## **Environmental Monitoring Report**

Semi Annual Report July- December 2016

VIE: Sustainable Rural Infrastructure Development Project in the Northern Mountain Provinces

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# Asian Development Bank – Ministry of Agriculture and Rural Development Sustainable Rural Development in the Northern Mountain Provinces ADB Loan 2382/83-VIE

## Semi –Annual, 2016 Environmental Performance Review

Submitted by

Central Project Management Unit

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#### 1. Active Projects and Status

There are 108 construction Lots of 56 subprojects in 15 Provinces, 24 of which are currently on-going under the SRIDP. The Province of Hoa Binh has the most number of Lots at 5, followed by Ha Giang and Son La with 4 Lots; Lao Cai, Lang Son, Vinh Phuc with 3 Lots each, Phu Tho with 2 lots; Bac Giang, Bac Can, Cao Bang, Thai Nguyen, Tuyen Quang and Lai Chau with 1 lot each. 32 subprojects have been completed, namely:

- i) SP 01: Road Improvement: Tân Hiệp Tam Tiến, Yên Thế Dist.; Hương Lạc – Hương Sơn, Lạng Giang District
- ii) SP 02: Upgrading Xuan Huong Pumping Station, Lang Giang District
- iii) SP 04: Revetments to Protect Cau Riverbanks Cho Moi District, Bac Kan Province
- iv) SP 05: Upgrading Rural Deo Giang Vu Muon In Bach Thong District, Bac Kan Province
- v) SP 06: Road Improvement Bằng Lãng Yên Nhuận, Chợ Đồn District
- vi) SP 07: Road Improvement: Thị Hoa Cô Ngân (Hạ Lang Dist.) Triệu Âu (Phục Hòa District).
- vii) SP 08: Irrigation system Improvement in Đình Phong commune, Trùng Khánh district, Cao Bằng province
- viii) SP 10" Upgrading Muong Thin Muong Mun in Tuan Giao District, Dien Bien Province
- ix) SP 12" Upgrading Pu Nhung Phinh Sang Road in Tuan Giao District, Dien Bien Province
- x) SP 13: Road Improvement: Bản Lè Ngọc Long, Yên Minh District.
- xi) SP 16 : Improvement of Irrigation Facilities and Rural Roads in Lac Son District
- xii) SP 18: Improvement of Thanh Luong irrigation Facilities, Luong Son district.
- xiii) SP 19: Road Improvement: Nâm Cáy Sin Cai, PhongThổ Dist.
- xiv) SP 20: Road Improvement: NâmCuổi Nâm Hăn, Sìn Hồ Dist.
- xv) SP 21: Road Improvement: Ban Bo Phiêng Hoi, Tam Đường Dist.
- xvi) SP 22: Improvement of Tà Keo Irrigation System, Lộc Bình District, Lang Son Province
- xvii) SP 25: Rural Road Improvement in Bảo Yên District
- xviii) SP 27: Revetment to Protect Banks of Ngòi Må Stream, Võ Lao Commune, Văn Bàn District, Lao Cai Province;
- xix) SP 28: Upgrading Phu Lac Dong Lac road, Cam Khe and Yen Lap Districts, Phu Tho Province
- xx) SP 29: Upgrading Rural Road Thuong Cuu-Dong Cuu In Thanh Son District, Phu Tho Province
- xxi) SP 30: Upgrading Yen Luong Thuong Cuu road, Thanh Son District, Phu Tho Province
- xxii) SP 32: Improvement of Irrigation Facilities Combined with Revetment to Prevent Riverbank Erosion in Thom Mon Commune, Thuan Chau District, Son La Province
- xxiii) SP 33: Rural Road Improvement Chieng Khoa Muong Men, Moc Chau district
- xxiv) SP 34:Road Improvement: Linh Nham Đèo Nhâu and Văn Hán Market

