

# Environmental and Social Monitoring Report

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Semi-Annual Report  
January 2017

## Viet Nam: Central Regions Rural Water Supply and Sanitation Sector Project

### WATER SUPPLY AND SANITATION OF TAY GIANG AND TAY THUAN INTER-COMMUNES TAY SON DISTRICT - BINH DINH PROVINCE

Prepared by The Joint Venture of CDM International Inc., Nippon Koei Co. Ltd. and Vinaconsult JSC for the Asian Development Bank.

## CURRENCY EQUIVALENTS

(as of 2 December 2016)

Currency unit	–	dong (VND)
VND1.00	=	\$0000440
\$1.00	=	VND22714

## ABBREVIATIONS

ADB	–	Asian Development Bank
AHs	–	affected households
APs	–	Affected Persons
CARC	–	Compensation Assistance Resettlement Committee
CSC	–	Design-Build Construction Supervision Consultant
CPC	–	Commune People's Committee
CPMU	–	Central Project Management Unit
CVWU	–	Communal Vietnam Women's Union
D&B	–	Design and Build
DARD	–	Department of Agriculture and Rural Development, Provincial
DONRE	–	Department of Natural Resources and Environment, Provincial
DPC	–	District People's Committee
EARF	–	Environmental Assessment and Review Framework
EC	–	Environmental Protection Commitment
EMP	–	Environmental Management Plan
EMoP	–	Environmental Monitoring Plan
EO	–	Environmental Officer
FS	–	Feasibility Study
GoV	–	Government of Vietnam
HHs	–	Households
IEE	–	Initial Environmental Examination
LARC	–	Land Acquisition and Resettlement Completion Report
LARP	–	Land Acquisition and Resettlement Plan
lpcd	–	Litters per capita per day
MARD	–	Ministry of Agriculture and Rural Development
MOH	–	Ministry of Health (BYT)
MONRE	–	Ministry of Natural Resources and Environment (BTNMT)
MOU	–	Memorandum of Understanding
NCERWASS	–	National Centre for Rural Water Supply and Environmental Sanitation
NGO	–	Non-governmental Organization
NOL	–	No Objection Letter
O&M	–	Operation and Maintenance
ODA	–	Official Development Assistance
OHS	–	Occupational Health and Safety
OU	–	Operational Unit
PCERWASS	–	Provincial Centre for Rural Water Supply and Environmental Sanitation
PIA	–	Project Implementation Assistance
PPC	–	Provincial People's Committee
PPMU	–	Provincial Project Management Unit
PVWU	–	Provincial Vietnam Women's Union
REA	–	Rapid Environmental Assessment

SAR	– Subproject Appraisal Report
SIEE	– Summary Initial Environmental Examination
SSO	– Subproject Site Office
VND	– Vietnam Dong
VWU	– Vietnam Women's Union
WSCC	– Water and Sanitation Commune Committee
WTP	– Water Treatment Plant

#### **NOTE**

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**MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT**  
**NATIONAL CENTRE FOR RURAL WATER SUPPLY AND**  
**ENVIRONMENTAL SANITATION**

**CENTRAL REGIONS RURAL WATER SUPPLY AND**  
**SANITATION SECTOR PROJECT**

{ADB Loan No. 2609-VIE (SF)}

**Safeguards Monitoring Report**  
**July – December 2016**

**WATER SUPPLY AND SANITATION OF**  
**TAY GIANG AND TAY THUAN INTER-COMMUNES**  
**TAY SON DISTRICT - BINH DINH PROVINCE**

**Consulting Services**  
**For**  
**Project Implementation Assistance**

The Joint Venture of  
CDM International Inc., Nippon Koei Co. Ltd. and Vinaconsult.,JSC

December 2016

# **CENTRAL REGIONS RURAL WATER SUPPLY AND SANITATION SECTOR PROJECT**

{ADB Loan No. 2609-VIE (SF)}

## **Safeguards Monitoring Report July - December 2016**

**WATER SUPPLY AND SANITATION OF  
TAY GIANG AND TAY THUAN INTER-COMMUNES  
TAY SON DISTRICT - BINH DINH PROVINCE**

PIA Consultant

CPMU

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Director

This report has been prepared based on a combination of information provided by others and by the PIA Consultant. The PIA Consultant has to the extent reasonably possible validated and verified the accuracy of the information in the reports and appendices. To the best of the PIA Consultant's believe and knowledge, the included information is reasonably accurate and correct.

The Joint Venture of  
CDM International Inc., Nippon Koei Co. Ltd. and Vinaconsult JSC

December 2016

## Internal Quality Control

<b>Project</b>	<b>Central Region Rural Water Supply and Sanitation Sector Project</b>
<b>Project No.</b>	ADB Loan No. 2609-VIE (SF)
<b>Client</b>	National Centre For Rural Water Supply And Environmental Sanitation
<b>Classification</b>	Safeguards Monitoring Report
<b>Name of report</b>	Safeguards Monitoring Report - July –December 2016 for Water Supply and Sanitation of Tay Giang and Tay Thuan communes, Tay Son district, Binh Dinh province
<b>File name</b>	VIE 2609 Tay Son-BD Safeguards Monitoring Report - Jul-Dec 2016 EN
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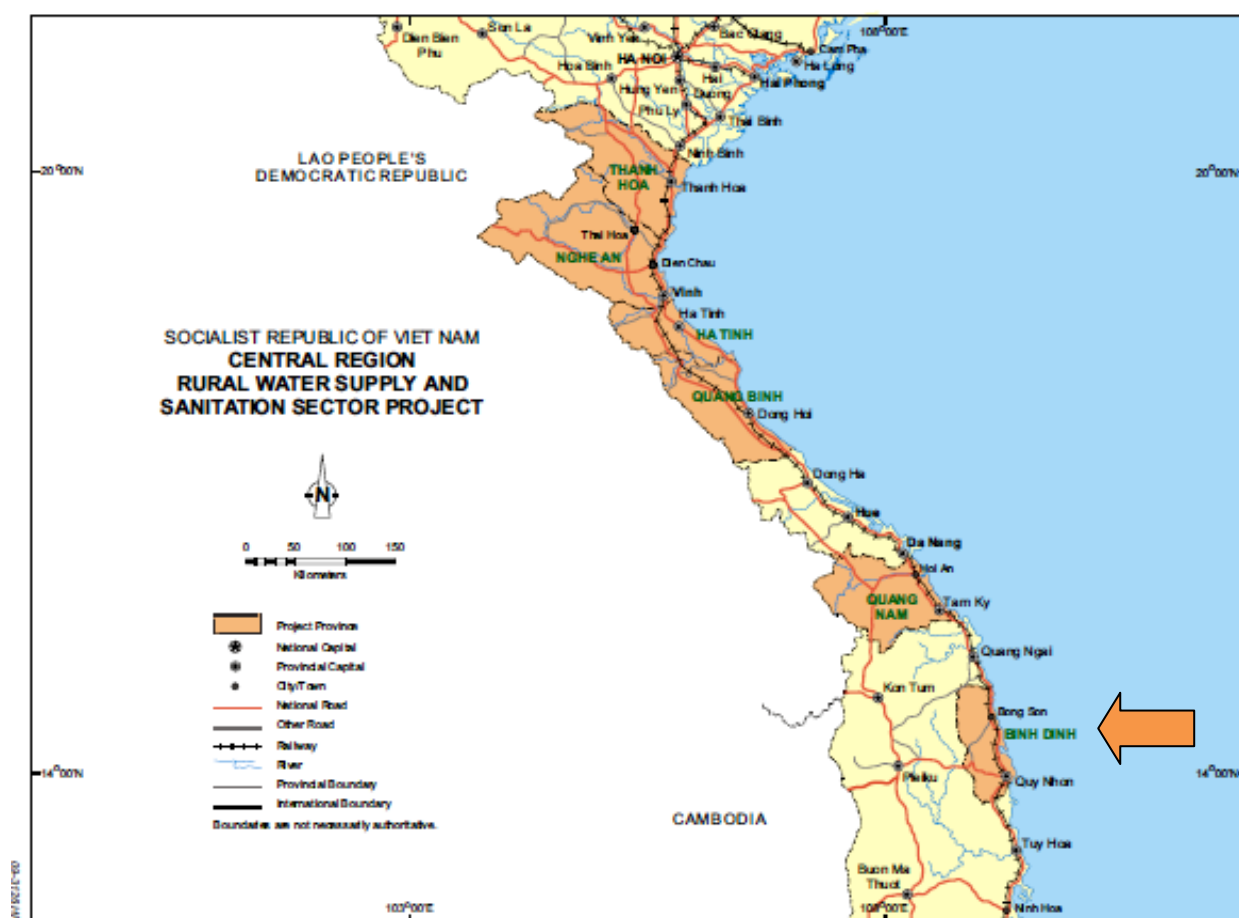


