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| Environmental Monitoring Report |

Semiannual Environmental Monitoring Report

Jul- Dec 2020

VIE: Water Efficiency Improvement in Drought-Affected Provinces

Prepared by Central Project Office (CPO) – Ministry of Agricultural and Rural Development and Asian Development Bank (ADB).

**CURRENCY EQUIVALENTS**(as of 1 July 2020)

|  |  |  |
| --- | --- | --- |
| Currency unit | – | Viet Nam Dong (VND) |
| VND 1.00 | = | $ 0,000046 |
| $1.00 | = | VND 21,815 |

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| --- | --- | --- |
| **ABBREVIATIONS**ADB | – | Asian Development Bank |
| AFD | – | Agence Francaise Development |
| Ban QLDA | – | Projects Management Unit |
| BHH | – | Bac Hung Hai irrigation and drainage system |
| BVMT | – | Environmental protection |
| CBOs | – | Community Based Organizations |
| CEMP | – | Community Environmental Management Program |
| CPMU | – | Central Project Management Unit |
| CPO | – | Central Project Office |
| EMP | – | Environmental Management Plan |
| GOV  IEMC | –  – | Government  Independent Environmental Monitoring Consultant |
| M&E | – | Monitor and Evaluation |
| PPMU | – | Provincial Project management Unit |
| PRA | – | Public Relative Assessment |
| QLMT | – | Environmental management |
| SEMP | – | Site Environmental Management Program |
| TN&MT | – | Resources and environment |
| TOR | – | Terms of references |
| TVGS | – | Monitoring consultant |
| DONRE | – | Department of Natural Resources and Environment |
| IEE | – | Initial Environmental Examination |
| PMU | – | Project Management Unit |
| QCVN | – | Vietnam National Environmental Standards |

**WEIGHTS AND MEASURES**

|  |  |  |  |
| --- | --- | --- | --- |
|  | ha | – | Hectare |
|  | kg | – | Kilogram |
|  | km | – | Kilometer |
|  | m | – | Meter |
|  | t | – | Ton |

**NOTES**

In this report, "$" refers to US dollars unless otherwise state.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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1. **Introduction**

## Project background

Project name in English: Water Efficiency Improvement in Drought Affected Provinces (WEIDAP).

Donor: Asian Development Bank (ADB)

Project location: The Project’s command areas are in 05 provinces that have been most affected by droughts in the period 2014 – 2016, namely: Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak, and Dak Nong. All selected areas are mainly high value crop fields.

In the project arrangements, 06 executing agencies have been identified, including 01 at the central level and other 05 at provincial level as follows:

1. Ministry of Agriculture and Rural Development (MARD)
2. Khanh Hoa Province People’s Committee
3. Ninh Thuan Province People’s Committee
4. Binh Thuan Province People’s Committee
5. Dak Lak Province People’s Committee
6. Dak Nong Province People’s Committee

The project integrates climate-resilient agricultural practices through a transformational shift in irrigation modernization including: (i) strengthening irrigation management to improve climate resilience; (ii) modernizing irrigation infrastructure; and (iii) supporting efficient on-farm water management practices. The project will have the following outcome: climate-resilient and modernized irrigation systems in five provinces established. The modernized systems will enhance the provinces’ ability to manage climate variability, improve the water productivity of agriculture, and increase incomes by supporting farmers in growing high-value crops.

The project includes three components: (i) irrigation management services strengthened; (ii) modern irrigation infrastructure developed; and (iii) efficient on-farm water management practices adopted. The first component will support policy and institutional development measures to improve climate resilience of agriculture by strengthening irrigation management. Specifically, the component will install irrigation water allocation and delivery services and improve maintenance of irrigation systems. The second component will modernize eight irrigation subprojects in the five provinces to provide water on-demand to farmers cultivating high value crops, reducing their vulnerability to climate change. The underlying principle of all systems is to provide a higher level of service—more flexible, reliable, and accessible supply of water—to farmers than they currently receive. The third component will focus on improving on-farm water productivity in the subproject command areas to improve climate change resilience. Farmers will receive training and advisory services to improve on-farm water management to cope with climate variability. Farmers will also be linked with private sector suppliers and provided operation and maintenance training on micro-irrigation systems.



*Figure 1: Map of 5 project provinces in the South Central and Central Highlands*

## Project Objectives

Overall objective of the project is supporting to improve the sustainability of irrigation systems and irrigation, water use for 05 provinces most affected by droughts in period 2014÷2016, through modernization of irrigation management services and on-farm irrigation techniques and modernization of 08 irrigation systems for irrigation of high value crops in the direction of flexibility and resistance to climate change.