- xxv) SP 35: Road Improvement: Tràng Xá-Đèo Nhâu
- xxvi) SP 36: Road Improvement: Phủ Lý Yên Trạch, Phú Lương Dist.
- xxvii) SP 37: Rural Road Improvement: Đà Vị Hồng Thái, Yên Hoa-Côn Lôn, Na Hang District
- xxviii) SP 38: Rural Road Improvement: Binh Xa Minh Huong, Ham Yen Dist, Tuyen Quang province
- xxix) SP 41: Road Improvement Ngoc My Bac Binh; Xuan Hoa Van Truc; Lien Hoa Lien Son, Lap Thach Districts, Vinh Phuc Province
- xxx) SP 42: Improvement of Yen Duong bridge;
- xxxi) SP 43: Upgrading Rural Road of 3 Northern communes, Luc Yen district
- xxxii) SP 44: Rural Road Improvement in An Bình, LâmGiang-VănYênDistrict

The status of subproject construction packages by province is shown in **Table 1**.

**Table 1: Subproject Status by Province** 

Number	Province	Lots Started (no)	Lots Completed (no)	Lots On-going (no)
1	Bac Giang	5	4	1
2	Bac Kan	7	6	1
3	Cao Bang	7	6	1
4	Dien Bien	5	5	0
5	Ha Giang	5	1	4
6	Hoa Binh	10	5	5
7	Lai Chau	7	6	1
8	Lao Cai	8	5	3
9	Lang Son	5	2	3
10	Phu Tho	8	6	2
11	Son La	8	4	4
12	Thai Nguyen	10	9	1
13	Tuyen Quang	6	5	1
14	Vinh Phuc	7	4	3
15	Yen Bai	10	6	4
Total		108	74	34

#### 2. Project Performance (Environment)

The inspection of environmental performance were undertaken by the construction supervision consultants along with other quality control activities, and is a continuous process conducted by field inspection teams. Monitoring and reporting related to environmental performance is done using a checklist and reporting format, which is completed quarterly, with results forwarded to PPMUs, who then submit the consolidated results to the CPMU. Subproject environmental performance is measured against 48 variables and summarized into 7 performance indicators. Since the results contained in quarterly reports are cumulative, data for the semi-annual report are obtained from the most recent quarter.

Six performance indicators have been achieved from 98 to 100%. The project completion indicator achieved 72%. The detailed is presented in Table 2

Table 2: Performance Indicator Results for the SRDPNMP

Performance Indicator	Score (all Provinces)
Design and Preparations	100%
Worker Provisions	99%
3. Biodiversity	100%
4. Community Based Monitoring	100%
5. Community Convenience/ Safety	99%
Hydrology/Water Pollution	100%
7. Project Completion	72%
Average	99%

As of the end of December 2016, a total of 34 lots of 24 subprojects in 15 Provinces have on-going civil works. All of the Provinces have registered good performance with overall averages ranging from 99% to 100%. This over-all rating indicates that the subprojects are addressing most of the environmental issues identified in their respective IEEs.

The averages of the indicators for all active subproject packages within the province for the semi-annual reporting period are shown in **Table 3**.

The measure of environmental performance across all provinces reflects the ability of the CPMU to manage adverse environmental impacts of the SRIDP. The CPMU has achieved for the current reporting period a score of 99% across all indicators and provinces, as shown **in Table 3** (Performance Indicator Results for the SRIDPNMP).

It is worth noting that there are 32 subprojects that have been completed. A review of Table 3 will show that Dien Bien and Phu Tho has a 100% completion rating; followed by Thai Nguyen a similar 90% completion rating, Bac Kan and Cao Bang is 86% completed, Yen Bai is 66%, Lao Cai is 62% completed; Son La and Vinh Phuc has 57% completion rating, Hoa Binh is 55.6% complete, while Ha Giang has the lowest rate with 25% completed.