Figure 1 Location map of six Project Provinces of the central coastal region of Vietnam

## Preface

The Government of Vietnam and the Asian Development Bank (ADB) have agreed to implement the Central Regions Rural Water Supply and Sanitation Sector Project (Project) scheduled to be completion by 31 December 2016. The Project has a total budget of US\$ 50 million and is expected to provide access to clean water and hygienic sanitation for about 200,000 rural people in 33 communes in the six coastal central region provinces of Vietnam: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Nam and Binh Dinh.

The Loan Agreement was signed on 2<sup>nd</sup> February 2010. On 26<sup>th</sup> July 2011, the National Centre for Rural Water Supply and Environmental Sanitation (NCERWASS) of the Ministry of Agriculture and Rural Development (MARD) signed a Contract for Consulting Services for Project Implementation Assistance with CDM International Inc. in a joint venture with Nippon Koei Co. Ltd and national consultant Vinaconsult JSC (PIA Consultant). The PIA Consultant mobilized its team on 25<sup>th</sup> August 2011.

This Safeguards Monitoring Report – July - December 2016 covers main findings of the monitoring of safeguards issues of operation activities carried out during the reporting period from July to the end of December 2016. This report is prepared based on review of Subproject information/documentation of the Provincial Project Management Unit (PPMU) and Operating Unit (OU) during Water Treatment Plant's (WTP) operation, including water quality analyses and quarterly environmental management and monitoring reports.



## List of Abbreviations

ADB	Asian Development Bank
AHs	Affected Households
APs	Affected Persons
CARC	Compensation Assistance Resettlement Committee
CSC	Design-Build Construction Supervision Consultant
CPC	Commune People's Committee
CPMU	Central Project Management Unit
CVWU	Communal Vietnam Women's Union
D&B	Design and Build
DARD	Department of Agriculture and Rural Development, Provincial
DONRE	Department of Natural Resources and Environment, Provincial
DPC	District People's Committee
EARF	Environmental Assessment and Review Framework
EC	Environmental Protection Commitment
EMP	Environmental Management Plan
EMoP	Environmental Monitoring Plan
EO	Environmental Officer
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HHs	Households
IEE	Initial Environmental Examination
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MOU	Memorandum of Understanding
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NGO	Non-governmental Organization
NOL	No Objection Letter
O&M	Operation and Maintenance
ODA	Official Development Assistance
OHS	Occupational Health and Safety
OU	Operational Unit
PCERWASS	Provincial Centre for Rural Water Supply and Environmental Sanitation
PIA	Project Implementation Assistance
PPC	Provincial People's Committee
PPMU	Provincial Project Management Unit
Project	Central Region Rural Water Supply and Sanitation Sector Project
PVWU	Provincial Vietnam Women's Union

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REA	Rapid Environmental Assessment
SAR	Subproject Appraisal Report
SIEE	Summary Initial Environmental Examination
SSO	Subproject Site Office
Subproject	Tay Son-Binh Dinh Pilot Subproject
VND	Vietnam Dong
VWU	Vietnam Women's Union
WSCC	Water and Sanitation Commune Committee
WTP	Water Treatment Plant

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## 1 INTRODUCTION AND PROJECT OVERVIEW

### 1.1 Introduction

The Water Supply and Sanitation Subproject for Tay Giang and Tay Thuan Communes, Tay Son District, Binh Dinh Province is one of the 6 Pilot Subprojects of the Central Region Rural Water Supply and Sanitation Sector Project (Project). The Project is implemented under the Loan Agreement No. 2609 - VIE (SF) between the Socialist Republic of Vietnam (GoV) and the Asian Development Bank (ADB).

The Project is designed as a sector investment project. The implementation of the Project is aimed to result in better health and living conditions of people living in rural areas in the Project provinces of Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Nam and Binh Dinh. The Project is to construct a piped water supply systems, and sanitation facilities and promote safer hygiene practices by the commune's residents. The Project's components are: (i) Operational and sustainable piped water supply system; (ii) Improved household and public sanitation; (iii) Improvement of hygiene awareness; (iv) Strengthened sector planning and implementation capacity; and (v) Improved project management capacity.

In accordance with the Memorandum of Understanding (MOU) agreed between the ADB and the Central Project Management Unit (CPMU), this Semi-annual Safeguards Monitoring report is prepared for the Tay Son-Binh Dinh Pilot Subproject (Subproject) and it covers issues in the second half of 2016.

The Binh Dinh Pilot Subproject is located in Tay Giang and Tay Thuan Communes of Tay Son District. The Subproject is designed to improve rural water supply and sanitation facilities and to promote safer hygiene practices by the rural communes. Water supply includes construction of piped water supply schemes with treatment facilities. The Subproject includes construction of school and public latrines where school and public health education programs are being carried out.

The Design-Build package for Water Supply System of Tay Giang and Tay Thuan Communes, Tay Son District, Binh Dinh Province was commenced in June 2013. The construction works of the Water Supply package were officially handed over in December 2014. Construction and handing over of latrines (Sanitation package) were completed in December 2013. The Subproject is currently under the O&M stage.

