



# Environmental Monitoring Report

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3<sup>rd</sup> Semestral Report  
Project Number: 46081-002  
March 2018

## PRC: Henan Sustainable Livestock Farming and Product Safety Demonstration Project

Prepared by Henan Provincial Project Management Office for the Henan Provincial Government and the Asian Development Bank.

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## I. INTRODUCTION

### A. Report Purpose and Rationale

1. As defined in the IEE for Henan sustainable Livestock Farming and Product Safety demonstration Project under ADB Loan, semi-annual environmental monitoring reports (EMRs) have to be prepared by the borrower in order to evaluate and assess overall project activities to ensure the effective implementation of the environmental management plan (EMP).

2. The PRC is committed to increasing rural income and promoting regionally balanced and environmentally sustainable growth. In Henan Province, 60% of the population lives in rural areas; and livestock production is an important component of the provincial strategy for rural growth. As part of agricultural modernization in the PRC, the livestock sector is undergoing consolidation and expansion. While this has generated new rural employment, the development of medium-and large-scale intensive livestock production and consequent increase in livestock populations has caused substantial environmental pollution, including increased GHG emissions and elevated risk of livestock disease outbreaks. There are also risks of food contamination through inappropriate use of veterinary medicines, chemicals, other additives and substandard fodder. These negative impacts need to be mitigated for the livestock sector to become environmentally sustainable.

3. The PRC government has taken actions to upgrade the national food safety system in recent years, including the establishment of the State Food and Drug Administration in 2003; and the ratification of the law on agricultural product quality and safety in 2006, and the new food safety law in 2009. The government has also started upgrading its food safety infrastructure, procedures, and enforcement capacity to implement these laws. However, further improvements in the food safety system are still necessary.

### B. Project Objective and Components

4. The expected project outcome will be model livestock production and processing with improved environmental sustainability and product safety demonstrated. The project will help (i) HPG upgrade livestock product safety monitoring and inspection facilities, and (ii) nine medium-and large-sized private PPEs improve food safety control and implement environmentally sustainable livestock production and processing. The PPEs will use loan funds to construct new livestock processing facilities incorporating wastewater treatment, recycling of waste products, and water and energy savings.

5. Project components. The project includes three components/outputs:

(i) livestock product safety monitoring and inspection facilities upgraded. This output will support HPG's effort to improve food safety, particularly for livestock products. The output comprises (i) establishment of an integrated quality and safety monitoring and inspection system for livestock and livestock products; (ii) establishment of information and product safety tracing system; and (iii) capacity development of relevant government agencies, the PPEs, and farmers. The quality monitoring and inspection system will include (i) establishment of quality and safety monitoring and testing centers at HPG, five municipal governments, and nine county governments; and (ii) establishment or improvement of in-house quality testing laboratories at the nine PPEs.

(ii) environmentally sustainable livestock production facilities established. This output will promote environmental sustainability and energy conservation in the livestock value chain, with a particular focus on

livestock production and processing. The project will assist the PPEs to finance civil works and equipment for establishing any of (i) production units; (ii) processing facilities; (iii) feed processing facilities; and (iv) in-house animal waste and wastewater treatment processing facilities, including biogas generators and organic fertilizer processing facilities.

(iii) capacity strengthening and project management. The PMO and the PPEs will plan, manage, and monitor project implementation. The output will support (i) capacity strengthening of the PMO and the PPEs on project management and monitoring, safeguards, procurement, and financial management; and (ii) provision of equipment for project management.

The project comprises nine main subprojects which located in nine counties across Henan Province. All the subprojects and components are shown in Table 1-1. Kerchin has quit and Yongxin has joined.

**Table 1- 1 Main subprojects and Components**

PPE	County	Area (Mu)	Project Components
Henan Afanti Food Co., Ltd.	Liangyuan District	62.80	(i) Beef processing plant with annual production of 10,000 tons of beef products (ii) Wastewater treatment plant (iii) Product quality and safety system
Henan Dadi Animal Husbandry Co., Ltd.	Shan	300.00	(i) New pig farm with annual production of 80,000 heads (ii) An organic fertilizer processing plant with annual output of 8,000 tons (iii) One biogas plant with two digesters at 800m <sup>3</sup> capacity each (iv) Product monitoring and inspection system
Luoyang Donghan Poultry Co., Ltd.	Luoning	380.0	(i) Four duck breeding farms with annual inventory of 252,000 ducks (ii) One hatchery with capacity of 10 million ducklings (iii) Cooked food processing and freezing plant with annual production of 4,000 tons (iv) Cold storage refrigerator with capacity of 3,100 tons (v) Product monitoring and inspection system
Henan Fenghua Breeding Share Co., Ltd.	Zhengyan	40.00	(i) Pig slaughtering house with annual slaughter capacity of 500,000 heads (ii) Cold storage for 35,000 tons/year of fresh meat (iii) Product monitoring and inspection system
Kerchin Cattle Industry Nanyang Co., Ltd.	Xinye	400.00	(i) Cattle fattening farm with annual inventory of 5,000 heads (ii) Mushroom farm with annual production of 20,000 tons (iii) An organic fertilizer plant with an annual output of 15,000 tons (iv) One biogas plant with two digesters at 600 m <sup>3</sup> capacity each (v) Product monitoring and inspection system
Muyuan Foodstuff Co., Ltd.	Neixiang	480.50	(i) Sow breeding base with inventory of 10,000 heads (ii) Hog farm with annual output of 50,000 heads (iii) One biogas plant in the sow base with two digesters at 800m <sup>3</sup> each (iv) One biogas plant in the hog farm with one digester at 1,000m <sup>3</sup> capacity (v) Two organic fertilizer processing plants at annual output capacity of 6,000 tons each (vi) Product monitoring and inspection system
Henan Niuniu Animal Husbandry Co., Ltd.	Yanling	630.00	(i) New cattle fattening farm with annual inventory of 5,000 heads (ii) One biogas plant with two digesters at 700m <sup>3</sup> capacity each (iii) An organic fertilizer processing plant with annual output of 15,000 tons (iv) Product monitoring and inspection system
Henan Sangao Agriculture and Animal Husbandry	Gushi	343.75	(i) New chicken breeding farm with annual inventory of 200,000 chick breeders (ii) An organic fertilizer processing plant with annual output of 5,000 tons (iii) New feed processing plant with capacity of 200,000 tons (iv) Product monitoring and inspection system

Co., Ltd.			
Henan Hengtianran Pasture Farming Co., Ltd.	Xuchang	300.00	(i) Cattle fattening farm with annual inventory of 4,000 heads (ii) An organic fertilizer processing plant with annual output of 7,000 tons (iii) One biogas plant with two digesters at 500m <sup>3</sup> capacity each (iv) Product quality and safety system
Yongxin Breeding Share Co., Ltd.	Zhoukou	165	(i) Sow breeding base with inventory of 3,000 heads (ii) Hog farm with annual output of 60,000 heads (iii) One biogas plant (iv) Product monitoring and inspection system

### C. Project Implementation Progress

6. This project attracts a total investment of USD 148.7 million, of which USD 69 million is a loan from the Asian Development Bank (ADB), USD 76.7 million from enterprises of subprojects and USD 3.84 million from the People's Government of Henan Province. The Loan Agreement for the project was signed on January 29, 2016 and came into effect on July 7, 2016, with the expiry of project loan on September 30, 2021. During October 10, 2016 to October 14, 2016, the Kick-off Meeting of the project was held; During February 10 to 11, 2017, the Project Handover Meeting was held.

