Initial Environmental Examination

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Viet Nam: Water Efficiency Improvement in Drought Affected Provinces

Dak Lak Province Subproject

Prepared by the Central Office for Water Resources Projects (CPO) - Ministry of Agriculture and Rural Development for the Asian Development Bank.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AH	affected household
AP	affected person
COD	chemical oxygen demand
CPC	Communal People's Committee
CPO	Central Project Office for Water Resources Projects
CPMU	Central Project Management Unit
CSC	construction supervision consultant
DARD	Department of Agriculture and Rural Development
DO	dissolved oxygen
DONRE	Department of Natural Resources and Environment
DPC	District People's Committee
EA/IA	executing agency/implementing agency
EHS	Environment, Health, and Safety Guidelines
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EM	ethnic minority
EMP	Environmental Management Plan
EMR	environmental monitoring report
EPA	environmental protection assessment
EPC	Environmental Protection Commitment
EPP	Environmental Protection Plan
EPS	Environmental Protection Scheme
ESP	Environment Safeguard Specialist
GRM	grievance redress mechanism
H	hour
ha	hectare
HH	household
HVC	high value crop
IEE	initial environmental examination
IEMC	independent environmental monitoring consultant
IMC	Irrigation Management Company
IWRP	Institute of Water Resources Planning
km	kilometer
km^2	square kilometer
l/s	liter per second
l/s/ha	liter per second per hectare
LIC	Loan Implementation Consultant
LOS	level of service
m	meter
m/ha	meter per hectare
m^3	cubic meter
m^3/s	cubic meter per second
mm	millimeter
MARD	Ministry of Agriculture and Rural Development
MONRE	Ministry of Natural Resources and Environment
O&M	operation and maintenance
PCC	People's Committee and Commission
PIC	project implementation consultant

PMU	Project Management Unit
PPC	Provincial Peoples Committee
PPE	personal protective equipment
PPMB	Provincial Project Management Board
PPMU	Provincial Project Management Unit
PPTA	project preparation technical assistance
PS	pumping station
QCVN	Quy chuẩn kỹ thuật (National Technical Regulation)
RAP	Resettlement Action Plan
ROW	right-of-way
RP	resettlement plan
SEA	strategic environmental assessment
SEMP	Site Environment Management Plan
SERD	Southeast Asia Department
SPS	Safeguard Policy Statement
TMIS	Tan My irrigation system
UXO	Unexploded Ordinance
VND	Vietnamese Dong
WEAT	water efficient application technology
WEIDAP	Water Efficiency Improvement in Drought Affected Provinces

NOTE

This initial environmental examination (IEE) 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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EXECUTIVE SUMMARY

A. Subproject Background

1. The Water Efficiency Improvement in Drought Affected Provinces Project (WEIDAP) aims to improve agriculture water productivity (crop per drop) by increasing water use efficiency in irrigated agriculture in five drought-affected provinces in the Central Highland and South Central Coastal Regions: Binh Thuan, Dak Lak, Dak Nong, Khanh Hoa, and Ninh Thuan. The project is aligned with the Government's *Agricultural Restructuring Policy*, the *Law on Hydraulic Structures*, and the *Irrigation Subsector Restructuring Plan.*[1] The project features: (i) increasing water productivity with the reduction of conveyance losses made possible by piped distribution systems and substantial improvements in operational control; (ii) increased adoption of water efficient application technology (WEAT) for climate mitigation, which are also effective in saving energy (through reduced fertilizer applications) and achieving significant labor reductions; (iii) conjunctive use of surface and groundwater–a pragmatic acknowledgement of current irrigation practices and farmers' coping strategies during periods of increasing climate variability; and (iv) reduced operation and maintenance (O&M)–rigorous asset management is central to the project design and provides greater confidence in sustainability of benefits.

2. Dak Lak Province has one subproject covering five separate irrigation schemes using surface water from the Ea Dang, Buon Yong, Krong Buk Ha, and 500 hill reservoirs. Each irrigation scheme consists of a pumping station, a pipeline system, and a storage tank where water will run by gravity to the command area. In addition, the Ea Quang reservoir irrigation scheme includes the upgrading of one gravity canal system. The subproject influences eight communes in four districts in Dak Lak Province.