### 1.2 Subproject Overview

**Table 1 Tay Son-Binh Dinh Pilot Subproject Safeguards Overview**

<b>Project Number and Title:</b>	<b>ADB Loan No. 2609-VIE (SF) Central Region Rural Water Supply and Sanitation Sector Project Water Supply and Sanitation of Tay Giang and Tay Thuan Inter-communes - Tay Son district - Binh Dinh province</b>	
<b>Safeguards Category</b>	Environment	B
	Involuntary Resettlement	B

	Indigenous People	C
<b>Reporting period:</b>	July 2016 - December 2016	
<b>Last report date:</b>	October 2016	
<b>Key sub-project activities since last report:</b>	<ul style="list-style-type: none"> <li>• <b>Construction Component</b> <ul style="list-style-type: none"> <li>❖ The Subproject includes two construction packages:                             <ol style="list-style-type: none"> <li>(i) Water supply package was signed on the 28<sup>th</sup> May 2013, construction was completed on the 5<sup>th</sup> December 2014 about some days sooner than scheduled in the signed contract, and handed over to operation in the next day ; and</li> <li>(ii) The D&amp;B Contract of the Sanitation Package was signed on 28<sup>th</sup> May 2013. Detailed Designs of the Sanitation Facilities were approved by Binh Dinh DARD on 12<sup>nd</sup> August 2013. Construction and handing over of latrines were completed in December 2013 as scheduled in the signed contract.</li> </ol> </li> </ul> </li> <li>• <b>Progress of Work</b> <ul style="list-style-type: none"> <li>❖ Main items of water supply component:                             <ol style="list-style-type: none"> <li>(i) Water treatment plant with a capacity of 1,500 m<sup>3</sup>/d: 100% of all facilities</li> <li>(ii) Length of transmission, distribution and service pipelines have been installed: 55 km</li> <li>(iii) Service connections: 2,842 connections (achieving 87% of the total households who registered to connect)</li> </ol> <p>→ The overall progress of water supply component is 100%. The O&amp;M manual was available on December 20, 2014. The water supply works were handed over and put into use in December 2014. The as-built drawings and the certificate of completion of this package were available on December 2014.</p> </li> <li>❖ Main items of sanitation component:                             <ol style="list-style-type: none"> <li>(i) Toilet substructures for poor and near poor households with sole income made by women: 286 units (this number is lower than the estimated number of toilets in the signed contract as some households had already built their latrines before the construction phase)</li> <li>(ii) Construction of public latrines: 7 units</li> </ol> <p>→ The overall progress of sanitation component is 100 %. The sanitation works were handed over and put into use on December 18, 2013. The as-built drawings and the certificate of completion of this package were available in December 2013.</p> </li> </ul> </li> <li>• <b>Changes of Surrounding Environment:</b> <p>The WTP is nestled close to the hill with laddered layout, which seems to make the works become</p> </li> </ul>	

	sustainable with the surrounding landscape. No major negative impacts are there on the surrounding environment.
<b>Report prepared by:</b>	PIA consultant

## 2 ENVIRONMENTAL PERFORMANCE MONITORING

### 2.1 EMP/EMoP Implementation and Compliance

#### EMP/EMoP Implementation by D&B Contractor

During the construction phase, the implementation of the Environmental Management Plan (EMP) was the responsibility of the D&B Contractor. The D&B Contractor's responsibility included the appropriate and timely application of the mitigating measures stipulated in the approved EMP and Environmental Monitoring Plan (EMoP). The application and implementation of the mitigation measures were to provide the safeguards that would control, reduce if not eliminate unwanted effects during the Subproject implementation.

Regarding raw water quality, during the construction phase, the D&B Contractor conducted raw water quality analysis during the Detailed Design phase to verify any changes of raw water quality and to determine needed adjustment to the water treatment process; and another analysis in the end of construction when the WTP is already for operation, to monitor any changes in raw water quality.

#### EMP/EMoP Implementation by Operating Unit

During the O&M phase, the Operating Unit (OU) is responsible for adherence to mitigation measures and activities stipulated in the EMP and EMoP plans. They are primarily focused on safe operation of the WTP and distribution of treated water including: (i) regular testing of raw water quality and treated water quality; (ii) regular monitoring of the quality of effluent from sludge settling tank of the WTP; and (iii) applying of the health and safety regulations specified in the EMP. The operators also need to carry out O&M procedures in accordance with the O&M manual.

### 2.2 Environmental Monitoring by CSC/PPMU

During the construction phase, the inspection, evaluation and recording of compliance to the EMP and EMoP as implemented by the D&B Contractors were undertaken by the Design-Build Construction Supervision Consultant (CSC) in the field with the assistance of the PIA Consultant. The CSC carried out weekly and monthly inspections and maintained records of the D&B Contractor's mitigating measures and activities prescribed in the approved EMP and EMoP plans of the Subproject. The responsibilities of the CSC covered the period to the end of the commissioning stage including certifying of construction materials/equipment/items and final checking and acceptance for handing over to operation.

These inspection and evaluation records were consolidated by the CSC in the Quarterly Environmental Monitoring Report. The CSC's collation and synthesis of the D&B Contractors' compliance to the requirements of the EMP and EMoP were summarized in matrix attached with the report submitted to the CPMU and PIA Consultant within 15 days after the end of each quarter.

During the O&M phase, PPMU's Environmental Officer (EO) will be responsible for monitoring the OU compliance to the EMP and EMoP, as well as consolidating all the records of the OU operator on laboratory analysis and health and safety issues, and quarterly reporting to the CPMU and PIA Consultant within 15 days after the end of each quarter.

### 2.3 Monitoring Activities Carried Out by PIA Consultant

The PIA Consultant has provided support and advice to the CSC and D&B Contractors as well as the OU in implementation of EMP/EMoP and assisted CPMU in compiling monitoring reports for submission to ADB. The PIA Consultant regular and/or required goes field visits for inspection of environmental performance during Subproject implementation.

The collation of the OU's quarterly monitoring reports, PPM's quarterly reports, and PIA Consultant's assessment of the safeguard compliance to the requirements of the EMP and EMoP is summarized in environmental performance matrix of the Subproject attached with this report as an *Annex 1* and results of water quality analysis in *Annex 2*.

### 2.4 Key Issues for Further Actions

**Table 2 Environmental Issues for Further Action.**

Issue	Required Action	Responsibility and Timing	Resolution
<b>Old Issues from Previous Reports:</b> none			
<b>New Issues from This Report:</b>			
Level of manganese in the raw water quality analysis for the drilled well no. 3 is slightly higher than standard (0.82mg/l vs 0.5 mg/l); and level of ammonium in the raw water quality analysis for drilled well no. 2 and 3 taken in July 2016 are higher than the standards (0.32 mg/l and 0.47 mg/l vs 0.1 mg/l).	The PPMU/OU to continue monitoring the raw water quality closely and adjust the treatment dosing, if needed, to ensure the treated water meets the standards stipulated in QCVN 01:2009/BYT.	The PPMU/OU urgently take action.	

## 3 INVOLUNTARY RESETTLEMENT PERFORMANCE MONITORING

### 3.1 Compliance with RP Requirements

Binh Dinh PPMU paid compensation to affected households and allowed the contractor to start construction before ADB's approval of the Land Acquisition and Resettlement Plan (LARP). Therefore it was not in compliance with ADB' procedure. On 26-30 November 2012, ADB had a review mission in Binh Dinh and at their request PIA Consultant



undertook a review of LARP processes, carried out and prepared the Due Diligence Report which was submitted to ADB on May 2013 (accompanied with SAR).