7. During this report, the new participant enterprise (Yongxin) and Muyuan have made rapid progress, while other project units are lagging behind, resulting in the project sluggish in overall. 3 units have not signed the Implementation Agreement and 7 units have not signed the Refinance Agreement. Meanwhile, 3 units made no progress in the preliminary design due to administration and personnel adjustments in provincial, municipal and county governments from 2016 to 2017, during which coordination was not effectively played as newly appointed local leaders were not familiar with the project. .

8. The establishment of environmentally sustainable livestock production facilities comprises some civil works and equipment, such as building a beef processing plant, a pig farm and a biogas plant. This project components comprises nine subprojects implemented by nine PPEs, one of which quit in 2016. Another enterprise (Yongxin) was enrolled. **Table 1-2** shows the latest implementation progress of this project components.

9. The capacity development of the PPEs, PMO and relevant government agencies is being complied with according to the requirements of this project. During July 11 to 13, trainings on MIS system input, project management, bidding & procurement, financial management and other capacities were held for provincial, municipal and county PMOs and the responsible personnel from enterprises.

**Table 1- 2 Project Implementation Progress (as of 31 Dec in 2017)**

PPE	Component	Current Status	Implementation Description	Planned Activities in The Future
Henan Afanti Food Co., Ltd.	(i) Beef processing plant with annual production of 10,000 tons of beef products (ii) Wastewater treatment plant (iii) Product quality and safety system	Detail Design underway.	The project are fallen into full stagnation, without making any progress.	Detail design has not been finished yet;
Henan Dadi Animal Husbandry Co., Ltd.	(i) New pig farm with annual production of 80,000 heads (ii) An organic fertilizer processing plant with annual output of 8,000 tons (iii) One biogas plant with two digesters at 800m <sup>3</sup> capacity each (iv) Product monitoring and inspection system	Detail Design underway.	The detail designs of the new big farm,the organic fertilizer processing plant and the biogas plant are in progress. Product monitoring and inspection system has not yet started. The local government thinks that the Refinance Agreement is not sufficient for providing the guaranty, and real securities have been required for further guaranty, which, to some extent, affects the progress of this project	Detail design has not been finished yet;
Luoyang Donghan Poultry Co., Ltd.	(i) Four duck breeding farms with annual inventory of 252,000 ducks (ii) One hatchery with capacity of 10 million ducklings (iii) Cooked food processing and freezing plant with annual production of 4,000 tons (iv) Cold storage refrigerator with capacity of 3,100 tons (v) Product monitoring and inspection system	Detail Design underway.	The preliminary design is under review. Product monitoring and inspection system has not yet started.	Detail design has almost been finished yet;
Henan Fenghua Breeding Share Co., Ltd.	(i) Pig slaughtering house with annual slaughter capacity of 500,000 heads (ii) Cold storage for 35,000 tons/year of fresh meat (iii) Product monitoring and inspection system	Detail Design has been finished. Bidding procurement is being prepared.	During reviewing the preliminary project design, Zhengyang County requires to fence the surrounding project area firstly, and then handles necessary documents, which is under preparation, with the completion rate being 50% at present. The detail designs of the pig slaughtering house and the cold storage are in progress. Product monitoring and inspection system has not yet	Bidding procurement will be finished by May. 2018

PPE	Component	Current Status	Implementation Description	Planned Activities in The Future
			started.	
Kerchin Cattle Industry Nanyang Co., Ltd.		The PPE quit this project in 2016.		/
Muyuan Foodstuff Co., Ltd.	<ul style="list-style-type: none"> <li>(i) Sow breeding base with inventory of 10,000 heads</li> <li>(ii) Hog farm with annual output of 50,000 heads</li> <li>(iii) One biogas plant in the sow base with two digesters at 800m<sup>3</sup> each</li> <li>(iv) One biogas plant in the hog farm with one digester at 1,000m<sup>3</sup> capacity</li> <li>(v) Two organic fertilizer processing plants at annual output capacity of 6,000 tons each</li> <li>(vi) Product monitoring and inspection system</li> </ul>	The 2 civil engineering contract packages currently under implementation were approved via the approval letter dated on May 26th, 2017 by ADB, and the contracts were signed on July 5th with the Contractors.	The detail designs of the sow breeding base ,the hog farm,two biogas plants and two organic fertilizer processing plants are in progress. Product monitoring and inspection system has not yet started.	To start construction in Feb. 2018
Henan Niuniu Animal Husbandry Co., Ltd.	<ul style="list-style-type: none"> <li>(i) New cattle fattening farm with annual inventory of 5,000 heads</li> <li>(ii) One biogas plant with two digesters at 700m<sup>3</sup> capacity each</li> <li>(iii) An organic fertilizer processing plant with annual output of 15,000 tons</li> <li>(iv) Product monitoring and inspection system</li> </ul>	Detail Design underway.	The detail designs of the new cattle fattening farm , the biogas plant and the organic fertilizer processing plants are in progress. Product monitoring and inspection system has not yet started. The draft of the preliminary design is completed, but the company fails to pay the design funding due to suffering from funds shortage. The Refinance Agreement is under negotiation.	Detail design will be finished in Apr. 2018;



PPE	Component	Current Status	Implementation Description	Planned Activities in The Future
Henan Sangao Agriculture and Animal Husbandry Co., Ltd.	<ul style="list-style-type: none"> <li>(i) New chicken breeding farm with annual inventory of 200,000 chick breeders</li> <li>(ii) An organic fertilizer processing plant with annual output of 5,000 tons</li> <li>(iii) New feed processing plant with capacity of 200,000 tons</li> <li>(iv) Product monitoring and inspection system</li> </ul>	The preliminary design has been approved. Both Refinance Agreement and the Implementation Agreement have been completed.	The Provincial Development and Reform Commission organized an expert panel to give advice, and another version was to be submitted to the Provincial Development and Reform Commission in one week. The detail designs of the chicken breeding farm, the organic fertilizer processing plants and the new feed processing plant are in progress. Product monitoring and inspection system has not yet started.	Bidding procurement will be finished by May. 2018;
Henan Hengtianran Pasture Farming Co., Ltd.	<ul style="list-style-type: none"> <li>(i) Cattle fattening farm with annual inventory of 4,000 heads</li> <li>(ii) An organic fertilizer processing plant with annual output of 7,000 tons</li> <li>(iii) One biogas plant with two digesters at 500m<sup>3</sup> capacity each</li> <li>(iv) Product quality and safety system</li> </ul>	The preliminary design is finished, but it is necessary to check if the design requires further adjustments when the plan is finalized, since it is connected with another development project.	The detail designs of the cattle fattening farm, the organic fertilizer processing plants and the biogas plant are in progress. Product quality and safety system has not yet started.	Detail design will be finished by Feb. 2018;
Yongxin	<ul style="list-style-type: none"> <li>(i) Sow breeding base with inventory of 3,000 heads</li> <li>(ii) Hog farm with annual output of 60,000 heads</li> <li>(iii) One biogas plant</li> <li>(iv) Product monitoring and inspection system</li> </ul>	Environmental evaluation is under way.	Environmental evaluation, feasibility study and preliminary design are conducted simultaneously, with the preliminary draft finished. Land procedures are under review by the provincial Land Department.	Domestic environmental evaluation will be completed in May, 2018.