B. Environmental Impacts and Mitigations

3. The subproject has been categorized as B for environmental safeguards during the Project Concept Note stage as few significant impacts were identified, none of them irreversible. This Initial Environmental Examination (IEE) was prepared to: (i) screen impacts and formulate mitigation measures in the three phases of subproject implementation (design and pre-construction, construction, and operation); and (ii) describe the institutional arrangements that will ensure that the subproject environmental management plan (EMP) will be implemented.

4. During the design and pre-construction phase, the potential environmental impacts identified relate to the following: (i) land acquisition and resettlement as around 6.4 ha of perennial trees will be affected but no household has to be relocated; (ii) water quality of existing reservoirs due to the overuse of water for irrigation; and (iii) unexploded ordnance (UXO) tha may still exist underground in the subproject area. To minimize these impacts, the Project Management Unit (PMU) will: (i) implement a land acquisition and compensation process before construction to ensure that all affected households (HHs) are compensated adequately in accordance with prevailing fair market prices and Asian Development Bank (ADB) *Safeguard Policy Statement* (*SPS*) (2009); and (ii) conduct UXO clearance before the start of civil works. Water balance calculations were undertaken by the Institute of Water Resources Planning (IWRP) to ensure the availability of adequate water for irrigation taking into account the existing and increased command areas requirements and avoiding any impact on the aquatic ecosystem of the reservoirs.

5. Potential negative impacts in the construction phase have been identified as: (i) pollution

[1] Ministry of Agriculture and Rural Development (MARD). *Decision No. 802/QD-BNN-TCTL* of 22 April 2014 approving the *Implementation Action Plan for Irrigation Subsector Restructuring Scheme*. Hanoi.

of existing reservoirs due to runoff, sedimentation, as well as construction and domestic wastes from workers' camps; (ii) disturbance of cultivation activities at the construction sites of the five irrigation schemes; (iii) disruption of the existing irrigation service caused by the upgrading of 5 km of open canal of the Ea Kuang irrigation scheme and the existing pumped pipe system of villagers in the 500 hill reservoir irrigation scheme; (iv) noise and dust generation due to cutting of concrete and pipeline installation of along the Block 1 of Ea Dang township, potentially affecting village residents along both sides of the road and affecting travellers along the community road of Block 3 of Quang Tien Commune; (v) traffic disturbance during the installation of pipes across the provincial road at the section passing Ea Dang township and across the community road passing 500 hill reservoir; (vi) damage of community roads, especially the road in Block 1 of Ea Dang township and Block 3 of Quang Tien Commune, caused by the transport of heavy construction materials to the work sites; and (vii) occupational and community health and safety risks likely to occur at the construction sites due to civil works and machine operations and uncovered holes; and (viii) conflicts between locals and subproject migrant workers.

6. To address these impacts, contractors will: (i) not be allowed to stockpile, store materials, oil, and lubricants, and build workers' camps 50 meters (m) from the reservoirs; (ii) not excavate or install pipes in the rainy season and during heavy rains in the dry season; (iii) properly manage construction, domestic, and hazardous wastes at sites and submit the contractor's plan on waste management and storage of materials to the Provincial Project Management Board (PPMB) for approval before civil works commencement; (iv) consult with local people and authorities in preparing the contractor's work plan and method of pipe installation across farmlands to avoid any disturbance of local cultivation activities; (v) consult with local people and authorities in preparing a suitable work plan for the upgrading of 5 kilometers (km) of Ea Kuang irrigation scheme and relocation of the private pipe to the pumping station of 500 Hill irrigation scheme before the start of civil works; (vi) suppress dust by keeping excavated soil and stockpiling it moist, minimize gas emissions through machine maintenance and turn off machines when not in use, limit working hours during daytime from 0700-0011 hrs and from 1300-2100 hrs when installing pipes at the site of Ea Dang and Ea Kuang reservoir irrigation schemes; (vii) collaborate with the local traffic agency to install barriers in compliance with traffic regulations at both sides of the roads when installing pipes across the roads and backfilling immediately after pipe installation is completed (within one day); if the excavated canals have not been backfilled, fence off the surrounding area and provide lighting and flag signals; (viii) restore the ground to its previous condition after the civil works have been completed; (ix) conduct a preliminary survey and assess the status of community roads that are planned to be used for transporting materials to sites, including recording road quality, and repair, rehabilitate, or compensate communities for damages to roads due to subproject construction; and (x) provide workers with adequate personal protective equipment and guidelines on health and safety to ensure that workers understand health risks and avoidance, and train workers on community culture and how to respect local people, especially ethnic minority communities.