After Binh Dinh PPC approval of the Detailed Design, PPMU updated LARP again and sent to ADB for approval. Through No Objection Letter dated 18<sup>th</sup> February 2014 ADB approved Binh Dinh Updated LARP.

Through Compensation, Assistance and Resettlement Board, PPMU has fully paid to 160 affected households, in which, 146 households were temporary affected and 14 households were permanently affected by the Subproject. The total compensation and allowance paid to affected households are 88,547,000 VND. The grievance redress mechanism was established in communal, district and provincial levels to solve complaints from affected persons.

Up to May 2014, the land acquisition and resettlement activities in Tay Son subproject have been completed and no grievances have been raised. Land Acquisition and Resettlement Completion Report (LARC) has been revised by PPMU of Binh Dinh based on the comments of the PIA Consultant and submitted to CPMU in December 2014. PIA Consultant has been reviewing and validating the information in the LARC. The Validation Report on Land Acquisition and Resettlement Completion was sent to CPMU by PIA Consultant on February 2015 and approved by ADB on 22 May 2015 and disclosed on 29 July 2015. See Annex 3 Photographs Figure 14. No further actions are required.

In this reporting period, no oral or written complaints have been raised or recorded.

**Table 3 Summary of Compliance with RP Requirements.**

RP Requirements	Compliance status	Comment or Reasons for Compliance, Partial Compliance/Non-Compliance	Issues for Further Action <sup>1</sup>
Establishment of personnel in PMU/PIU	Yes	The Compensation Assistance and Resettlement Board (CARB) established according to Decision No 2079/QĐ-CTUNND, dated on 01 <sup>st</sup> November 2010.	
Public consultation and socialization process	Yes	<ul style="list-style-type: none"> <li><b>Public Consultations during preparation phase</b> with permanently affected households on 11st May 2010 and with temporarily affected households on 11st July 2010;</li> <li><b>Public consultation during project implementation</b> with permanently affected households and additional compensated households on 17<sup>th</sup> May 2013.</li> </ul> <p><i>For further details refer to Section 5</i></p>	
Land area to be acquired is identified and finalised	Yes	Total of permanently acquired land is <b>1,900 m<sup>2</sup></b> ( <i>in which public land acquired is 1,630 m<sup>2</sup> ; Residential land acquired is 180m<sup>2</sup> and agricultural land is 90 m<sup>2</sup></i> )	
Land acquisition completed	Yes	Until now, the land acquisition has been completed and the construction has been carried out. There has not been any complaint reported yet.	

<sup>1</sup> To be elaborated further in Table 4 (Issues for Further Action)

RP Requirements	Compliance status	Comment or Reasons for Compliance, Partial Compliance/Non-Compliance	Issues for Further Action <sup>1</sup>
Establishment of Resettlement Site(s)	Not applicable	No need to establish resettlement site because no resettlement in the subproject.	
Compensation payments for affected assets is completed	Yes	<ul style="list-style-type: none"> <li><b>Total Number of Eligible AHs and APs (as per agreed RP):</b> 160 HHs (<i>in which temporary Losses is 146 HHs and permanent losses is 14 HHs</i>) 14 new land usage right certificates have been issued to 14 affected households.</li> <li><b>Number of AHs and APs compensated as of this monitoring period:</b> 160 households</li> <li><b>Total Budget allocation as per agreed RP:</b> Total budget for compensation to acquired portions of farm and residential lands, losses of non-land assets such as trees, crops and structures is <b>88,547,000 VND</b>, paid by Binh Dinh Province through PPMU.</li> <li><b>Total budget disbursed to AHs as of this monitoring period:</b> All compensations are <b>88,547,000 VND</b> have been fully paid for affected households.</li> </ul>	
Transport assistance for relocating affected households	Not applicable		
Additional assistance to vulnerable affected household	Not applicable		
Income Restoration Program	Yes	Support for job change when acquired land for affected households with amount of 4,500,000 VND.	
Temporary impacts have been addressed (affected properties restored to at least pre-project conditions)	Yes	<ul style="list-style-type: none"> <li><b>Total Number of AHs affected by temporary impacts as per agreed RP:</b> 146 HHs.</li> <li><b>Actual Number of AHs and total area affected by temporary impacts:</b> 146 HHs</li> <li><b>Status of restoring affected property:</b> All of these affected households have been paid compensation in anticipation for the damages and losses of crops and trees that will most likely</li> </ul>	

RP Requirements	Compliance status	Comment or Reasons for Compliance, Partial Compliance/Non-Compliance	Issues for Further Action <sup>1</sup>
		happen during construction stage. Actually at present, PPMU has coordinated with the Construction Contractor to carry out the installation of distribution pipelines after the harvest in order to minimize the loss for local people.	
Capacity building activities	Yes	Training course on “ADB's social safeguard policies on environment and resettlement” from 2 April to 4 April, 2014 held in Quang Nam province.	
Disclosure of the Land Acquisition and Resettlement Completion Report to affected households and community	Yes	Land Acquisition and Resettlement Completion Report has been approved on 22 May 2015 and disclosed the approved LARC Report to AHs on 29 July 2015	

### 3.2 Resettlement Monitoring by PPMU

The resettlement category of this sub-project is B, therefore Resettlement Internal Monitoring Report was required. The internal monitoring will be reported by CARC to PPMU in every quarter. However, the PPMU have reported the resettlement activities on the common Quarterly Report but not any separate Resettlement Internal Monitoring Report was prepared. The resettlement activities have been fully completed.

### 3.3 Monitoring Activities carried out PIA Consultant

On 4-6 December 2012, PIA Consultant undertook a review of LARP processes, carried out and prepared the Due Diligence Report to review the compensation rates applied to the compensations paid to Affected Households whether (i) the rates used are based on the market value of 2010; (ii) if the rates applied are different, get a commitment schedule with PPMU/PPC when the differential balance be paid; (iii) commitment on when the issuance of the Land Use Rights Certificate to Affected Households will be issued; (iv) ensure that the Grievance Mechanism at the Commune, District and Province levels are established and known to the affected communities.

As well as reviewing information reported in Quarterly Report sent by PPMU, PIA Consultant have a site visit on April and November 2014 to supervise the land acquisition activities. The scope of construction did not exceed the boundary of land acquisition.

Up to now, the resettlement activities have been completed. The approved Land Acquisition and Resettlement Completion Report has been disclosed to AHs on 29 July 2015. No further actions are required.

In the reporting period, no oral or written complaints have been raised or recorded.

### 3.4 Issues for Further Action

**Table 4 Issues for Further Action.**

Issue	Required Action	Responsibility and Timing	Resolution
<b>Old Issues from Previous Reports: None</b>			
<b>New Issues from This Report: None</b>			

## 4 OCCUPATIONAL HEALTH AND SAFETY (OHS) PERFORMANCE MONITORING

The Occupational, Health and Safety (OHS) Performance has been monitored for the construction/ operational workers and the public. There have been no remaining or newly raised issues regarding to OHS during this reporting period as reported OU/ PPMU's EO or observed by PIA Consultant.