In the last 6 months of 2016, there were 9 new water supply subproject which use savings being constructed in Bac Can, Cao Bang, Ha Giang, Hoa Binh, Lai Chau, Lao Cai and Phu Tho. All EMPs which are part of IEEs, have been included in the bidding document and in the appendix of the contract with the contractors. Although these are new subprojects, however, the contractors have well complied with the environmental safeguards. Due to the commencement of the new subprojects in these provinces, this event reduced the overall completion rating of said provinces as well as the SRIDP as a whole. The adjusted overall SRIDP completion status is at 72%. Likewise, the overall environmental performance of the SRIDP subprojects as of the reporting period is **good**.

Table 3: Performance Indicator Results by Province

	Danishan		Performance Indicator							
	Province		1	2	3	4	5	6	7	Overall Performance
	Name	No of Active Lots	Design and Preparations	Worker Provisions	Biodiversity	Communit Based Monitoring	Community Convenience and Safety	Hydology/ Water Pollution	Project Completion	To-Date (Average)
1	Bac Giang	1	100%	100%	100%	100%	100%	100%	80%	100%
2	Bac Can	1	100%	100%	100%	100%	100%	100%	86%	100%
3.	Cao Bang	1	100%	100%	100%	100%	99%	100%	86%	100%
4.	Dien Bien	0	100%	100%	100%	100%	100%	100%	100%	100%
5.	Ha Giang	9	100%	100%	100%	100%	100%	100%	25%	100%
6.	Hoa Binh	4	100.0%	99.4%	100.0%	100.0%	99.4%	98.2%	56%	99%
7	Lai Chau	1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	86%	100%
8	Lai Cai	3	100.0%	100.0%	99.0%	100.0%	99.0%	100.0%	62.5%	100%
9	Lang Son	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	50%	100%
10.	Phu tho	0	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100%
11.	Son La	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	57.1%	100%
12.	Thai Nguyen	1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	90.0%	100%
13.	Tuyen Quang	2	100.0%	100.0%	100.0%	100.0%	100.0%	99.5%	80%	100%
14.	Vinh Phuc	3	100.0%	100.0%	100.0%	100.0%	99.7%	99.1%	57.1%	100%
15.	Yen Bai	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	66.7%	100%
	Total	35	100.0%	100.0%	99.9%	100.0%	99.8%	99.8%	72.0%	100%

#### 3. Performance Follow-up

Of the 48 environmental variables that are monitored, the top 10 in rank order found to be most unattended are shown in **Table 4** (Rank Order of 10 Most Common Performance Shortfalls). It can be noted that during the reporting period, the general performance indicator with the most number of deficiencies is still the Community Convenience and Safety with a total of 6 incidences, which is followed by the Worker's Provisions with 24. The detailed incidences as followed:

Table 4: Rank Order of 10 Most Common Performance Shortfalls

	Indicators that need to be monitored	Occurre nces (no)	Action required	By when
1	Is dust suppressed by watering exposed surfaces?	3	<ul> <li>Constructor have to water the road in the crowded population</li> <li>CSC and PMU supervise the constructor</li> </ul>	As soon as possible
2	Are construction camps equipped with adequate water supply, sanitary toilets, washing facilities and arrangements for waste collection, storage and disposal?	2	<ul> <li>Contractor provide         wastewater collection and         treatment facilities on the site;</li> <li>The PPMU and CSC inspects         and require contractors         implement appropriate         measures</li> </ul>	As soon as possible
3	Has the contractor provided personal safety equipment (hard hats, ear plugs, dust masks, safety boots and glasses) to workers and training in their use?	2	<ul> <li>Contractor provide sufficient protective equipment for worker and enforces they use;</li> <li>CSC inspects the performance of contractor</li> </ul>	As soon as possible
4	Is clearing activity suspended during heavy rains?	1	<ul> <li>Constructor have to clean the camp after each heavy rain</li> <li>CSC inspects the performance of contractor</li> </ul>	After each heavy raining day

Dust generated from construction/transportation material has the most shorfalls with 3 incidences reported, followed by poor facilities/accommodation at camps for workers with 2 times reported. Besides, inadequate personal safety equipment with 2 incidences. However, as compared with the performance indicated during the last reporting period the current environmental performance have much improved. Details of the most common performance shortfalls are found in Table 4.