## II. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION

### A. Institutional responsibilities for environmental management

10. Based on the domestic EIAs and the IEE, the environmental management system(EMS), consisting of inspection, monitoring, reporting, and initiating corrective actions or measures, was set up prior to project implementation to ensure smooth implementation of EMP.

11. The Henan provincial government is the executing agency (EA) for the project. The EA has set up a project coordinating group (PRG) to facilitate liaison with project agencies and to assist in complaints resolution in the GRM. The PRG comprises representatives from the Henan Provincial Development and Reform Commission (HDRC), the Henan Provincial Finance Department(HFD), the Henan Animal Husbandry Bureau (HAHB), the Henan Provincial Environmental Protection Department (HEPD), the Henan Poverty Alleviation Bureau, and the Women's Federation of the People's Republic of China (PRC).

12. The EA has established a project management office (PMO), who is responsible, on behalf of the EA, for the day-to-day management of the project and the implementation of the EMP. The PMO has nominated and established the position of a PMO environment officer (Table2-1) who will coordinate the activities of the EMP. Each PPE has assigned an environment officer to take charge of environmental management and supervision of the component. In addition, The PMO has hired Helison Information consulting Co.,Ltd which assigned a loan implementation environmental consultant(LIEC) under the loan implementation consultancy services to assist the PMO in the implementation of the project environmental management plan (EMP).

13. The EMP internal environment safeguard monitoring program will assess air, water, soil and noise quality, and occupational health and safety (all sites). The EMP external monitoring stations described in the EMP are contracted by the PPEs prior to the start of construction. Environmental monitoring stations be qualified. But now both internal and external monitoring have not begun. Muyuan is getting in touch with some external monitoring stations but no one has been identified.

14. **The PMO environment officer.** The PMO environment officer will have a detailed understanding of the project EMP and supporting documents, including the domestic environmental reports, the project EIA, and project environmental assurances. The PMO environment officer will be responsible for the following.

- (i) Assess whether the EMP requires updating due to any changes in project design which may have occurred after the EMP was prepared;
- (ii) Distribute the Chinese language version of the EMP to all relevant agencies, including the implementing agencies; provincial and municipal agencies for environmental protection, forestry, water resources, and/or land planning; contractors; and construction supervision companies. This should occur at least 3 months before the construction begins;
- (iii) Conduct meetings with agencies, as necessary, to ensure that they understand their specific responsibilities described in the EMP;
- (iv) Ensure that relevant mitigation, monitoring, and reporting measures in the EMP are included in the bidding documents, contracts, and relevant construction plans;
- (v) Confirm that the project participating enterprises (PPEs) responsible for the internal environmental monitoring described in the EMP understand their tasks and will implement the monitoring in a timely manner;

- (vi) At least 2 months before the construction begins, establish and implement the project grievance redress mechanism (GRM) described in the EMP. This will include (a) preparing a simple table and budget to identify the type, number, and cost of materials needed to inform local communities about the GRM; and the starting date and scope of construction; (b) designing, preparing, and distributing these materials; and planning and conducting the community meetings; (c) preparing a form to record any public complaints; (d) preparing a summary table to record all complaints, including dates, issues, and how they were resolved; and (e) ensuring that all relevant agencies, including contractors, understand their role in the GRM;
- (vii) Prior to construction, ensure that the PPEs and their contractors have informed their personnel, including all construction workers, of the EMP requirements which will include all mitigation measures relating to impacts to air, water, noise, soil, sensitive sites, ecological values, cultural values, worker and community health and safety, respectful behavior when communicating with local communities, and responding to and reporting any complaints;
- (viii) During project construction, make regular site visits with the loan implementation environment consultant (LIEC) to assess the progress, meet with contractors and/or local communities, and assess the compliance with the EMP;
- (ix) Ensure that all relevant agencies will submit the required progress reports and information, including the environmental monitoring and reports of any issues or grievances;
- (x) Compile, review, and store environmental progress reports from the PPEs, records of any grievances, and any other relevant issues; maintain digital copies of all information; when necessary, enter the data into summary tables in digital format (e.g., to transfer records of grievances from hard copy forms); and ensure that all information is stored in the PMO filing system, backed up, and can be easily retrieved;
- (xi) Environmental sustainability indicators (Output 2).
  - (a) Review the quarterly monitoring data collected by the PPEs, and discuss with them about any missing data or concerns;
  - (b) Enter the PPE quarterly data into the livestock product quality and monitoring inspection system (Output 1 of the project);
  - (c) Include the results in the semiannual environment reports to ADB; and
  - (d) Ensure that the PMO includes the results in the overall progress reports to ADB for Outputs 1 and 2 of the project;
- (xii) Prepare the semiannual environment progress reports; and
- (xiii) Work closely with the PMO, the PPEs, the loan implementation consultants, and other agencies and personnel, as necessary, to conduct these tasks.

**15. The LIEC.** Helison Information consulting Co.,Ltd assigned Ru jinyong as LIEC. Mr. Ru jinyong has been engaged in environmental management and impact assessment for more than ten years. He is familiar with the ADB project management requirements and the national environmental management procedures. The LIEC will be responsible for the following.

#### A. Before Construction

- (i) Ensure the project environmental readiness, including ensuring that (i) the checklist in Table A1.3 of the EMP is achieved; (ii) all contractor contracts include, and will comply with, the EMP; and (iii) relevant sections of the EMP are incorporated in the construction plans and contracts;

- (ii) Assist the PMO in implementing the grievance redress mechanism (GRM), including the following: (a) establish and publicize the GRM; and (b) collate and evaluate the grievances received;
- (iii) Develop the procedures to (i) monitor the EMP implementation progress; (ii) collate and evaluate the data collected in the EMP environmental monitoring program; and (iii) prepare and submit the semiannual environmental monitoring reports to ADB (to continue until submission of the roject completion report); and
- (iv) Provide hands-on support and on-the-job training to the PMO, the PPEs, and contractors on the specific requirements of the EMP, as required.

**B. During Project Implementation**

- (i) Undertake site visits to all PPEs during subproject construction and operation;
- (ii) Conduct the EMP compliance assessments, identify any environment-related implementation issues, and propose necessary responses in corrective action plans;
- (iii) Assist the PMO in preparing the semiannual environmental monitoring progress reports for submission to ADB; and
- (iv) Perform the following relating to the environmental sustainability indicators (Output 2):
  - a. For each PPE, clarify the specific water and energy sources and methods (meters, well gauges, etc.) that will be recorded quarterly, for both the existing and new (ADB-funded) facilities, to ensure that monitoring will be consistent;
  - b. If necessary, tailor the quarterly data form to the individual PPEs, e.g., if more columns need to be inserted for extra meters or wells;
  - c. For each PPE, clearly describe the specific methods used for measurements at the existing and new (ADB-funded) facilities;
  - d. Prepare simple and brief reporting templates for (a) the PPE to report annual monitoring results to the PMO; (b) the PMO to report on annual monitoring results of all PPEs, for inclusion in the semiannual progress reports to ADB;
  - e. Ensure that by the end of the first year of the PPE operations, data collection is operational; and any issues have been resolved;
  - f. n the first 3 years of operation, closely support the PPEs and the PMO environment officer in the collection, analysis, and reporting of data; And ensure that by the second year, the PPEs and the PMO are fully capable of independently conducting all data collection, storage, analysis, and reporting; and
  - g. As part of the LIEC's independent reporting, include a review of the status of the monitoring program; this should include (i) progress by the PPEs and the PMO; (ii) progress and lessons learned from data collection, storage, analysis, and reporting; and (iii) comparison of the baseline and performance indicators for the PPEs.