### 4.1 OHS for Operators

All operators are adequately equipped with personal protective equipment during operation. The following issue related to OHS for operators have been detected during this monitoring period.

**Table 5 Issues for Further Action on OHS for Operators.**

Issue	Required Action	Responsibility and Timing	Resolution
<b>Old Issues from Previous Reports: none</b>			
<b>New Issues from This Report: none</b>			

### 4.2 Public Safety

No issue related to public safety has been detected and reported.

**Table 6 Issues for Further Action on Public Safety.**

Issue	Required Action	Responsibility and Timing	Resolution
<b>Old Issues from Previous Reports: none</b>			
<b>New Issues from This Report: none</b>			

## **5 INFORMATION DISCLOSURE AND SOCIALIZATION INCLUDING CAPACITY BUILDING**

### **5.1 Public Consultations and Meetings**

#### **5.1.1 Environmental Public Consultation and Information Disclosure**

All of the information regarding the Subproject's implementation, supply of clean water including water quality and tariff has been disseminated to all the beneficiaries through the loudspeaker system of the Subproject commune. Moreover, the SIEE and the EMP/EMoP of the Subproject has been attached in the information board of Tay Giang and Tay Thuan Communes.

#### **5.1.2 Resettlement Public Consultation and Information Disclosure**

The Land Acquisition and Resettlement Completion Report was approved by ADB, PPMU disclosed to affected households on the notice board of CPCs of Tay Giang and Tay Thuan on 29 July 2015.

Up to reporting period, no further public consultation has been carried out between PPMU and affected households.

### **5.2 Training - Capacity Building**

There are no training courses on safeguard policies organized for the Pilot Subprojects during the reporting period. During the field trips conducted in July 2015 for the operation monitoring, PIA Consultant specialists gave hands-on training and guidance on checking carefully functional performance of each unit of the water supply system, and on practicing operational activities. Also, on-the-job training and support via phones, emails and meetings was provided by PIA Consultant to clarify any queries from PPMU's staff and OU's operators.

### **5.3 Press/Media Releases**

In order to extent the publicity for the Project information, implementation status and lessons learnt from the ADB funded CRRWSSSP Project has been published and updated on the website of the National Centre for Rural Water Supply and Environmental Sanitation (NCERWASS) (<http://ncerwass.mard.gov.vn/>) since January 2014. These publications aim to share experiences of the Project activities and the Project's progress among the network of Rural Water Supply and Sanitation Project (RWSSP), partners and interested stakeholders.

## **6 GRIEVANCE REDRESS MECHANISM**

### **Environment**

The Subproject facilities are under operation. No written complaint has been received and no oral complaints have been raised.

### **Resettlement**

The payments to affected households have been made. Up to now, no complaints or lawsuits have been recorded.

## 7 CONCLUSIONS

### **Environment**

The results of the implementation of the EMP/EMoP have indicated that most of the requirements of the EMP and EMoP have been followed by the Operating Unit during the Subproject operation. The new issues arising in this reporting period are that (i) level of manganese in the raw water quality analysis for the drilled well no. 3 is slightly higher than standard (0.82mg/l vs 0.5 mg/l); and (ii) level of ammonium in the raw water quality analysis for drilled well no. 2 and 3 taken in July 2016 are higher than the standards (0.32 mg/l and 0.47 mg/l vs 0.1 mg/l). The PPMU is recommended to urgently solve these issues.

The overall implementation/compliance of the Binh Dinh Pilot Subproject's OU to the EMP/EMoP during construction is rated as partially satisfactory. In the forthcoming operational phase, the PPMU/PCERWASS shall continuously enforce that the OU's operators will comply with the provisions of the EMP/EMoP, especially to operate the WTP according to the O&M manual and to conduct periodic raw water and effluent sampling and quality analyses.

### **Resettlement**

PIA Consultant has validated the RP activities and prepare a Validation Report on RP activities and approved on 22 May 2015. The resettlement activities of Tay Son Subproject is appraised as compliance with project resettlement framework

## **Annex 1      Subproject Compliance with EMP Requirements**

(i) Summary of Subproject Compliance with EMP requirements

EMP Requirements (Mitigation Measures)	Compliance Status (Yes, No, Partial)	Comment or Reasons for Non-Compliance	Issues for Further Action
<b>OPERATION &amp; MAINTENANCE PHASE</b>  <b>Operation at the WTP and Pumping stations</b> <ul style="list-style-type: none"> <li>Equip workers with gas masks and protective clothing and gears such as boots, helmets during working.</li> <li>WTP's operator will strictly comply with instructions of use and storage of chemicals. If leakage or spillage events happen, the WTP's operator will inform to relevant agency to deal with immediately.</li> </ul>	<p>Yes.</p> <p>Yes. The OU has installed the missing technical signs at the location of chlorine gas injection according to PIA Consultant's recommendation in the previous reporting period (refer to Figures 15 and 16).</p>		

**List of Abbreviations**

EMP	Environmental Management Plan
O&M	Operation and Maintenance
WTP	Water Treatment Plan
OU	Operating Unit



(ii) Summary of Subproject Compliance with EMoP requirements

EMoP Requirements (Mitigation measures)	Compliance Status (Yes, No, Partial)	Comment or Reasons for Non-Compliance	Issues for Further Action
<b>O&amp;M PHASE</b>			
<b>1. Raw (ground) Water Quality</b> Conduct raw water sample (taken from boreholes) and analysis annually.	Yes.	The raw water was tested during the reporting period. However, level of manganese in the raw water quality analysis for the drilled well no. 3 is slightly higher than standard (0.82mg/l vs 0.5 mg/l); and level of ammonium in the raw water quality analysis for drilled well no. 2 and 3 taken in July 2016 are higher than the standards (0.32 mg/l and 0.47 mg/l vs 0.1 mg/l).	The PPMU/OU to continue monitoring the raw water quality closely.
<b>2. Treated water Quality</b> Conduct treated water sample and analysis quarterly	Yes.	The treated water periodically was tested and meets the standards.	

List of Abbreviations

EMoP	Environmental Monitoring Plan
O&M	Operation and Maintenance
OU	Operating Unit

## **Annex 2 Monitoring Data: Raw Water, Treated Water and Backwash Water Sampling and Quality Analyses**

**Original**

**Raw groundwater quality analysis**

SỞ NÔNG NGHIỆP & PTNT BÌNH ĐỊNH CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM  
TRUNG TÂM NƯỚC SẠCH VÀ ĐỘC LẬP - Tự do - Hạnh phúc  
VỆ SINH MÔI TRƯỜNG NÔNG THÔN

Số: 146/NSNT-XN Bình Định, ngày 04 tháng 7 năm 2016

**PHIẾU KẾT QUẢ XÉT NGHIỆM HÓA LÝ NƯỚC**  
(Công trình tập trung)

1. Tên mẫu : Công trình cấp nước sạch xã Tây Giang, Tây Thuận  
2. Loại hình : Bơm dẫn  
3. Khách hàng : Trung tâm Nước sạch và VSMT NT Bình Định  
4. Địa chỉ : Xóm 6, thôn Thượng Giang 2, xã Tây Giang, huyện Tây Sơn  
5. Vị trí lấy mẫu : Mẫu nước thô các giếng  
6. Người lấy mẫu : Trần Anh Tuấn  
7. Yêu cầu xét nghiệm : Hóa lý (Theo QCVN 09:2008/BTNMT)  
8. Ngày nhận mẫu : 01/7/2016  
9. Kết quả thử nghiệm