***Objective of component 1***: Modernization of irrigation management services in 08 sub-projects in 05 provinces in the South-Central region and the Central Highlands. This includes the modernization of water allocation and irrigation supply services; improving the efficiency of water use in a sustainable way via assessment of water productivity, water pricing, etc., and supporting the implementation of policy institutions in irrigation management under the Irrigation Law within the project.

***Objective of component 2***: upgrade, renovate and modernize each parts of the irrigation system in a flexible and resilient manner to extreme weather events, especially droughts and flooding, to reduce water losses and improve water distribution reliability; high flexibility in modernization also allows diversification of crops to ensure maximum benefits for producers. The modernization of the transfer systems will also serve as a foundation for the implementation of the modernization of irrigation management.

Support the development of infrastructure of hi-tech agricultural areas to attract private investors to invest in large-scale agricultural production and processing in the project area.

***Objective of component 3***: Technical assistance to modernize irrigation in general and to develop modern water saving irrigation in particular to improve water use in the field in 08 sub-project areas. This component will support the expansion of production areas using modern irrigation technology to save water in the field through the application of advanced scientific and technological solutions in irrigation water economy. Fertilizer application for economical use of water, reduction of energy costs and labor costs to enhance the value chain in the production of high value crops.

## The Project’s main contents and results

The Project has 8 subprojects.

Table 1: Rehabilitation, upgrading and modernization subprojects

| **No** | **Symbol** | **Name of Subproject** |
| --- | --- | --- |
| **1** | TDA1 | Improve and upgrade the South main canal of Cam Ranh reservoir and the main canal of Suoi Dau reservoir, Khanh Hoa province |
| **2** | TDA2 | Develop irrigation for high technology agriculture in Thanh Son - Phuoc Nhon, Ninh Thuan province |
| **3** | TDA3 | Develop irrigation for high technology agriculture in Nhon Hai – Thanh Hai, Ninh Thuan province |
| **4** | TDA4 | Upgrading irrigation of Tra Tan reservoir, Duc Linh district |
| **5** | TDA5 | Du Du – Tan Thanh irrigation canal, Ham Thuan Nam district, Binh Thuan province |
| **6** | TDA6 | Upgrade and construct irrigation system for upland crops in Dak Lak province |
| **7** | TDA7 | Water efficiency improvement of Irrigation works in Cu Jut district, Dak Nong Province |
| **8** | TDA8 | Water efficiency improvement of irrigation works in Dak Mil district, Dak Nong Province |

**Main works items by subprojects are as follows:**

***Subproject 1: Improve and upgrade the South main canal of Cam Ranh reservoir and the main canal of Suoi Dau reservoir, Khanh Hoa province***

The Subproject is located in Cam Lam district, in the South Khanh Hoa. Nine Subproject beneficiary communes are: Suoi Cat, Suoi Tan, Cam Tim, Cam Hoa, Cam Duc, Cam Hiep Bac, Cam Hai Tay and Cam Thanh Bac, and total beneficiary area is 6,292 ha. 02 irrigation schemes are to be upgraded under the Subproject. 4km North canal and 3.3km South canal of Suoi Dau scheme shall be rehabilitated. Besides, 05 auxiliary systems of pumping stations and 38,523km manifolds that irrigate 4,000ha mangos (1,000ha by Suoi Dau and 3,000ha by Cam Ranh); Upgrading 8.1 km of O&M road along the canal, from K4 + 267.8 ÷ K7 + 568, which structure is made of concrete M250, road surface is 3m wide, sidewalks are 0.5m wide, each.

***Subproject 2: Develop irrigation for high technology agriculture in Thanh Son - Phuoc Nhon, Ninh Thuan province***

The Subproject area covers 4 districts, namely Ninh Hai, Ninh Son, Thuan Bac and Bac Ai in Ninh Thuan province. It’s expected the completed Subproject shall improve irrigation services for 1,800ha of agricultural lands. It’s going to install about 35,85km manifolds to convey water for irrigation of the command area of Tan My irrigation scheme; Upgrading road of grade A, from Highway 27 to the area planned for hi-tech agriculture, within the project area, total length to be upgraded is about 6.35km, road base is 9m wide, road surface is 7m wide, made of stone cement concrete M300, 30cm thick.