16. **The PPEs.** The PPEs will implement the project components and EMP mitigation measures, administer and monitor contractors and suppliers, and be responsible for construction supervision and quality control at each subproject site. Each PPE has assigned an environment and social officer (Table2—1).

17. **Environmental monitoring station.** In each project county, the environmental monitoring station (EMS) of the environmental protection bureau (EPB) will implement the external environmental monitoring program described in this EMP. Each EMS will report to the local EPBs and PMO. According to the MOU in October 2016, environmental monitoring stations can be some qualified units other than those of the EPB, and must be contracted by the PPEs prior to the start of construction.

18. **The contractors.** The contractors will need to understand their requirements under the EMP and undertake the internal monitoring. Each contractor will be required to assign a specific member of their work team who will be responsible for the team's environmental management. The contractors will work with the PPE environment and social officers, the PMO environmental officer, and the LIEC to ensure that prior to any works, the EMP is jointly reviewed and any site-specific measures are identified and agreed.

**Table 2- 2 Environment and Social Officers for the Project**

	Project contact person	Environment Officer
PMO	Ms.Sun Jihong(Director of PMO, Henan Agricultural Department). 0371-65918785. nytsjh@163.com	Ms. Li Xiaoyun 0371-65918852 Lxyun96@163.com
Animal Husbandry Bureau	Mr. Liu Hongwei 13937160010 lhw0371@163.com	Mr. Song Shandao 15890636525 0371-65778960
Afanti	Mr.Ma Xiaolong 18603709009 hnaftsp@163.com	Mr.Ma Xiaolong 18603709009 hnaftsp@163.com
Dadi	Ma Xiaozhen (Project Manager) 13303719936 DDmy2008@163.com	Li Fei (Project Manager) 15203982918 DDmy2008@163.com
Donghan	Fu Yan (Investment Manager) 13525923758 dhqy2005@126.com	Li Jinxin 13623884918 Dhgy2005@126.com
Fenghua	Zhang Zhigang (Manager) 15890818199/0396-2880939 zhangzhigangemail@163.com 763133128@qq.com	Li Gengqi 13525320880 2454431194@qq.com
Muyuan	Shao Shiyong (Project Manager) 13937731481 Nxssy1129@163.com	Qin Xu (Project Manager) 15083331567 mygfqx@163.com
Niuniu	Wang Changjian (Manager) 18803991688 nnmy98@163.com	Jia Heli 13733611785 Nnmy98@163.com
Sangao	Yi Xiuyun (Project Manager) 13569757198 hngssg@163.com	Yi Xiuyun (Project Manager) 13569757198 hngssg@163.com
Hengtianran	Zhang Guoyan (General Manager). htrnm@163.com 13903748818	Li Siqiang 13253746367 htrnm@163.com
Yongxin	Zhou Lei (Project Manager) 13592207789	Zhang Yabin 18037659511

19. **Municipal and county PMOs and responsible personnel from enterprises.** In order to give full play to the role of the municipal and county PMOs and strengthen the coordination between departments, a liaison mechanism has been initially established to facilitate the communication of documents. Documents should be issued in the form of letters and a coordinative meeting should be held half yearly. A system for monthly reports, work journals and meeting records as well as telephone records should be established. Table 2-2 shows the contact detail for all municipal and county PMOs and responsible personnel from enterprises.

**Table 2-2 Contact Detail for All Municipal and County PMOs and Responsible Personnel from Enterprises.**

Gushi County	Zhu Xianfeng	Gushi County PMO	13937682233	gn4550089@163.com	120100170
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	Yi Xiuyun	Henan Sangao Agriculture and Animal Husbandry Co., Ltd	13569757198	hngssg@163.com	289092986
Luoyang City	Ren Zhongqian	Luoyang City PMO	15537999800	lynyjck@163.com	1014562595
	Zhang Jinshan	Luoning County PMO	15515351887	lnnyjwhc@sina.com	
	Chen Wenyan	Donghan Poultry Co., Ltd	18137902996		2240154600
Sanmenxia City	Tong Baomin	Sanmenxia City PMO	13939776086	tongbaomin@163.com	543159391
	Liang Huanzhen	Shanzhou District PMO	13603819000	szqnmjxmb@163.com	343262005
	Ma Xiaozhen	Dadi Animal Husbandry	13303719936	<a href="mailto:ddmy2008@163.com">ddmy2008@163.com</a>	195555420
	Xin Bin	Dadi Animal Husbandry	13939816371	17142362@qq.com	17142362
Xuchang City	Sun Gangbo	Xuchang City PMO	13703749626	nycyh2965008@163.com	949298370
	Li Chen	Jian'an District PMO	15090269076	jaqcyh3012@163.com	894327575
	Cheng Xuheng	Fonterra Agriculture and Animal Husbandry Co., Ltd	18603749999	xcjachen@126.com	
	Li Huimin	Fonterra Agriculture and Animal Husbandry Co., Ltd	18737409166	287883340@qq.com	287883340
	Ge Junliang	Yanling County PMO	0374-7102566	ylxnyj7102566@163.com	
	Wang Changjian	Niuniu Animal Husbandry	18803991688	nnmy98@163.com	
	Zhoukou City	Zhang Yaohui	Zhoukou City PMO	13949959625	zkzyh2011@163.com
	Feng Changyou	Shenqiu County PMO	13939440301	13939440301@163.com	
	Zhang Ruijin	Yongxin Feed Co., Ltd	15738622718	460230467@qq.com	460230467
Zhumadian City	Li Jingmiao	Zhumadian City PMO	15236325288	312094159@qq.com	312094159
	Yang Xin	Zhengyang County PMO	13526396338	776963286@qq.com	776963286

	Li Guowei	Henan Fenghua Bio-technology Co., Ltd	18695809901	631726753@qq.com	631726753
Nanyang City	Shen Fujun	Nanyang City PMO	15138633600	jck369@sina.com	356617927
	Li Haorong	Neixiang County PMO	13937763885	13937763885@163.com	
	Shao Shiyang	Muyuan Foodstuff Co, Ltd.	13937731481	nxssy1129@163.com	1912339802

## B. Incorporation of Environmental Requirements into Project Contractual Arrangements

20. So far, there is only one PPE(Muyuan Foodstuff Co., Ltd.)that has been ready for construction. All the environmental requirements required in the IEE and EMP are incorporated into contractual arrangements. See table 2-2 for details. All the bidding procedures have not yet begun except for the contractor bidding in Neixiang county implemented by Muyuan Foodstuff Co., Ltd. Muyuan has incorporated the EMP into its project construction plan. Details are as follows:

