanding of environmental risks and implementation of mitigation measures through EMPs, the requirements of ADB and MGL.

76. The PMU needs to increase the frequency of supervision through regular visits and monitoring to ensure that mitigation and preventative measures are implemented to comply with environmental protection and OSH requirements.

77. The ARDP PMU will continue to assist to management and key staff of PPEs to understand the environmental risks at the company and increase their environmental management capacity to fulfil environmental responsibility through training, meeting, on-site supervision and guidance when the workload allows.

78. In order to accelerate monitoring reporting process, the PMU will now onward prepare monitoring checklist to be completed by PPEs prior to site visits to the company. The environmental consultant in PMU will check it during the monitoring visit and identify non-compliances. Summary of compliances and non-compliances will be introduced to the management of the company at the end of each visit: (i) PPEs will be required to take corrective actions immediately if minor non-compliances or relatively insignificant issues are registered in checklists during monitoring visits; (ii) If major non-compliances or repeated non-conformances will be observed during the monitoring, PMU will issue the non-compliance notice to the head/CEO of the company for corrective action and request for follow up action.

### **3.5. Follow up actions**

79. During the monitoring visits management and staff responsible for environmental protection, OSH issues of the PPEs were introduced observation findings and identified issues by PMU based on the findings of site visit observation and inspection reports, results of lab analysis, internal monitoring records and provided with advice to improve environmental non-compliance issues. Most PPEs implemented follow up actions to correct non-compliance issues at PPEs according to PMU recommendations immediately, or by including them in the EMP. These corrective actions largely related to: waste water, waste and sludge handling and chemicals handling. Implementation of taken measures will be reported to PMU during the next EMR for 2018.

### **Project management unit**

# PHOTOGRAPHS OF MONITORING SITE VISITS

## 1. Mogol Noos subproject: Wool scouring and de-hairing plant in Bayan Tsogt soum



Renovated and renewed waste water collection point



Renewed coal based boiler/oven



## 2. Gobi JSC subproject: Cashmere production factory in Ulaanbaatar

Improved lighting and air conditioning system in all units of the factory



Installed new equipment and machinery that provide more safety and higher productivity



Established new sewing department with improved condition (space, lighting, air conditioning)



### Improved chemicals storage condition (Gobi JSC)

Chemicals containers were labeled and stored properly



Set of fire extinguishing equipment was replaced and improved



Old sink for hand and eye wash in the chemicals storage was replaced and improved, and safety instruction board is placed.



## 1. Meat processing plant of Monmeat Trade LLC

Expanded facilities for more space per worker



Improved slaughterhouse hygiene



Improved warehouse freezing system and storage



## 2. Garment plant of Denimon LLC

Moved to new building where work space is increased and condition has improved



Improved work place condition (Sewing workshop)



Improved work place condition (Tailoring workshop)



### 3. Meat processing plant of Davshilt Trade LLC

Made renovation of buildings and access road was covered with cement mix



Improved work place condition after renovation



Improved meat storage



#### 4. Wool and cashmere production plant of Sor Cashmere LLC

Improved lighting in main facilities and equipment productivity



Improved work place condition after renovation



Improved warehouse condition



## 5. Khan brand LLC

Moved to new building



Improved work place and food safety and hygiene



Installed new milk processing equipment which processes in closed condition