According to the Aide Memoire of ADB review mission on July, 2016, there are some shortfalls namely:

- High risk land slide (51 points) at SP 24 and SP 31;
- Residual excavated soil was not proper collected and disposed in approved sites in SP 31
- The dust issues in SP 17, SP 23 and SP 24 due to the inadequate dust control measures

According to the environmental report of PPMU, the mentioned issues have been corrective well accordingly After the Mission, CPMU has requested all related PPMU to immediately

take action to correct the environmental issues The detailed of corrective action are presented in Annex 1.

#### 4. Exclusions

The issue on inadequate Workers Provisions specifically the deficient provision of worker's protective equipment; Inadequate wastewater management in the worker camp; transporting materials are not covered.

While the contractors that have commenced civil works earlier have addressed their deficiencies under this category (Worker's Provisions), there are new contractors that have commenced their work and are experiencing such shortfalls. Given this situation, it is still appropriate to continue to monitor these performance indicators and the issues that mentioned in item "3. Performance follow up" and reminders issued to PPMU and their CSCs to closely check on these parameters most especially for newly commenced civil works lots.

### 5. Community Complaints

There were no reported significant environment-related community complaints at present. While there may be a few minor issues, these appear to have been settled at the subproject and community level and thus had not been recorded in the reports by the respective PPMUs. The community complaints related to environment will continue to be monitored by the respective PPMUs and CSCs.

Annex 1: Environmental safeguard corrective action

Outstanding issues	Corrective action	Results		
Subproject SP24: U Son province	Upgrading rural road of Khau Ra - Quang	Trung in Binh Gia district- Lang		
	(i) Conduct sufficient technical assessment and provide adequate solution to stable foundation of sharply slope points;			
	(ii) provide notices on landslide locations for warning safety for local people;	Responsded accordingly in Obtober, 2016. All the issuses		
Some spots are at risk of landslide along the road	(iii) Work with local authorities to agree on new disposal areas for dumping the extra excavation volume;	have been corrective.		
	(iv) Contractor implement the excavated soil management on the site and conduct technical solution to stabilize the slope at disposal area;			
	(v) Inspect the performance of contractor			
	(i) Conduct sufficient technical assessment;			
The design of the	(ii) Provide extension section of canals to connect from discharge points to nearest water bodies (streams);	Responsded accordingly Obtober, 2016. The extention section of canal to connect from		
accross culvert at Km 8+500 and Km 8+000 is not relevant	(iii) Arrange a meeting between contractors, Lang Son PPMU and local authorities of Quang Trung and Hoang Van Thu communes to confirm drainage capacity at these sections before handing over;	discharge points to nearest water bodies was provided in November, 2016		
	(iv) Inspect the performance of contractor			
Sub-project SP23:	Upgrading irrigation system of Ban Chanh l	ake - Loc Binh district		
Management of the excavated soil is not relevant	<ul> <li>(i) Working with local authorities to identify disposal areas and obtain agreement from local authorities;</li> <li>(ii) Remove all excavated soil which are illegally placing on the construction site to disposal areas;</li> </ul>	Responsded accordingly in Obtober. PMU requred constructor to remove excavated soil to new legally disposal sites		
	(iii) inspect the performance of contractor			
	(i) Provide temporary access road for the households who loving close to excavated canals	Responsded accordingly in Obtober		
Obstruct the access road due to	(ii) Reinstate the access road of Ban Chanh village as its before project status	The constructor cleared the access road and install the light		
the excavated soil	(iii) Provide light during the nigh time on the construction site at Ban Chanh residential area;	in October.		
	(iv) inspect the performance of contractor			
The design is not	(i) Conduct sufficient technical assessment	Responsded accordingly in		