**Table 2- 2 Environment requirements and Environmental clauses in the contract**

PPE	Contract	Environmental clauses suggested by PMO and LIEC	Incorporate the suggestion into contract or not
Muyuan Foodstuff Co., Ltd.	Construction contract of Muyuan Foodstuff Co., Ltd.	<p>The contractor need to assign a environmental officer who will be responsible for the team's environmental management. The environmental officer need to draft a site EMP according to the characteristics of the PPE. The site EMP for the component must be reviewed by the PPE.</p> <p>All the Environmental clauses in the EMP for the component need to be incorporated into the construction contract.</p> <p>The PPE need to finance for the environmental mitigation measures required in EMP for the component and which should be a part of the security deposit.</p> <p>The site EMP for the component should includes the following.</p> <p><b>Local air pollution from construction activities.</b> (i)Material stockpiles and concrete mixing equipment will be equipped with dust shrouds. Earthworks to prepare site should be undertaken just before commencement of construction to avoid long term stockpiling. The height of stockpiles should be less than 0.7m; (ii)Vehicles transporting potentially dust-producing materials will have proper fitting sides and tail boards and covered with protective canvasses; (iii) On-site movement of cement bags should not overload people or vehicles to minimize bag rupture and spillage; (iv)Unauthorized burning of construction waste material shall be subject to penalties for the contractor, and withholding of payment.</p> <p><b>Source of construction water.</b> Contractors will be responsible for sourcing water for general construction camp use. No groundwater should be extracted without extraction permits and/or approvals.</p> <p><b>Pollution of surface water and groundwater.</b> Contractors shall ensure that:</p> <p>(i)Sedimentation tanks are built, and after settling out of solids the upper clear liquid is recycled for spraying the construction site (dust control), and the waste residue in the tank is cleared and transported to designated landfills;</p> <p>(ii)Oil traps are provided for service areas and parking areas, and oil-</p>	The PPE has Incorporated the environmental clauses suggested by PMO and LIEC into the construction contract. Special terms have been add to the contract, including the Environmental Management Plan (EMP); Resettlement Plan (RP); Initial Environment Examination (IEE).

		<p>water separators are installed before the sedimentation tank for oil-containing wastewater;</p> <p>(iii) All construction machinery is repaired and washed at special repairing shops. No on-site machine repair and washing shall be allowed;</p> <p>(iv) Storage facilities for fuels, oil, and other hazardous materials are within secured areas on impermeable surfaces, and provided with bunds and cleanup kits;</p> <p>(v) The contractors' fuel suppliers are properly licensed, following proper protocol for transferring fuel, and are in compliance with Transportation, Loading, and Unloading of Dangerous or Harmful Goods (JT 3145-88).</p> <p><b>Impact on flora and fauna.</b> Minimize construction area by site planning and construction management. Ensure that during backfill, the original order of soil layers is followed. The principle of "recover the amount of damaged" will be employed, to recover any lost landscape and vegetation after construction. Revegetation and landscape planting (including shade trees for sheds) should be native species indigenous to the region.</p> <p><b>Protection of chance finds.</b> Chance find procedures in line with the PRC government procedures will be established for undiscovered underground cultural or historic sites that might be identified during project implementation.</p> <p><b>Construction safety.</b> Construction contractor shall ensure that (i) all reasonable steps are taken to protect any person on the site from health and safety risks; (ii) the construction site is a safe and healthy workplace; (iii) machineries and equipment are safe; (iv) adequate training or instruction for occupational health and safety is provided; (v) all workers are provided with personal protection equipment; (vi) adequate supervision of safe work systems is implemented; and (vii) means of access to and egress from the site are without risk to health and safety. The contractors' performance and activities for occupational health and safety shall be incorporated in their monthly progress reports.</p>	
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21. The bidder of Muyuan's first civil contract is the Neixiang No.1 Construction, and Muyuan has communicated with and informed the contractor of relevant ADB policies and the basic requirements concerning EMP.



### III. COMPLIANCE WITH ENVIRONMENT RELATED PROJECT COVENANTS

22. So far, all due environmental covenants in Loan Agreement and Project Agreement are in compliance. A list of loan covenants and compliance status is shown in the **Table 3-1** below.

Environmental Relevant Covenant	Reference	Status of Compliance
<p>7. HPG will ensure that (i) all PPEs implement the monitoring program for ‘sustainability demonstration indicators’ developed for Project Output 2, which is described in the EMP and PAM, including compliance with the procedures described for data collection, compilation, and reporting, (ii) all PPEs implement the monitoring program in (a) the Project facilities; and (b) also, in the case where the PPE operates a similar facility of the same livestock type elsewhere in the county, in such other facility, (iii) all PPEs will implement the monitoring program throughout the life of Project operations, (iv) the PMO integrates the monitoring program into the livestock product quality monitoring and inspection system described in Project Output 1 in the Loan Agreement and that the results of the monitoring program will be included in the Project’s semi-annual environmental reports to ADB.</p>	<p>Para.No.7</p>	<p>The PMO has provided a training meetings about the requiements in this covenant on Oct 2016 and the representatives of PMO and PPEs attended the training.</p> <p>Being complied with.</p>
<p>8. HPG will ensure that the PMO implements the following measures prior to commencing construction to ensure the Project’s environment management readiness: (i) appoint a qualified environment officer within the PMO, (ii) recruit at least one loan implementation environment consultant (LIEC) as part of the loan administration consultant services, (iii) ensure that all PPEs have arranged contractual agreements with qualified environment monitoring stations (EMS) to conduct the environmental impact monitoring described in the EMP ; and (iv) ensure that the EMS provide their monitoring results to the PMO as well as to the PPEs.</p>	<p>Para.No.8</p>	<p>The PMO has nominated and established the position of a PMO environment officer who will coordinate the activities of the EMP.</p> <p>The PMO has hired Helison Information consulting Co.,Ltd which assigned a loan implementation environmental consultant(LIEC) under the loan implementation consultancy services to assist the PMO in the implementation of the project environmental management plan (EMP).</p> <p>The environmental monitoring station (EMS) of the environmental protection bureau (EPB) have not be contracted by the PPE.</p> <p>Being complied with.</p>
<p>9. Before and during subproject construction by any PPE, HPG will ensure that the PMO organizes and conducts training on implementation and supervision of the project EMP for the PPEs and all of their Project contractors and that appropriate officers of the PPEs and their Project contractors complete the training.</p>	<p>Para.No.9</p>	<p>The PMO has provided a training meetings on implementation and supervision of the project EMP and all the environment officers received the training.</p> <p>Of eight PPEs, only the bidding procedures of contractors of subproject in Neixiang county implemented by Muyuan Foodstuff Co., Ltd has been finished and the PPE is preparing the contract. The contractor has not received the training.</p> <p>Being complied with.</p>
<p>10. HPG will ensure that (i) all PPEs obtain and comply with water resource permits issued by the water resource bureaus; (ii) all PPE facilities for livestock production and processing, and processing facilities for waste, wastewater, and feed are equipped with water meters to measure water entering the facility (i.e. from wells, reservoirs, and/or municipal pipeline services); and (iii) all PPE facilities maximize water savings measures in facility design and operation.</p>	<p>Para.No.10</p>	<p>All the PPEs have obtained the water use permit for their water inputs from the local Water Resources Bureaus .</p> <p>All PPE facilities have maximized water savings measures in facility design.</p> <p>Some of the PPE facilities for livestock production and processing, and processing facilities for waste, wastewater, and feed have equipped with water meters.</p> <p>Being complied with.</p>