7. In the operation phase, potential negative impacts have been identified relating to: (i) water quality deterioration in the five subproject reservoirs due to impacts from operational wastes; (ii) damage to the pipeline system; (iii) community health and safety concerns, especially when untrained local people use electrical equipment for taking water from storage tanks to water their crops. To minimize these negative impacts, the Dak Lak Department of Agriculture and Rural Development (DARD) will: (i) conduct water quality monitoring every six months to identify non-compliance with water quality standards and propose mitigation measures to address any impacts; (ii) prevent encroachment on the right-of-way (ROW) of the pipeline system to protect the pipe; and (iii) assign trained staff to operate the pumping station and work with electric equipment.

8. The project preparatory technical assistance consultant identified key stakeholders and conducted public consultations from the provincial down to the commune level to seek the views of target beneficiaries, particularly people who are likely to be affected by the proposed subprojects. The meeting participants were very supportive of the subprojects, which they perceive as beneficial to them as they will help them cope with the shortage of water for their crops especially during summer. The participants did not give much attention to environmental concerns because they know that most of the civil works will be small-scale, and construction work will be far from the residential areas. They were more concerned about land acquisition and compensation issues and the use of land in the subproject area. All of these concerns are addressed in the Environmental Management Plan (EMP) that was prepared for the Dak Lak Province subproject.

9. The EMP also provides details on the roles and responsibilities of relevant stakeholders in its implementation during the construction and operation phases of the subproject.

C. Institutional Arrangements

10. The Central Project Management Unit (CPMU) under the Ministry of Agriculture and Rural Development (MARD), the Dak Lak Provincial Project Management Board (PPMB), and the Dak Lak Department of Agriculture and Rural Development (DARD) are the key institutions that will play crucial roles in the implementation of the subproject and the environment safeguards. The CPMU/Provincial Project Management Unit (PPMU) will recruit one Environment Safeguard Specialist (ESS) under the loan implementation consultant to support subproject implementation in Dak Lak. The ESS will support PMU in updating the EMP and in monitoring the compliance of contractors during the construction phase. The ESS will also be responsible for training and capacity building on EMP implementation.

11. The PMU will engage a Construction Supervision Consultant (CSC) for the monitoring and supervision of the subproject, including environmental monitoring. The CSC will ensure that the contractors implement the provisions of the subproject EMP.

D. Conclusion

12. This IEE of the Dak Lak Subproject was undertaken to determine the environmental issues and concerns associated with the proposed irrigation schemes, following the modifications of the initial plans that were presented during project preparation. The modifications made are considered more suitable in terms of ensuring better irrigation water quality and quantity. The assessment confirmed that the subproject remains classified as Category B for environment based on the ADB SPS (2009).

13. There are expected beneficial impacts on health and well-being of people from the proposed irrigation schemes Dak Lak Province. Besides, most of the environmentally negative impacts are expected to occur during the construction phase, are not expected to cause irreversible and significant adverse environmental impacts, and are easily controllable through the adoption of appropriate and conventional mitigation measures. All adverse impacts will be addressed by the proposed mitigation measures outlined in the subproject EMP, including the institutional responsibilities for implementing the said measures.

14. The IEE concludes that the subproject, combined with available information on the affected environment, is sufficient to identify the scope of environmental impacts of the subproject. No further environmental assessment is therefore required. The ESS will update the EMP before the finalization of the detailed design of the subproject.

INITIAL ENVIRONMENTAL EXAMINATION OF THE DAK LAK PROVINCE SUBPROJECT

I. SUBPROJECT BACKGROUND

1. Located in the Central Highlands, Dak Lak Province experienced a prolonged drought from 2012–2016, recorded the driest period in 40 years, with dry season river flow levels dropping to between 20-30% of the average annual figures. The frequency and intensity of such dry spells have increased in recent times under the influence of the El Niño weather phenomenon. Over this period, the storage capacities of irrigation reservoirs from Da Nang to Phu Yen reached only 60-80% of design capacities, while those in Khanh Hoa, Ninh Thuan, Binh Thuan, Dak Lak, and Dak Nong[2] achieved onnly 30-50% of capacity. The economic consequences of persistent drought in the region are significant in an environment where competition for water is increasing across multiple sectors.