T	Tên chỉ tiêu	Đơn vị	Phương pháp thử	Giếng 1	Giếng 2	Giếng 3	QCVN09:2008 /BTNMT
1	pH		Bút đo pH test	6.05	6.37	6.66	5.5-8.5
2	Mùi vị	Không có mùi, vị lạ	PP cảm quan	Không có mùi, vị lạ	Không có mùi, vị lạ	Không có mùi, vị lạ	-
3	Độ đục	NTU	Máy đo đa chỉ tiêu WQC-22A	11	17	167	-
4	Màu sắc	Pt-Co	Platinum-Cobalt (455nm) Method/DR2700	5	6	20	-
5	Hàm lượng Fe <sub>18</sub>	mg/l	FerroVer Method/DR2700	0.53	0.77	4.46	5
6	Hàm lượng Mn <sub>18</sub>		Pan Method/DR2700	0.198	0.087	0.82	0.5
7	Hàm lượng NH <sub>4</sub>		Nessler Method/DR2700	0.06	0.32	0.47	0.1
8	Hàm lượng F <sup>-</sup>		SPANDS Method/DR2700	0.42	0.36	0.38	1.0
9	Hàm lượng Cl <sup>-</sup>		Mercuric Thiocyanate Method/DR2700	96	18.9	11.3	250

Người làm xét nghiệm

*du*

Dương Thị Xuân Trang

*Nguyễn Văn Tánh*

NGƯỜI CHỨC DUYỆT

TRUNG TÂM NƯỚC SẠCH VÀ VỆ SINH MÔI TRƯỜNG NÔNG THÔN

Nguyễn Văn Tánh

Ghi chú: Kết quả này chỉ có giá trị đối với mẫu thử

**Translation:**

**Raw groundwater quality analysis**

No.	Parameter	Unit	Results (4 <sup>th</sup> Jul 2016)			Limiting value set in QCVN 09:2008/BTN MT
			Well G1	Well G2	Well G3	
1	pH	-	6.05	6.37	6.66	5.5 -8.5
2	Odor	-	No odor	No odor	No odor	No odor
3	Turbidity	NTU	11	17	167	-
4	Color	Pt-Co	5	6	20	-
5	Total Fe	mg/l	0.53	0.77	4.46	5
6	Manganese (Mn)	mg/l	0.198	0.087	0.82	0.5
7	Ammonium (NH <sub>4</sub> <sup>+</sup> )	mg/l	0.06	0.32	0.47	0.1
8	Fluoride (F <sup>-</sup> )	mg/l	0.42	0.36	0.38	1
9	Chloride (Cl <sup>-</sup> )	mg/l	96	18.9	11.3	250

**Notes**

QCVN 09:2008/BTNMT - National technical regulation on groundwater quality.

Original:

Treated water quality analysis

SỞ NÔNG NGHIỆP VÀ PTNT BÌNH ĐỊNH CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM  
TRUNG TÂM NƯỚC SẠCH VÀ ĐỘC LẬP - Tự do - Hạnh phúc  
VỆ SINH MÔI TRƯỜNG NÔNGTHÔN

Số: 167 /NSNT-XN Bình Định, ngày 29 tháng 7 năm 2016

**PHIẾU KẾT QUẢ XÉT NGHIỆM HÓA LÝ NƯỚC**  
(Công trình tập trung)

1. Tên mẫu : Công trình cấp nước sạch xã Tây Giang, Tây Thuận  
2. Loại hình : Bơm dẫn  
3. Khách hàng : Nhà máy cấp nước Tây Giang  
4. Địa chỉ : Xóm 6, thôn Thượng Giang 2, xã Tây Giang, huyện Tây Sơn  
5. Vị trí lấy mẫu : Hộ gia đình Lâm Thị Xuân Hồng; xóm 5, Thượng Giang 2, Tây giang  
6. Người lấy mẫu : Trần Anh Tuấn  
7. Yêu cầu xét nghiệm : Hóa lý (Theo QCVN 01:2009/BYT)  
8. Ngày nhận mẫu : 10/7/2016  
9. Kết quả thử nghiệm :

TT	Chỉ tiêu thử nghiệm	Đơn vị	Phương pháp thử nghiệm	Kết quả thử nghiệm	QCVN 01:2009/BYT
1	pH	-	Bút đo pH test 30	6.97	6.5-8.5
2	Mùi vị	-	PP cảm quan	Không có mùi, vị lạ	Không có mùi, vị lạ
3	Độ đục	NTU	Máy đo đa chỉ tiêu WQC-22A	1	2
4	Màu sắc	Pt-Co	Platinum-Cobalt (455nm) Method/DR2700	7	15
5	Hàm lượng Clo dư	mg/l	DPD Method/DR2700	0.39	0.3-0.5
6	Hàm lượng Fe <sub>15</sub>		FerroVer Method/DR2700	0.09	0.3
7	Hàm lượng Mn <sub>15</sub>		Pan Method/DR2700	0.009	0.3
8	Hàm lượng NH <sub>4</sub> <sup>+</sup>		Nessler Method/DR2700	0.06	3
9	Hàm lượng F <sup>-</sup>		SPANDS Method/DR2700	0.42	1.5
10	Chỉ số Pecmanganat		TCVN 6186-1996	0.42	2
11	Hàm lượng Cl <sup>-</sup>		Mercuric Thiocyanate Method/DR2700	27	250
12	Độ cứng	mgCaCO <sub>3</sub> /l	TCVN 6224-1996	-	300
13	Coliform tổng số	Vi khuẩn/100ml	TCVN 6187-2:1996	0	0
14	E. Coli	Vi khuẩn/100ml	TCVN 6187-2:1996	0	0

10. Nhận xét: Mẫu nước trên có các chỉ tiêu xét nghiệm đạt theo quy chuẩn kỹ thuật quốc gia về chất lượng nước ăn uống "QCVN 01:2009/BYT"./.