<b>Environmental Relevant Covenant</b>	<b>Reference</b>	<b>Status of Compliance</b>
11. HPG will ensure that the design and operation of all PPE facilities for solid and liquid waste collection, treatment, storage, and disposal: (i) comply with relevant regulatory standards; (ii) do not exceed predicted waste volume levels; and (iii) avoid pollution of surface water, groundwater and land.	Para.No.11	The design institutes and the EIA institutes have complied with this covenant during the detail design and EIA.  Being complied with.
12. Prior to the start of construction by each PPE of its biogas slurry facility, HPG will confirm to ADB that the detailed design of the facility complies with all regulatory standards for discharge and monitoring.	Para.No.12	The design institutes and the EIA institutes have complied with this covenant during the detail design and EIA.  Being complied with.
13. HPG will ensure that PPE facilities for livestock production and processing, and processing facilities for waste, wastewater, and feed: (a) are equipped with electricity meters to measure energy use; and (b) maximize energy savings measures in facility design and operation.	Para.No.13	All PPE facilities for livestock production and processing, and processing facilities for waste, wastewater, and feed have equipped with electricity meters. The design institutes have complied with this covenant on energy savings during the detail design.  Being complied with.
21. HPG shall ensure that the preparation, design, construction, implementation and operation of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE and the EMP, and with any corrective or preventative actions (i) set forth in a Safeguards Monitoring Report or (ii) which are subsequently agreed between ADB and HPG.	Para.No.21	The design institutes and the EIA institutes have complied with this covenant during the detail design and EIA. The PMO has promised that they will comply with this covenant during the period of the preparation, design, construction, implementation and operation of the Project.  Being complied with.
28. HPG shall not, and shall ensure that the Implementing Agencies do not, award any Works contract which involves environmental impacts or involuntary resettlement impacts until: (a) The appropriate government agency has granted the final approval of the EIA environmental assessments required under PRC law; and (b) HPG or the relevant Implementing Agency has incorporated the relevant provisions from the EMP and the RP, if any, into the Works contract.	Para.No.28	The PMO, through the PMO environment officer and in coordination with the loan implementation environment consultant (LIEC), will ensure that all contractor contracts comply with the EMP and relevant sections of the EMP are incorporated in the construction plans and contracts.  Being complied with.
30. HPG shall ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP, if any (to the extent they concern impacts on the respective affected people under the Environmental Safeguards during construction), and any corrective or preventative actions (i) set forth in a Safeguards Monitoring Report; or (ii) which are subsequently agreed between ADB and HPG; (b) make available a budget for all such measures; (c) provide HPG with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE,	Para.No.30	The PMO, through the PMO environment officer and in coordination with the loan implementation environment consultant (LIEC), will ensure that all bidding documents and contracts for Works contain the provisions in this covenant.  Being complied with.

Environmental Relevant Covenant	Reference	Status of Compliance
<p>the EMP or the RP, if any;</p> <p>(d)adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction;</p> <p>(e)reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition as early as possible and no later than the completion of construction; and</p> <p>(f)(i) comply with all applicable labor laws of the Borrower on the prohibition of child and forced labor; (ii) give equal pay for equal work regardless of gender, ethnicity or social group; (iii) give priority to women in the employment and training opportunities generated in the Project's construction and operation phases; (iv) disseminate information on sexually or other transmitted diseases (including HIV/AIDS) and human trafficking to sub-contractors/employees and local communities surrounding the Project construction sites; and (v) implement HIV/AIDS and human trafficking awareness activities.</p>		
<p>31. HPG shall do the following:</p> <p>(a) In respect of implementation and compliance with Environmental Safeguards and the EMP, submit Safeguards Monitoring Reports to ADB semi-annually during construction and the implementation of the Project and the EMP, and thereafter annually during operation, until the issuance of ADB's Project completion report unless a longer period is agreed in the EMP, and disclose relevant information from such reports to the respective affected people under the Environmental Safeguards and the Involuntary Resettlement Safeguards promptly upon submission;</p> <p>(b) In respect of implementation and compliance with Involuntary Resettlement Safeguards and the RP, if any, submit Safeguards Monitoring Reports to ADB semi-annually during construction and the implementation of the Project and the RP, if any, and thereafter annually during operation, until the issuance of ADB's Project completion report unless a longer period is agreed in the RP, if any, and disclose relevant information from such reports to the respective affected people under the Environmental Safeguards and the Involuntary Resettlement Safeguards promptly upon submission;</p> <p>(c) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP or the RP, if any, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed</p>	<p>Para.No.31</p>	<p>The PMO has promised that they will comply with this covenant and they have assigned a environment officer who will be in coordination with the loan implementation environment consultant (LIEC) to assist the PMO in complying with this covenant.</p> <p>Being complied with.</p>

Environmental Relevant Covenant	Reference	Status of Compliance
<p>corrective action plan; and</p> <p>(d) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP and the RP, if any, promptly after becoming aware of the breach.</p>		
<p>32. HPG shall ensure that a joint safeguards grievance redress mechanism acceptable to ADB is established in accordance with the provisions of the IEE, the EMP and the RP, if any, at the PMO, within the timeframes specified in the relevant IEE, EMP and RP, to consider safeguards complaints.</p>	<p>Para.No.32</p>	<p>The PMO and PPEs have established a grievance redress mechanism in accordance with the provisions of the IEE, the EMP and the RP.</p> <p>Being complied with.</p>
<p>33. The grievance redress mechanism referred to in paragraph 31 shall function to</p> <ul style="list-style-type: none"> <li>(i) review and document eligible complaints of Project stakeholders;</li> <li>(ii) proactively address grievances;</li> <li>(iii) provide the complainants with notice of the chosen mechanism and/or action; and</li> <li>(iv) prepare and make available to ADB upon request periodic reports to summarize (a) the number of complaints received and resolved; (b) chosen actions; and (c) final outcomes of the grievances and make these reports available to ADB upon request.</li> </ul>	<p>Para.No.33</p>	<p>The established grievance redress mechanism by the PMO and PPEs contains all the contents in this covenant.</p> <p>Being complied with.</p>

#### IV. ENVIRONMENTAL MITIGATIONS AND COMPENSATION MEASURES IMPLEMENTED IN THE REPORTING PERIOD

23. Based on the EMP, potential environmental impacts of the Project and the mitigation measures during this reporting period are summarized in the table 4-1. The implementation status of the mitigation measures are summarized in the last columns of the tables for comparison with the designed mitigation measures stated in the EMP. In summary, the the mitigation measures during design stage have to date been implemented effectively, however, since construction work has not yet begun, other mitigation measures have not been implemented.

**Table 4- 1 Implementation Status Of Environmental mitigations and compensation measures**

Impact Factor/ Stage	Potential Impacts and/or Issues	Mitigation Measures defined in the EMP	<i>NEW COLUMN Implementation status and compliance with EMP</i>
<b>Pre-construction Phase</b>			
1. Design Stage	Sustainability program	Begin sustainability monitoring program (Section E)	Most of the PPEs have begun the sustainability monitoring program; except for Donghan and Afanti. Donghan has been changing its Existing facilities. Afanti has no existing facilities similar to its new ones because it produces instant noodles. In addition, some PPEs have not installed waste water meters. → Being complied with.
	Assess remaining environmental issues	Dadi PPE and EIA institute to update domestic EIA, taking account of cumulative impact for new site location (near existing pig facility)	The EIA institute has received the requirement to update domestic EIA about taking account of cumulative impact for new site location from Dadi PPE ;the EIA institute is updating the EIA.  → Being complied with.
	Wastewater treatment design and disposal	Prepare and submit to PMO details of the management and monitoring of biogas slurry to ensure compliance with standards for discharge and use as liquid fertilizer (GB7959-87). Sangao PPE to provide details of land application of biogas slurry as set out in IEE Table VI.61	The design institutes promised to take account of details of the management and monitoring of biogas slurry to ensure compliance with standards for discharge and use as liquid fertilizer (GB7959-87). Sangao PPE has not provided details of land application of biogas slurry as set out in IEE Table VI.61.  → Being complied with.
	Solid waste treatment arrangements	Where solid waste generated in animal production to be handled by arrangements off-site (veterinary waste, desulfurizer residue, incinerator ash), the capacity and willingness of off-site waste handlers to accept waste will be documented.	Where solid waste generated in animal production to be handled by arrangements off-site, the PPEs have documented the capacity and willingness of off-site waste handlers to accept waste  → Complied with.
	Water extraction permission	PPEs will obtain a water use permit for their water inputs from the local Water Resources Bureaus - providing all details required for that application to the WRB Dadi, Dadongfang, Donghan, and Kerchin	All the PPEs have obtained the water use permit for their water inputs from the local Water Resources Bureaus .  → Complied with.