2. Dak Lak Province is one of the five provinces selected under the Water Efficiency Improvement in Drought Affected Provinces Project (WEIDAP) of the Ministry of Agriculture and Rural Development (MARD), the executing agency. The project will support the improvement of the efficiency and management of existing irrigation works, especially in drought-affected provinces of Viet Nam. The project also aims to facilitate economic restructuring within the sector, focusing on high-value crops (HVCs) and sustainable development.

3. Aligned with the Government's *Agricultural Restructuring Policy*, the *Law on Hydraulic Structures*, and the *Irrigation Subsector Restructuring Plan* , the subproject aims to: (i) improve the quality of service delivery in irrigation systems, promote the economic use of water improving agricultural production and increasing crop diversification in response to climate change; (ii) contribute to the improved productivity, quality, and development of modernized irrigated agriculture, prioritizing the main upland crops and fisheries; (iii) promote revenue generating services from irrigation works to maximize the potential and capacity of existing irrigation schemes, ensuring sustainable financing for organizations managing the exploitation of irrigation and reduced subsidies from the state budget.

4. Dak Lak Province has one subproject covering five separate irrigation schemes using surface water from the Ea Dang, Buon Yong, Krong Buk Ha and 500 hill reservoirs. Each irrigation scheme consists of a pumping station, a pipeline system, and a storage tank using gravity to bring water to the command area of the scheme. In addition, the Ea Quang reservoir irrigation scheme will include the upgrading of one gravity canal system. The subproject will benefit households in nine communes in four districts of Dak Lak Province.

II. POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

5. The subproject will comply with the requirements of the Asian Development Bank (ADB) Safeguard Policy Statement (SPS) (2009) and the Government of Viet Nam's *Guidelines on Implementation of the Law on Environmental Protection* (2014). *Decree No. 18/2015/ND-CP* has detailed information on environmental protection assessment, environmental impact assessment (EIA), and environmental protection plans (EPPs). However, certain activities commonly associated with infrastructure projects, such as quarry operations, extraction of gravel, etc., will require, in addition, permission from the relevant provincial authorities. Depending on the scale, some civil works, such as bridges or spillways, will require the conduct of an EIA.

[2] These are the south central coastal provinces targeted by the project. The two Central Highlands provinces are Dak Lak and Dak Nong.

A. ADB Requirements

6. ADB's SPS (2009) imposes safeguard requirements for all its funded projects. The SPS (2009) clarifies the reason, scope, and contents of the environmental assessment. It emphasizes environmental and social sustainability in pursuit of economic growth and poverty reduction in Asia and the Pacific. Therefore, the objectives of the SPS are to:

- Avoid adverse impacts of projects on the environment and affected persons (AP), where possible;
- Minimize/mitigate and/or compensate for adverse impacts on environment and AP when avoidance is not possible; and
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks

7. **Environment categorization.** ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed project is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories:

- **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.
- **Category B.** A proposed project is classified as Category B if its potential adverse environmental impacts are less adverse than those of Category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases, mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.
- **Category FI.** A proposed project is classified as category FI if it involves an investment of ADB funds to or through a financial intermediary (FI).

8. The IEE Report should include the EMP that specifies the proposed mitigating measures specific to a potential impact, environmental monitoring requirements, institutional arrangements, and budget requirements.

9. ADB also requires public disclosure for Category A and B projects. For Category A, there should be at least two consultations, once during the early stages of the EIA and once when the draft EIA is available prior to ADB loan appraisal. For Category B, the draft IEE report should be available to interested stakeholders before project approval and posted on the ADB's website upon Board approval of the project. Viability and existence of the project are also required.

B. Government's Legal and Institutional Framework

10. Viet Nam's *Law on Environmental Protection (Law No. 55/2014/QH13)* dated 23 June 2014 provides the basis for the country's environmental laws and EIA system. The implementation of this law is guided by implementing guidelines, amendments, regulations on impact

assessments, as well as sanctions on violations, incentives, regulations on waste management, and national technical regulations or standards on environmental quality.

11. *Decree 19/2015/ND-CP* dated 14 February 2015 provides guidelines for the implementation of several articles of the law pertaining to the assignment of environmental management responsibilities among ministries, provinces, and people's organizations (POs).