Outstanding issues	Corrective action	Results
relevant at the connection points between the upgrading canal and the existing canal	and provide sufficient technical adjustment of connection locations to ensure water supply for cultivation of Ban Chanh village;  (ii) Implement the technical adjustment on	Obtober The design have been adjusted in September, 2016
	the site (iii) inspect the performance of contractor and Lang Son PPMU	
Sub-project SP03:	Upgrading pumping station of Ngo Khong 1	, Hiep Hoa district
Management of the excavated soil is not relevant	(i) Remove all excavation are placing on the site to disposal areas     (ii) Inspect the performance of contractor	Responsded accordingly in Obtober. PMU requred constructor to remove excavated soil to new legally disposal sites
Sub-project SP17:	Rural road improvement in Yen Thuy, Lac T	
Not good control the dust at the	(i) Implement all dust mitigation measures as stated in the approved IEE	Responsded accordingly in Obtober. The constructor
construction site	(ii) Strictly Inspect the performance of contractors	watered the road
SP31: Rural road Improvement Road 108 - Muong E, Thuan Chau District		
	(i) Conduct sufficient technical assessment and provide sufficient technical adjustment of drainage system at the section passing through Mau Thai village     Replacement of current culvert at section of Km 14+820 or provide an additional culvert at this section to ensure flow capacity during rainy;	
The design capacity of the drainage canal at the Mau Thai village	- Provide an extension side ditch section to connect site ditch at section of 14+820 to Mau bridge (about 200m) and section crossing residential areas in Mau Thai village;	(i), by PPMU Son Lai, design concultant; (ii) by contractor; (iii) Lan OPMU
	<ul> <li>Provide appropriate technical solution for other cross culvert at Na Ten hamlet, Mau Thai village</li> </ul>	(iii) by CPMU
	(ii) Implement all technical adjustment on the site	
	(iii) Strictly Inspect the performance of contractor	
	(iv)Strictly Inspect the performance of PPMU Son La	
Have risk to impact on the drainage	(i) Provide a drainage canal and access route at the boundary of disposal area;	(i) by contractor before handing over

Outstanding issues	Corrective action	Results
canal and the road to the disposal site at Mau Thai village	(ii) Strictly Inspect the performance of contractor	(ii) by Son La (constructor ongoing to CSC conduct)

## **Annex 2: Environment Monitoring Forms**

## A.FOR ROAD SUBPROJECT

## Performance Indicator #1. Design and Preparations

Date of Monitoring

	Indicators	Yes	No	Remarks
1.	Have all UXO been cleared prior to commencement of constructions?			
2	Have the approved resettlement plan been disclosed to the affected communities and compensation paid to affected persons/households?			
	(Score 1-2: 2 total)			
	Indicators	Yes	No	Remarks
4	Has the contractor posted a public notice regarding the nature, extent and cost of the project?			
5	Are locations for mixing plants sufficiently distant from houses, schools, hospitals and commune offices?			
6	Are agreements in place with owners for temporary use of land for worker camps, construction yards, access roads and other temporary facilities?			
7	Have spoil disposal sites been selected in consultation with local authorities?			
8	Are official permits on record for quarry sites and borrow pits?			
	(Score 3-8: 6 total)	0	0	

## Performance Indicator #2. Worker's Provisions

Date of Monitoring

	Indicators	Yes	No	Remarks
9	Were local authorities consulted in the planning for the location of construction worker housing?			
10	Are supervisors or other site personnel trained in basic first aid emergency response measures? Are first aid kits readily available to workers at the job site along with instructions for use?			
11	Were the workers provided with basic orientation focusing on: i) personnel health and sanitation procedures at the work's camp; ii) how to interact with the host communities; iii) subproject environmental protection measures (i.e. no hunting, no cutting or collection of forest products; etc.).			
12	Has the contractor or Inspector from the Department of Health undertaken an awareness program for communicable diseases/HIV-AIDS?			
13	Has the contractor provided personal safety equipment (hard hats, ear plugs, dust masks, safety boots and glasses) to workers and training in their use?			
14	Are construction camps equipped with adequate water supply, sanitary toilets, washing facilities and arrangements for waste collection, storage and disposal?			
	Score (9-14: 6 Total)			