<b>Impact Factor/ Stage</b>	<b>Potential Impacts and/or Issues</b>	<b>Mitigation Measures defined in the EMP</b>	<b><i>NEW COLUMN</i> <i>Implementation status and compliance with EMP</i></b>
		PPEs to provide details of water use permit as set out in IEE Table VI.60	
2.Project environmental support	Establish and implement environmental support positions	Contract a loan implementation environmental consultant (LIEC) Contract environmental monitoring stations in each county (under the Henan Environmental Protection Division) Appoint of the PMO environment and social officers Assign environment and social officers at each PPE	The PMO has hired Helison Information consulting Co.,Ltd and Helison Information consulting Co.,Ltd has assigned Mr Ru jinyong as the LIEC. Only one of the PPEs have contracted environmental monitoring stations, others have not; PMO has appointed the environment and social officers. Each PPE has assigned the environment and social officers.  ➔ Partly complied with.
<b>construction Phase</b>	...	...	No construction work has begun

## V. SUMMARY OF ENVIRONMENTAL MONITORING

### A. Monitoring plan and responsibilities

24. An environmental monitoring program as part of the EMP is presented in Table 5-1. This program considers the scope, location, parameter, duration and frequency, and responsible agencies, for monitoring during the construction and operational stages. Internal environmental monitoring will include monitoring of air quality and noise in the construction stage and wastewater quality and groundwater in the operations stage. External monitoring will include air, noise and water during construction and air (odor from biogas plant and organic fertilizer plant), noise, wastewater quality and groundwater during operations.

**Table 5- 1 Environmental Monitoring Program**

Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Implementing Agency	Supervising Agency
<b>Construction Stage</b>					
<b>Internal monitoring</b>					
Dust & noise	TSP, L <sub>Aeq</sub>	At PPE boundaries	2 times/week during construction activity	PPE and contractor	PMO
<b>External monitoring</b>					
Dust and noise	TSP, L <sub>Aeq</sub>	At nearest village to each PPE	1 day (24-hr continuous) per month during construction	EMS	PMO
Surface water quality	SS	Nearest waterbody or drainage ditch downstream of PPE	1 day per month during construction	EMS	PMO
<b>Operational Stage</b>					
<b>Internal monitoring</b>					
Waste water quality	pH, COD, BOD, NH <sub>3</sub> -N, TN, TP, E.coli, Schistosom a & hookworm eggs, fly and mosquito larvae	At inlet and outlet of biogas plant	Weekly routine monitoring	PPE. EMS will accompany and verify monitoring once per month for 36 months	PMO, Local EPB

Item	Parameter	Monitoring Location	Monitoring Frequency and Duration	Implementing Agency	Supervising Agency
Ground water	Extraction volumes and well depth	At all wells operated by the PPE for water supply on-site	Weekly	PPE (internal monitoring)	PMO, Local EPB
<b>External monitoring</b>					
Air quality/ odor	NH <sub>3</sub> , H <sub>2</sub> S	At two nearest villages downwind of PPE (in direction of prevailing winds)	1 time per day for 2 days per month for 12 consecutive months. Monitoring can cease when 100% compliance achieved 3 consecutive times at the same site	EMS	PMO, Local EPB
Noise	L <sub>Aeq</sub>	At all PPE boundaries facing settlements	Two times per day (day time and night time) for 2 days per month for 12 consecutive months. Monitoring can cease when 100% compliance achieved 3 consecutive times at the same site	EMS	PMO, Local EPB
Ground water	Permanganate, hardness (CaCO <sub>3</sub> ), nitrate, TP, total E. coli	At monitoring wells constructed in the agricultural fields receiving land application of biogas slurry	Monthly during crop growing season	EMS	PMO, Local EPB

### **B. Summary of environmental monitoring**

25. Until 31 Dec in 2017, all the monitoring tasks required in IEE and EMP have not begun. Muyuan, one of the enterprises involved in this project, has entered into a contract with an independent environment monitoring institution, but given that the contract bidding is still under its way, no environmental monitoring activity has been conducted during this report. Other participant enterprises are not yet ready for construction. Therefore, no other contract has been signed with any environmental monitoring institution.



## VI. PUBLIC CONSULTATION

26. A GRM has been established as part of the project EMP to receive and manage any public environmental and/or social issues which may arise due to the project. The project agencies will ensure that potentially affected communities are informed on GRM at an early stage of the project. The PPEs, the PMO, and the Henan Provincial Environmental Protection Department personnel have received training from the PPTA team on the GRM.

27. Project agencies (i.e., those directly involved in the project) comprise the PMO, the PPEs, contractors, village committees, and local EPBs. The PMO is the lead agency responsible for overall management, implementation, and reporting of the GRM. The PMO environment and social officers coordinate the GRM and will (i) instruct the concerned PPEs, local EPBs, and contractors on their responsibilities in the GRM; (ii) establish a simple registry system to document and track grievances received (including forms to record complaints and how they have been resolved); and (iii) report on progress of the GRM in the semi-annual environmental monitoring and progress reports to ADB.

28. The full list of GRM officers and their contact points is in Table 2-1. Each PPE has assigned an environmental contact person within their staff, who are responsible for implementation of the GRM. Tasks include keeping a record of complaints. All the PPEs have publicized their contact at each PPE construction site and have forwarded to local village committees to ensure that entry points to the GRM are well known.

29. Since no construction has begun, the environmental contact people of PEEs have not received any public complaints until now.

## **VII. INSTITUTIONAL STRENGTHENING AND TRAINING**

30. The capacity of the PMO and the PPEs and their environment and social officers responsible for EMP implementation and supervision will be strengthened through training. This will impart an understanding of the goals, methods, and practices of project environmental management. The training will be in formal workshops but will extend to on the job training by the LIEC as he/she visits construction sites.

31. The formal training which covers EMP implementation, supervision, and reporting, and on the Grievance Redress Mechanism (GRM) was facilitated by the LIEC with support of other experts under the loan implementation consultant services on 10~14 Oct 2016 . Attendees from the PPEs include all the environmental officers and supervising engineers. More site training will be strengthened during future site visits.

32. The implementation status of institutional strengthening and training program are summarized in the penultimate columns of the table 7-1 for comparison with the requirements stated in the EMP. Because the project has not yet started its construction, no trainings on environmental protection were organized. However, from July 11-13, provincial, municipal and county PMOs and the responsible personnel from enterprises were gathered to participate in trainings on MIS system input, project management, bidding procurement, financial management and other abilities.