12. *Decree 18/2015/ND-CP* dated 14 February 2015 contains the requirements for Environmental Protection Plan (EPP), Strategic Environmental Assessment (SEA), EIA, and Environmental Protection Scheme (EPS). It also provides a list of project categories requiring an EIA Report (EIAR); 113 project types are listed in Annex II.

13. *Decree No. 80/2014/ND-CP* issued on 6 August 2014 regulates drainage and treatment of wastewater in urban areas, industrial zones, economic zones, processing and export zones, and rural residential areas. It also prescribes the rights and obligations of organizations, individuals, and households with activities related to drainage and treatment of wastewater within Viet Nam's territory.

14. *Decree No. 179/2013/ND-CP* dated 14 November 2013, prescribes sanctions for administrative violations on the domain of environmental protection. *Decree No.59/2007/NĐ-CP* dated 9 April 2007 and *Decree 38/2015/ND-CP* dated 24 April 2015 contain provisions on the management of wastes and scraps, including hazardous wastes.

15. *Circular 27/2015/TT-BTNMT* issued by the Ministry of Natural Resources and the Environment (MONRE) dated 29 May 2015 provides detailed guidance for SEA, EIA, and Environmental Protection Commitment (EPC).

16. The environment standard that the subproject will be meeting and will be monitored against:

- National Technical Regulations on air and noise quality
  - QCVN 05: 2013/BTNMT on ambient air quality
  - QCVN 26: 2010/BTNMT on noise
  - QCVN 27: 2010/BTNMT on vibration

- National Technical Regulations on water quality
  - QCVN 01: 2009/BYT on drinking water quality
  - QCVN 02: 2009/BYT on domestic water quality
  - QCVN 08: 2008/BTNMT on surface water quality
  - QCVN 09: 2008/BTNMT on underground water quality
  - QCVN 14: 2008/BTNMT on domestic wastewater

17. By law, investors and enterprises are required to submit EIAs and EPCs for their projects; government guidelines prescribe the format and content of EIA and EPP reports. Implementation of each of the subcomponents under a project will require compliance with these government-mandated procedures. In this case, the responsibility for compliance rests with the designated CPMU and PPMU.

18. Even though this IEE is written mainly to respond to ADB's requirements for due diligence review of environmental safeguards, it will also serve as reference for the CPMU, during the project's detailed design phase, in preparing compliance documents in the form of an EPC for each subproject for clearance by the provincial Department of Natural Resources and

Environment (DONRE) in accordance with Viet Nam's EIA system. Current national standards for construction safeguards (covering environmental protection, workers, and public safety), as well as standards governing water and air quality, will be used as references in assessing environmental impacts and formulating mitigation and monitoring measures.

19. With regard to the institutional framework, environmental management is administered at the national level by MONRE. Aside from MONRE, environment divisions in the various line ministries are tasked with environmental management functions related to specific sectors.

20. At the provincial level, the relevant management authorities are the Departments of Natural Resources and Environment (DONREs), which carry out their environmental protection activities through their respective environment divisions. DONRE is under the purview of MONRE only in relation to administrative matters and technical guidance. For all other purposes, the DONRE operates under the direct control of the respective provincial governments, through the Provincial People's Committees (PPCs).

Convention Title	Convention date	Viet Nam participation
Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR)	1971	[20 September 1988]
Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Paris.	1982	
Convention Concerning the Protection of the World Cultural and Natural Heritage	1972	[19 October 1987]
Convention on International Trade in Endangered Species Wild Fauna and Flora	1973	[20 January 1994]
UN Environmental Modification Convention (ENMOD)	1977	[26 August 1980]
FAO International Code of Conduct on the Distribution and Use of Pesticides		
Montreal Protocol on Substances that Deplete the Ozone Layer	1987	[26 January 1994]
London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, London.	1990	
Copenhagen Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Copenhagen.	1992	
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1995	[13 March 1995]
United Nations Framework Convention on Climate Change	1992	[16 November 1994]
Convention on Biological Diversity	1992	[16 November 1994]