***Subproject 3: Develop irrigation for high technology agriculture in Nhon Hai – Thanh Hai, Ninh Thuan province***

The Subproject area covers 3 communes Tri Hai, Nhon Hai and Thanh Hai in Ninh Hai district, Northwest to Ninh Thuan province. The completed Subproject will irrigate about 1,000ha agricultural lands. It’s going to install about 9.5km main ring pipeline for Tan My system and about 14.8km branch system; The management road is arranged along water supply pipeline, it’s 17,810 m in length, of grade B, the road surface is 3.5 m wide, road base is 5m wide, the road surface is made of 25 cm thick gravels.

***Subproject 4: Upgrading irrigation of Tra Tan reservoir, Duc Linh district***

The Subproject is located in Duc Linh district in Binh Thuan province. It comprises of 2 irrigation systems: (i) Rehabilitating 7.52km main canal, 10.44km secondary canal, and (ii) Constructing a new pumped pipeline, including: an intake, a pumping station and 3.96km manifold. Both systems take water in Tan Tra reservoir. Besides, the management road is built along the main pipeline, total length L = 30.6 km. It’s rural road grade B, road base is 4.0m wide, road surface is 3.0m wide, sidewalks are constructed on both sides, and it is 0.5m each.

***Subproject 5: Du Du – Tan Thanh irrigation canal, Ham Thuan Nam district, Binh Thuan province***

The Subproject is located in Ham Thuan Nam district, Binh Thuan province. It will supply water for irrigation of dragon fruit tree farms in the province. The rehabilitation of the system will help to increase dragon fruit farms from 1,460 ha to 1,960 ha. The proposed Subproject comprises of an intake, 32.7km manifolds and connections to the pipelines. Besides, for canal system: Upgrading and repairing the management road. Total length to be upgraded and repaired is 7,520 m. For the road surface is made of selective aggregates, the road surface is 5.0m in width and 25cm in thickness, slope of 3% is made on both sides. Pumping station: Management road: Grade D, 3,960.8m in length, made of concrete, 2m wide, 16 cm thick.

***Subproject 6: Upgrade and construct irrigation system for upland crops in Dak Lak province***

The Subproject is located in 4 districts, Ea H’Leo, Cư M’Gar, Krông Păk and Ea Kar in Dak Lak province. The completed subproject will meet the irrigation demand of above 2,650ha agricultural and high value crops lands. The Subproject comprises of 8 irrigation systems of 5 reservoirs and 48.5km pipeline. Besides, constructing new road section of 565m and upgraded 17.7 km for construction, management, operation and internal traffic in the irrigation area.

***Subproject 7: Water efficiency improvement of Irrigation works in Cu Jut district, Dak Nong Province***

The Subproject is located in Cu Jut district, in the North to Dak Nong province, about 25km to Buon Ma Thuot. The completed Subproject will ensure irrigation for 2,163ha in 6 communes in Cu Jut district. The Subproject comprises of 10 weirs, 2 pumping stations and 10.95km pipelines. Besides, at each site of dam, building 01 road for multipurposes: rural road and O&M road, it runs along the existing road, 02 roads connecting dam 7, dam 9. Road is of grade B which base is 5m wide, road surface 3.5m, made of 18cm thick reinforced concrete M250. The total length of 10 roads is 15 km.

***Subproject 8: Water efficiency improvement of irrigation works in Dak Mil district, Dak Nong Province***

The Subproject is in Dak Mil district, in the North to Dak Nong province, about 60km to Buon Ma Thuot. The completed subproject will ensure irrigation for 5,980ha in 5 communes in Dak Mil district. It’s going to rehabilitate 4 reservoirs, construct 1 reinforced concrete sluice, 1 branch canal; upgrade Dak Sor – Long Son weir and construct a pumping station. Besides, building a road to production area, it’s 537.9 m long, grade A, 3.5m wide road surface, made of 20 cm thick concrete M250; and building the road to the production area has 4 sections of 10530.2 6m, grade B rural road, road surface is 3.5 m wide, made of 20cm thick concrete M250, foundation is made of 15cm thick ballast;

**Project’s main outcome:** Modern and climate resilient irrigation schemes in 5 project provinces developed through following outputs:

- Irrigation management services strengthened

- Modern irrigation infrastructure developed

- Efficient on-farm water management practices adopted

## Project management and implementation

Project management and implementation arrangements will follow provisions mentioned in Project Administration Manual (PAM) disclosed by ADB and adopted by MARD.