**Table7- 2 Implementation status of Institutional Strengthening and Training Program**

<b>Training</b>	<b>Attendee</b>	<b>Content</b>	<b>Time</b>	<b>Implementation status</b>	<b>Next step action plan</b>
EMP implementation	PMO and PPEs	EMP roles and responsibilities, monitoring, supervision, reporting procedures, review of experience (after 12 months)	Once prior to, and once after the first year of project implementation	The LIEC conducted a training meeting in Zhengzhou on 10~14 Oct 2016. All the environmental officers of PMO and PPEs attended the training. The training contents cover the purpose of EMP, contents of EMP, EMP management system, environmental monitoring and environmental reporting system.	To be strengthened during future site visits.
Environmental protection and monitoring	PMO and PPEs	Pollution control on construction sites (air, noise, waste water, solid waste)	Once (during project implementation)		To be strengthened during future site visits.
Sustainability demonstration monitoring	PMO and PPEs	Measurement and reporting of performance indicators	Once (during project implementation)		To be strengthened during future site visits.
Grievance redress mechanism	All "project gencies"	Roles and responsibilities, Procedures	Once prior to, and once after, the first year of project implementation	All the environmental officers received the training which was conducted by the LIEC and the training contents include public complaint mechanism and sustainability monitoring program in Zhengzhou on 16 Oct 2016.	To be strengthened during future site visits.

## **VIII. KEY ENVIRONMENTAL ISSUES**

### **A. Key Issues Identified**

33. The progress of the project is so slow that work enthusiasm is affected, one of the PPEs even quit. Something must be done to find out the reason for the slow progress and push the project forward.
34. As a result of the adjustment of government departments' policies on the management of financial funds, the local financial departments have put forward stricter requirements for the counter-guarantee of enterprises, which is the main reason for the slow progress in the signing of the re-transfer agreements.
35. There is a lack of communication and a lack of consensus between individual local government departments and project participants, who do not submit quarterly reports or participate in the Asian Development Bank's project inspection meetings. Project complete stagnation.
36. The execution ability of the project management team in the project implementation enterprises is not balanced, and some enterprises can not submit the report in time.

### **B. Action Taken**

37. A liaison mechanism has been initially established to facilitate the communication of documents. More site visits and better communication are needed to solve the problem.

## **IX. CONCLUSION**

### **A. Overall Progress of Implementation of Environmental Management Measures**

37. The project's overall progress is lagging, which is due to administration and personnel adjustments in provincial, municipal and county governments from 2016 to 2017, during which newly appointed local leaders were not familiar with the project, enterprises failed to keep a positive attitude and coordination was missing. In spite of this, the project has also made some progress in the coordination and communication between the City's PMO and the Helison Consulting Group, in accordance with the principles and requirements of ADB, forming a relatively stable management system. The Environmental specialists of each enterprise also remain in a stable state.

38. So far, all due environmental covenants in Loan Agreement and Project Agreement are in compliance and the mitigation measures have to date been implemented during the period of the preparation, design of the project.

39. The capacity of the PMO and the PPEs and their environment and social officers responsible for EMP implementation and supervision have been strengthened through training. The environmental officers have received training twice and all the environmental officers have a clear responsibility to implement EMP after the training meetings. Future training will be carried out for the contractor and the construction supervisor once the construction begins.

### **B. Problems Identified and Actions Recommended**

40. In order to give full play to the role of the municipal and county PMOs and strengthen the coordination between departments, a liaison mechanism has been initially established to facilitate the communication of documents. Documents should be issued in the form of letters and a coordinative meeting should be held half yearly. A system for monthly reports, work journals and meeting records as well as telephone records should be established. During the past a few months, the system has been working normally.

41. The PMO and LIEC strengthen reviewing all the contracts and bidding documents to ensure that all bidding documents and contracts contain the provisions in EMP.

X. APPENDICES

环境月报

<b>项目名称:</b> 河南大地牧业有限公司生猪养殖及粪污处理项目
<b>项目进展:</b> 前期初步设计正在编制
<b>环境管理计划执行情况:</b> 项目还未开工。
<b>环境监测情况:</b> 无
<b>环保可持续数据的收集情况:</b> 水表、电表均正常运行。
<b>申诉记录汇总:</b> 暂时没有申诉记录
<b>有何困难及可能的解决途径:</b> 无

填表人: 李斐      联系电话: 15203982918      填表日期: 2017年7月4日

## 环境月报

项目名称：河南大地牧业有限公司生猪养殖及粪污处理项目
项目进展： 前期初步设计正在编制
环境管理计划执行情况： 项目还未开工。
环境监测情况： 无
环保可持续数据的收集情况： 水表、电表均正常运行。
申诉记录汇总： 暂时没有申诉记录
有何困难及可能的解决途径： 无

填表人：李斐      联系电话：15203982918      填表日期：2017年8月10日

## 环境月报（2017年9月）

<b>项目名称：</b> 河南省利用亚行贷款畜牧养殖及食品安全示范项目—牧原食品股份有限公司子项目
<b>项目进展：</b> 完成1万头母猪场和5万头母猪场土建工程的招标
<b>环境管理计划执行情况：</b> 在初步设计中已充分考虑了环保措施。
<b>环境监测情况：</b> 已于2017年3月21日与深圳宝天曼环保科技有限公司签定了外部监测合同。
<b>环保可持续数据的收集情况：</b> 现有装置仪表正常运行，数据采集正常进行。
<b>申诉记录汇总：</b> 无
<b>有何困难及可能的解决途径：</b> 无

填表人：张浩亮      联系电话：13462631802      填表日期：2017.9.30



## 环境月报（2017年10月）

<b>项目名称：</b> 河南省利用亚行贷款畜牧养殖及食品安全示范项目—牧原食品股份有限公司子项目
<b>项目进展：</b> 完成1万头母猪场和5万头母猪场土建工程的招标
<b>环境管理计划执行情况：</b> 在初步设计中已充分考虑了环保措施。
<b>环境监测情况：</b>  已于2017年3月21日与深圳宝天曼环保科技有限公司签定了外部监测合同。
<b>环保可持续数据的收集情况：</b>  现有装置仪表正常运行，数据采集正常进行。
<b>申诉记录汇总：</b>  无
<b>有何困难及可能的解决途径：</b>  无

填表人：张浩亮      联系电话：15462631802      填表日期：2017.11.1

## 环境月报（2017年11月）

**项目名称：**河南省利用亚行贷款畜牧养殖及食品安全示范项目—牧原食品股份有限公司子项目

**项目进展：**

完成1万头母猪场和5万头母猪场土建工程的招标

**环境管理计划执行情况：**

在初步设计中已充分考虑了环保措施。

**环境监测情况：**

已于2017年3月21日与深圳宝天曼环保科技有限公司签定了外部监测合同。

**环保可持续数据的收集情况：**

现有装置仪表正常运行，数据采集正常进行。

**申诉记录汇总：**

无

**有何困难及可能的解决途径：**

无

填表人：张浩亮 联系电话：13462631802 填表日期：2017.12.1

## 环境月报（2017年12月）

<b>项目名称：</b> 河南省利用亚行贷款畜牧养殖及食品安全示范项目—牧原食品股份有限公司子项目
<b>项目进展：</b> 完成1万头母猪场和5万头母猪场土建工程的招标
<b>环境管理计划执行情况：</b> 在初步设计中已充分考虑了环保措施。
<b>环境监测情况：</b> 已于2017年3月21日与深圳宝天曼环保科技有限公司签定了外部监测合同。
<b>环保可持续数据的收集情况：</b> 现有装置仪表正常运行，数据采集正常进行。
<b>申诉记录汇总：</b> 无
<b>有何困难及可能的解决途径：</b> 无

填表人：张浩亮 联系电话：15462631802 填表日期：2018.1.2