Người làm xét nghiệm

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Dương Thị Xuân Trang

Ghi chú: Kết quả này chỉ có giá trị đối với mẫu thử

GIÁM ĐỐC  
TRUNG TÂM  
NƯỚC SẠCH  
VÀ VỆ SINH  
MÔI TRƯỜNG  
NÔNG THÔN  
NGUYỄN VĂN TÁNH

SỞ NÔNG NGHIỆP VÀ PTNT BÌNH ĐỊNH  
TRUNG TÂM NƯỚC SẠCH VÀ  
VỆ SINH MÔI TRƯỜNG NÔNGTHÔN

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập - Tự do - Hạnh phúc

Số: 217 /NSNT-XN

Bình Định, ngày 19 tháng 9 năm 2016

**PHIẾU KẾT QUẢ XÉT NGHIỆM HÓA LÝ NƯỚC**  
(Công trình tập trung)

1. Tên mẫu : Công trình cấp nước sạch xã Tây Giang, Tây Thuận
2. Loại hình : Bơm dẫn
3. Khách hàng : Nhà máy cấp nước Tây Giang
4. Địa chỉ : Xóm 6, thôn Thượng Giang 2, xã Tây Giang, huyện Tây Sơn
5. Vị trí lấy mẫu : Hộ gia đình Nguyễn Văn An; Thượng Giang 2, Tây Giang, Tây Sơn
6. Người lấy mẫu : Trần Anh Tuấn
7. Yêu cầu xét nghiệm : Hóa lý (Theo QCVN 01:2009/BYT)
8. Ngày nhận mẫu : 15/9/2016
9. Kết quả thử nghiệm :

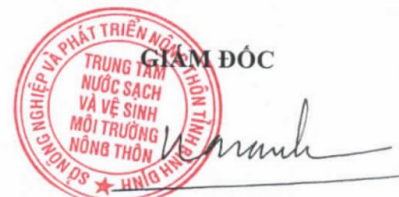
TT	Chỉ tiêu thử nghiệm	Đơn vị	Phương pháp thử nghiệm	Kết quả thử nghiệm	QCVN 01:2009/BYT
1	pH	-	Bút đo pH test 30	7.23	6.5-8.5
2	Mùi vị	-	PP cảm quan	Không có mùi, vị lạ	Không có mùi, vị lạ
3	Độ đục	NTU	Máy đo đa chỉ tiêu WQC-22A	2	2
4	Màu sắc	Pt-Co	Platinum-Cobalt (455nm) Method/DR2700	10	15
5	Hàm lượng Clo dư	mg/l	DPD Method/DR2700	0.36	0.3-0.5
6	Hàm lượng Fe <sub>ts</sub>		FerroVer Method/DR2700	0.12	0.3
7	Hàm lượng Mn <sub>ts</sub>		Pan Method/DR2700	0.010	0.3
8	Hàm lượng NH <sub>4</sub> <sup>+</sup>		Nessler Method/DR2700	0.08	3
9	Hàm lượng F <sup>-</sup>		SPANDS Method/DR2700	0.12	1.5
10	Chỉ số Pecmanganat		TCVN 6186-1996	0.47	2
11	Hàm lượng Cl <sup>-</sup>		Mercuric Thiocyanate Method/DR2700	31	250
12	Độ cứng	mgCaCO <sub>3</sub> /l	TCVN 6224-1996	-	300
13	Coliform	Vi khuẩn/100ml	TCVN 6187-2:1996	0	0
14	E. Coli	Vi khuẩn/100ml	TCVN 6187-2:1996	0	0

**10. Nhận xét:** Mẫu nước trên có các chỉ tiêu xét nghiệm **đạt** theo quy chuẩn kỹ thuật quốc gia về chất lượng nước ăn uống "QCVN 01:2009/BYT"/.

Người làm xét nghiệm

Dương Thị Xuân Trang

Ghi chú: Kết quả này chỉ có giá trị đối với mẫu thử



Nguyễn Văn Tánh



SỞ NÔNG NGHIỆP & PTNT BÌNH ĐỊNH  
TRUNG TÂM NƯỚC SẠCH VÀ  
VỆ SINH MÔI TRƯỜNG NÔNG THÔN

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập - Tự do - Hạnh phúc

Bình Định, ngày 15 tháng 11 năm 2016

Số: 200/NSNT-XN

**PHIẾU KẾT QUẢ XÉT NGHIỆM HÓA LÝ-VI SINH NƯỚC**

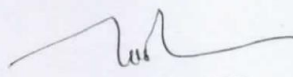
(Công trình tập trung)

1. Tên mẫu : Công trình cấp nước sinh hoạt xã Tây Giang – Tây Thuận
2. Loại hình : Bơm dẫn
3. Khách hàng : Nhà máy cấp nước sinh hoạt xã Tây Giang – Tây Thuận
4. Địa chỉ : Xóm 6 thôn Thượng Giang 2, xã Tây Giang, huyện Tây Sơn
5. Vị trí lấy mẫu : Tại hộ gia đình (Hộ Nguyễn Hồng Sơn, xóm 4, thôn Trung Sơn, xã Tây Thuận, huyện Tây Sơn)
6. Người lấy mẫu : Trần Anh Tuấn
7. Yêu cầu xét nghiệm : Hóa lý, vi sinh (Theo QCVN 01:2009/BYT)
8. Ngày nhận mẫu : 11/11/2016
9. Kết quả thử nghiệm :

TT	Chỉ tiêu thử nghiệm	Đơn vị	Phương pháp thử nghiệm	Kết quả thử nghiệm	QCVN 01:2009/BYT
1	pH	-	Máy đo đa chỉ tiêu WQC-22A	7,10	6,5-8,5
2	Mùi vị	-	PP cảm quan	Không có mùi, vị lạ	Không có mùi, vị lạ
3	Độ đục	NTU	Máy đo đa chỉ tiêu WQC-22A	2	2
4	Màu sắc	Pt-Co	Platinum-Cobalt (455nm) Method/DR2700	1	15
5	Hàm lượng Clo dư	mg/l	DPD Method/DR2700	0,32	0,3-0,5
6	Hàm lượng Fe <sub>ts</sub>		FerroVer Method/DR2700	0,02	0,3
7	Hàm lượng Mn <sub>ts</sub>		Pan Method/DR2700	0,010	0,3
8	Hàm lượng NH <sub>4</sub> <sup>+</sup>		Nessler Method/DR2700	KPH	3
9	Hàm lượng F <sup>-</sup>		SPANDS Method/DR2700	0,12	1,5
10	Coliform tổng số	VK/100ml	TCVN 6187-2:1996	0	0
11	E.coli	VK/100ml	TCVN 6187-2:1996	0	0

10. Nhận xét: Mẫu nước trên có các chỉ tiêu xét nghiệm **đạt** theo quy chuẩn kỹ thuật quốc gia về chất lượng nước ăn uống “QCVN 01:2009/BYT”/.

Thí nghiệm viên



Ngô Thị Út



Nguyễn Văn Tánh

Ghi chú: - Kết quả này chỉ có giá trị đối với mẫu thử;  
- Kết quả vi sinh được phân tích theo phương pháp MPN.

**Translation: Treated water quality analyses**

No.	Parameter	Unit	Results			Limiting value set in QCVN 01:2009
			HH's tap water (on 10 Jul 2016)	HH's tap water (on 15 Sept 2016)	HH's tap water (on 11 Nov 2016)	
1	pH	-	6.97	7.23	7.1	6.5÷8.5
2	Odor	-	No odor	No odor	No odor	No odor
3	Turbidity	NTU	1	2	2	2
4	Color	Pt-Co	7	10	1	15
5	Chlorine residual	mg/l	0.39	0.36	0.32	0.3÷0.5
6	Total Fe	mg/l	0.09	0.12	0.02	0.3
7	Manganese (Mn)	mg/l	0.009	0.01	0.01	0.3
8	Ammonium (NH <sub>4</sub> <sup>+</sup> )	mg/l	0.06	0.08	BDL	3
9	Flouride (F)	mg/l	0.42	0.12	0.12	1.5
10	Permanganate Index (KMnO <sub>4</sub> )	mg/l	0.42	0.47	nt	2
11	Chloride (Cl <sup>-</sup> )	mg/l	27	31	nt	250
12	Hardness	mg CaCO <sub>3</sub> /l	nt	nt	nt	300
13	Total coliforms	MPN/100 ml	0	0	0	0
14	E.Coli	MPN/100 ml	0	0	0	0

**Notes**

- **QCVN 01:2009/BYT**: National technical regulation on drinking water quality;
- **BDL**: Below detected level;
- **nt**: not tested.