## Performance Indicator #3. Biodiversity

Date of Monitoring

	Indicators	Yes	No	Remarks
15	Is the location of subproject structure avoid encroaching on natural forests or does it provides convenient access to protected areas?			
16	Does the project avoid adverse effects on the flow of natural streams and water quality?			
17	Are worker camps located outside of forested areas and has the contractor restricted access of workers to forests, fishing and hunting?			
18	Does the contractor obtain fill materials only from pre-existing quarries, or from borrow pits within the strict limits of the construction zone?			
19	Does the contractor maximize the use of excavation materials for construction works?			
	Score (15-19: 5 Total)			

# Performance Indicator #4. Community Based Monitoring

Date of Monitoring

	Indicators	Yes	No	Remarks
20	Has the contractor posted a public notice regarding complaints from the community?			
21	Has there been a public consultation regarding construction, environmental impact, and the community complaints system?			
	Score (20-21: 2 Total)			

# Performance Indicator #5. Community Convenience and Safety

Date of Monitoring \_\_\_\_\_

	Indicators	Yes	No	Remarks
22	Is temporary access provided to adjacent properties as needed?			
23	Is permanent access to adjacent properties reinstated on completion of a segment of work?			
24	Are construction hours adjusted around houses, hospitals and schools to minimize disturbance?			
25	Does the contractor limit the scope of construction in progress to minimize community impacts?			
26	Are physical impacts on public infrastructure and service disruption minimized?			
27	Are materials transported on approved haul routes?			
28	Are construction equipment maintained in good condition?			
29	Do vehicles operate within legal speed limits?			
30	Are material loads traveling on public routes covered?			
31	Is dust suppressed by watering exposed surfaces?			
32	Has the contractor installed signs and lighting in vicinity of works on public roads?			
33	Is access to the construction site restricted to the public?			
	Score (22-33: 12 Total)			

## Performance Indicator #6. Hydrology/Water Pollution

Date of Monitoring

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34	Are construction camps maintained in a clean and sanitary condition?		
35	Are oil, fuel and chemicals stored in enclosed areas (dyked or covered)?		
36	Is discharge of untreated wastewater into water bodies used for water supply avoided?		
37	Is clearing activity suspended during heavy rains?		
38	Does the contractor prevent discharge of concrete trucks and/or cleaning water of asphalt mixers to waterways?		
39	Have existing drainage patterns and irrigation canals intersected by subproject (in case of roads) been maintained during construction?		
40	Are areas of standing water in the construction area drained and backfilled?		
41	Are sediment controls installed upslope of waterways?		
	Score (34-41: 8 Total)		

## Performance Indicator #7. Project Completion

Date of Monitoring

	Indicators	Yes	No	Remarks
42	Have drainage fixtures, curbs, road shoulders and ditch slopes been finished out to prevent hazard to the public during use?			
43	Are ground surfaces in the project area graded to prevent water from collecting?			
44	Have all construction debris, tree cuttings, excess dirt, rubble and scrap been removed from the construction zone?			
45	Have all pits been filled-up and graded to drain, underground tanks (including septic tanks) removed and holes backfilled?			
46	Are all waste products removed from the construction site, equipment yards and worker camps, including oil waste, scrap materials and equipment, building materials and domestic waste?			
47	Have all subproject affected points of access (drives, walks) and utilities (water supply, power, communications) to public and private property been restored to original condition?			
48	Have all complaints by the local community and individuals been resolved by the Contractor?			
	Score (42-48: 7 Total)			

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