1. **Institutional Setup and Responsibilities for EMP Implementation and Supervision**

**Institutional responsibilities for environmental management**

ADB

CPMU

PPMU

Environmental staff

Contractor

CMC

Community

IEMC

DONRE

Figure 1. Implementation organization chart

Table 1: Responsibilities of environmental management implementation

| **No** | **Agencies** | **Responsibilities of environmental management implementation** | **Current compliance status** |
| --- | --- | --- | --- |
| 1 | CPO/CPMU | Taking responsibilities for management, monitoring, supervision and preparation of environmental monitoring reports to submit ADB every 6 months.  Mobilize an independent environmental monitoring consultant during project implementation process to monitor EMP’s implementation. | **Complied**  CPMU has been set up with 14 staff including 02 safeguard staff (01 environmental staff and 01 social staff) |
| 2 | PPMU | To be responsible for implementing all of environmental protection activities in the environmental management plan of the sub-projects (EMP) in the preparation stages of pre-construction and construction.  Assign environmental staff to supervise environmental protection activities of contractors as well as CSC’s monitoring activities  Coordinating with local authorities to resolve complaints (if any).  Prepare periodic reports to submit CPMU about implementing project plan and environmental management plan of sub-project. | **Complied**  PPMUs has been set up with 01 environmental staff and 01 social staff. |
| 3 | Construction contractor | Prepare “Site environmental management plan for construction area of contractor" to meet the requirements for environmental management of sub-project. This plan must be approved by the project owner before proceeding construction.  Perform tasks that defined in the Site Environmental Management Plan, effectively caring out mitigation measures during construction and other issues relating to the environmental management plan of sub-project.  Reporting to local authorities and PPMU if occurring the environmental accidents and coordinating with relevant parties and stakeholders to resolve it.  Resolve complaints relating to the construction and operation of the workers. | Not yet set up |
| 4 | Construction Supervision Consultant | Support PMU for the implementation of daily environmental management plan approved by ADB in contractor’s construction process  Periodically making the temporary reports on implementation of EMP at the site including the improved proposals for Contractor’s synthesis to submit to PPMU | Not yet set up |
| 5 | Independent environmental monitoring consultant (IEMC) | Strengthening management capacity and environmental monitoring for contractors thoughout EMP guideline and training class.  Checking, supervise the compliance of contractors with environmental mitigation measures mentioned in the approved EMP/EIA  Sampling, analysis and environmental quality assessment to evaluate project’s influence level to the environment  Prepare periodic reports on implementing environmental safeguard for subproject as required | Independent environment monitoring consultant is being recruited. The shortlist of consultant was submitted to ADB on 11th March 2021 for approval. |
| 6 | Local community | Residential communities have right and responsibility supervising activities in the construction process to ensure rights and their safety policies are protected adequately as well as mitigation measures are implemented effectively by contractor and PMU. In case of unexpected problems, they will report to CSC/PMU/CPC. | Not yet set up. |

# 3. Project construction implementation progress

From July to December 2020, there has no construction activity taken place. The detail of packages and construction status are in table 2 below

Table 2: Information of construction packages

| **Package name** | **Name of contractor** | **Name of CSC** | **Current status** |
| --- | --- | --- | --- |
| Improve and upgrade the South main canal of Cam Ranh reservoir and the main canal of Suoi Dau reservoir, Khanh Hoa province | Not yet selected | Not yet selected | Not yet started |
| Develop irrigation for high technology agriculture in Thanh Son - Phuoc Nhon, Ninh Thuan province | Not yet selected | Not yet selected | Not yet started |
| Develop irrigation for high technology agriculture in Nhon Hai – Thanh Hai, Ninh Thuan province | Not yet selected | Not yet selected | Not yet started |
| Upgrading irrigation of Tra Tan reservoir, Duc Linh district | Not yet selected | Not yet selected | Subproject detail engineering design is being prepared |
| Du Du – Tan Thanh irrigation canal, Ham Thuan Nam district, Binh Thuan province | Not yet selected | Not yet selected | Subproject detail engineering design is being prepared |
| Upgrade and construct irrigation system for upland crops in Dak Lak province | Not yet selected | Not yet selected | Not yet started |
| Water efficiency improvement of Irrigation works in Cu Jut district, Dak Nong Province | Not yet selected | Not yet selected | Not yet started |
| Water efficiency improvement of irrigation works in Dak Mil district, Dak Nong Province | Not yet selected | Not yet selected | Not yet started |

**4. C**ompliance with environmental provision

Summary of prepared environmental documents status is shown in table 3below:

Table 3: Environmental documents status

| **Work** | **Preparation phase** | | **Implementation phase** | |
| --- | --- | --- | --- | --- |
| **IEE** | **EIA/EPP** | **uEMP** | **CEMP** |
| Improve and upgrade the South main canal of Cam Ranh reservoir and the main canal of Suoi Dau reservoir, Khanh Hoa province | Khanh Hoa PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | .2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Develop irrigation for high technology agriculture in Thanh Son - Phuoc Nhon, Ninh Thuan province | Ninh Thuan PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Develop irrigation for high technology agriculture in Nhon Hai – Thanh Hai, Ninh Thuan province | Ninh Thuan PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Upgrading irrigation of Tra Tan reservoir, Duc Linh district | Binh Thuan PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Du Du – Tan Thanh irrigation canal, Ham Thuan Nam district, Binh Thuan province | Binh Thuan PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Upgrade and construct irrigation system for upland crops in Dak Lak province | Dak Lak PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Water efficiency improvement of Irrigation works in Cu Jut district, Dak Nong Province | Dak Nong PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited | Not yet due |
| Water efficiency improvement of irrigation works in Dak Mil district, Dak Nong Province | Dak Nong PC cleared on 2017 and IEE was uploaded on ADB’s website on 2017 | 2017 | The environment consultant for updating EMP is being recruited |  |

Status of Compliance with Loan Agreements

Loan Agreement No.3745 VIE COL between the Socialist Republic of Vietnam and ADB on December 28, 2018 contains provisions, including Section Environment; Land acquisition and involuntary resettlement and Prohabited list of investments of Schedule 5 of the Loan Agreement and the Project Agreement. The Subprojects will have to comply with these obligations as a component of the WEIDAP project. The provisions relating to the environment and safety of the Loan Agreement are listed in table below.

Table 4: Status of compliance with the Loan Agreement

| **Loan Agreement** | **Compliance status** |
| --- | --- |
| Schedule 5 para 2: The Borrower shall ensure or cause the Participating PPCs to ensure that the preparation, design, construction, implementation, operation and decommissioning of project and all Project facilities comply with:   * + - * 1. All applicable laws and regulations of the borrower relating to environment, health and safety;         2. The environmental safeguards;   (c) All measures and requirements set forth in the IEEs, the EMPs and any corrective or preventative actions set forth in a monitoring report. | Being complied with  Being Complied with  Not yet due  The environment consultant for updating EMP is being recruited |
| Schedule 5 para 3 The Borrower shall ensure or cause the Participating PPCs to ensure that their respective Subprojects are carried out in accordance with environmental assessment procedures provided in the IEEs as agreed between MARD and ADB. | Being complied with |
|  |  |
| Schedule 5 para 10 The Borrower shall ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS | Being complied with |

5. ENVIRONMENTAL MITIGATION MEASURES IMPLEMENTED IN THE REPORTING PERIOD

**4.1. Status of mitigation measure implemented** No construction work has been carried during this monitoring report

6. ENVIRONMENTAL AFFECT MONITORING

No environment sampling has been conducted during this monitoring report.

The baseline environment sapling will be conducted as soon as independent environment monitoring consultant mobilized and before construction work started

7. PUBLIC CONSULTATION, GRIEVANCE REDRESS MECHANISM



## 7.1. Public consultation and EMP information dissemination

No public consultation has been conducted during this monitoring report

## 7.2. Grievance Redress Mechanism (GRM)

Not yet due

8. INSTITUTIONAL STRENGTHERNING AND TRAING

Environmental monitoring and training class will be organized in monitoring phase

9 KEY ENVIRONMENT ISSUE

No environment issues since the construction has not been started yet.

10. CONCLUSION AND RECOMMENDATION



On 25 Nov 2020; 2 Dec 2020; 14 Dec 2020; 15 Dec 2020; and 14 Jan 2021, Khanh Hoa PPC, Binh Thuan PPC, Dal Lak PPC, Dak Nong PPC and Ninh Thuan PPC respectively, have approved TOR and Cost estimate of the u-EMP package. The contracts will be signed in March 2021.

On 25 Nov 2020; 2 Dec 2020; 14 Dec 2020; 21 Dec 2020 and 31 Dec 2020, Khanh Hoa PPC, Binh Thuan PPC, Dal Lak PPC, Dak Nong PPC and Ninh Thuan PPC respectively, have approved TOR and Cost estimate of the IEMC package. CPMU will publish the advertisement on Jan 2021. The contracts will be signed in QII 2021

The EMP compliance monitoring activities shall be carried out upon the commencement of construction.