**Original:**

**Backwash water quality analysis**

SỞ NÔNG NGHIỆP VÀ PTNT BÌNH ĐỊNH CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
TRUNG TÂM NƯỚC SẠCH VÀ ĐỘC LẬP - Tự do - Hạnh phúc  
VỆ SINH MÔI TRƯỜNG NÔNG THÔN

Số: 145/NSNT-XN Bình Định, ngày 04 tháng 7 năm 2016

**PHIẾU KẾT QUẢ XÉT NGHIỆM HÓA LÝ NƯỚC**  
(Công trình tập trung)

1. Tên mẫu : Công trình cấp nước sạch xã Tây Giang, Tây Thuận  
2. Loại hình : Bơm dẫn  
3. Khách hàng : Nhà máy cấp nước Tây Giang  
4. Địa chỉ : Xóm 6, thôn Thượng Giang 2, xã Tây Giang, huyện Tây Sơn  
5. Vị trí lấy mẫu : Nước thải tại hồ lắng bùn  
6. Người lấy mẫu : Trần Anh Tuấn  
7. Yêu cầu xét nghiệm : Hóa lý (Theo QCVN 40:2011/BTNMT)  
8. Ngày nhận mẫu : 01/7/2017  
9. Kết quả thử nghiệm :

TT	Chỉ tiêu thử nghiệm	Đơn vị	Phương pháp thử nghiệm	Kết quả thử nghiệm	Giá trị A	Giá trị B
1	Nhiệt độ	°C	Máy đo đa chỉ tiêu WQC-22A	32	40	40
2	pH	-	Máy đo đa chỉ tiêu WQC-22A	6.3	6-9	5,5-9
3	Màu sắc	Pt-Co	Platinum-Cobalt (455nm) Method/DR2700	260	50	150
4	Hàm lượng Clo dư	mg/l	DPD Method/DR2700	KPH	1	2
5	Hàm lượng Fe <sub>2+</sub>		FerroVer Method/DR2700	11.7	1	5
6	Hàm lượng Mn <sub>2+</sub>		Pan Method/DR2700	2.8	0.5	1
7	Hàm lượng NH <sub>4</sub> <sup>+</sup>		Nessler Method/DR2700	1.28	5	10
8	Hàm lượng F <sup>-</sup>		SPANDS Method/DR2700	0.46	5	10
8	Hàm lượng Cl <sup>-</sup>		Mercuric Thiocyanate Method/DR2700	79	500	1000

Người làm xét nghiệm

*DL*

Dương Thị Xuân Trang

GIÁM ĐỐC

*Nguyễn Văn Tánh*

Nguyễn Văn Tánh

Ghi chú: Kết quả này chỉ có giá trị đối với mẫu thử

**Translation:**

**Backwash water quality analysis**

No.	Parameter	Unit	Results (4th Jul. 2016)	Limiting value set in QCVN 40:2011/BTNMT	
				Column A	Column B
1	Temperature	°C	32	40	40
2	pH	-	6.3	6-9	5.5-9
3	Color	Pt-Co	260	50	150
4	Chlorine residual	mg/l	BDL	1	2
5	Total Fe	mg/l	11.7	1	5
6	Total Mn	mg/l	2.8	0.5	1
7	Ammonium (NH <sub>4</sub> <sup>+</sup> )	mg/l	1.28	5	10
8	Fluoride (F <sup>-</sup> )	mg/l	0.46	5	10
9	Chloride (Cl <sup>-</sup> )	mg/l	79	500	1000

**Notes**

QCVN 40:2011/BTNMT National Technical Regulation on Industrial Wastewater

Column A in Table 1 indicates the values of parameters of industrial wastewater (C) when it is discharged into the water sources serving tap water supply;

Column B in Table 1 indicates the values of parameters of industrial wastewater (C) when it is discharged into the water sources not serving tap water supply;

The purpose of receiving waters is determined at the location into which wastewater is discharged.

BDL: below detection level

### **Annex 3: Photographs**



**Figure 2** The WTP's precinct



**Figure 3** Wash basin outside the chlorination house



**Figure 4** Chlorination system



**Figure 5** Water spray system in chlorination room



**Figure 6** Treated water pump station

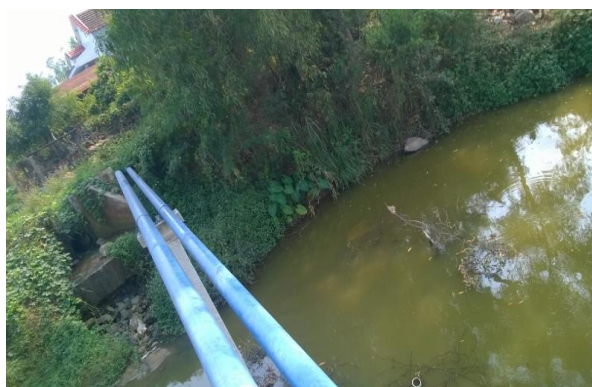


**Figure 7** Water treatment unit





**Figure 8** Effluent outlet



**Figure 9** Effluent outlet connecting to an agricultural drainage channel (pic 1)



**Figure 10** Effluent outlet connecting to an agricultural drainage channel (pic 2)



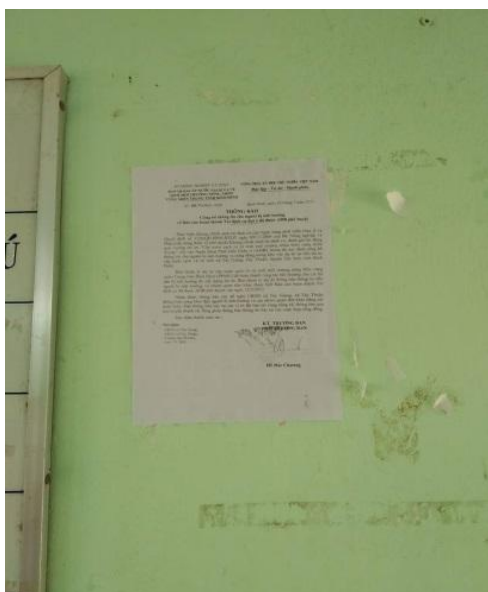
**Figure 11** Household latrine in Tay Thuan commune with superstructure



**Figure 12** Household latrine in Tay Thuan commune without superstructure



**Figure 13** Disclosure of Land Acquisition and Resettlement Completion Report in notice board of CPC (1)



**Figure 14** Disclosure of Land Acquisition and Resettlement Completion Report in notice board of CPC (1)



**Figure 15** Installation of technical signs at the location of chlorine gas injection



**Figure 16** Technical signs at the location of chlorine gas injection