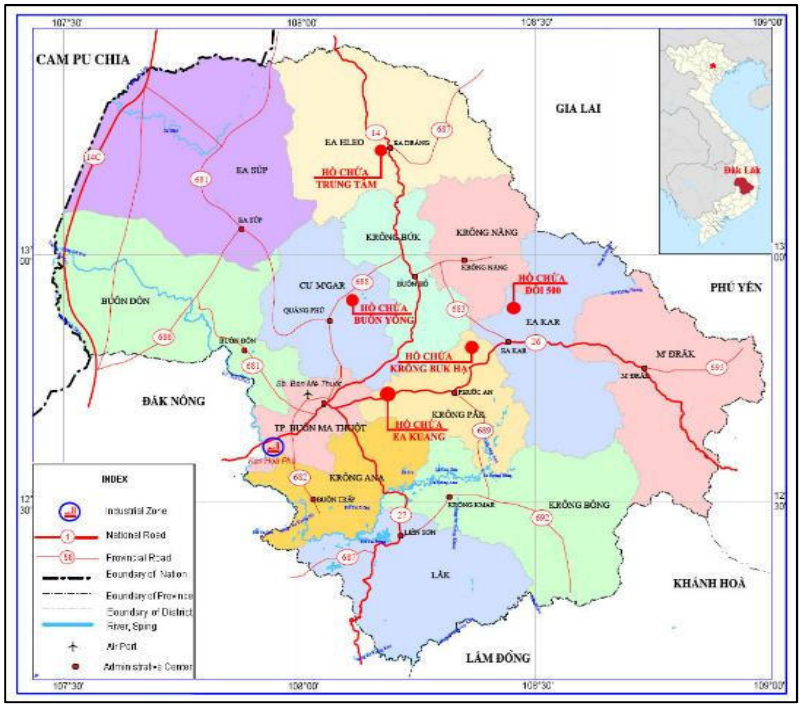
III. SUBPROJECT DESCRIPTION

A. Subproject Location

21. The subproject will consist of five irrigation schemes receiving surface water from four existing reservoirs located in four districts of Ea H'Leo, Cu M' Gar, Krong Pak, and Ea Kar in Dak Lak Province. From the existing reservoirs, water will be pumped to irrigate agricultural lands for high-value crop (HVC) production, primarily black pepper and coffee, with a total net command area of 2,650 ha

located in eight communes. These are: Ea Pam and Quang Tien communes in Cu M' Gar District); Ea Dang township in Ea H'leo District; Ea Phe, Ea Kenh, Ea Yong, and Krong Buk in Krong Pak District; and Xuan Phu Commune in Ea Kar District. **Figure 1** shows the location of the subproject.

Figure 1: Location of the Subproject



B. Subproject Specifications

22. The Dak Lak subproject will comprise five separate schemes. Each will consist of an existing storage reservoir, from which water will be pumped to support HVC production, primarily black pepper and coffee. Besides the pumped pipe system, the Ea Kuang reservoir irrigation scheme will include the upgrading of 5 km of the existing gravity canal supplying various crops, including paddy. The subproject will comprise eight new storage irrigation systems that will serve a total of 2,650 hectares (ha), with water to be supplied from five existing reservoirs (Ea Dang, Buon Yong, Ea Kuang, Krong Buk Ha, and 500 Hill). The total pipe length to be developed for the eight schemes is approximately 48.5 km, as shown in **Table 1**.

Table 1: Dak Lak Subproject Irrigation Systems

Reservoir	Irrigation System		Area (ha)	Pipe Length (km)
	Supply	Distribution		
Ea Drang	New pump station	New pipeline	150	2.70
Buon Yong	New pump station	New pipeline	451	8.51
Ea Kuang	New pump station	New pipeline	422	15.78
	Existing open canal (5km for upgrading)	New pipeline	424	
Krong Buk Ha	New pump station	New pipeline	200	3.45
	New pump station	New pipeline	400	6.86
	New pump station	New pipeline	200	3.85
		New pipeline	200	3.31
Hill 500	New pump station	New pipeline	203	4.07
Total of 5 reservoirs	**Total of 8 systems**		**2,650**	**48.53**

Source: Dak Lak Subproject, PPTA FS Report. July 2017.

23. The piped distribution system was designed to meet the modern level of service (LOS) adopted for WEIDAP. Pipe densities will range from 16.5 m/ha to 20.0 m/ha, with an average of 18.3 m/ha. The pipe diameter for the five schemes will range from 110 -710 mm, as shown in **Table 2**. Almost the all pipelines will be buried between two rows of pepper or coffee trees.

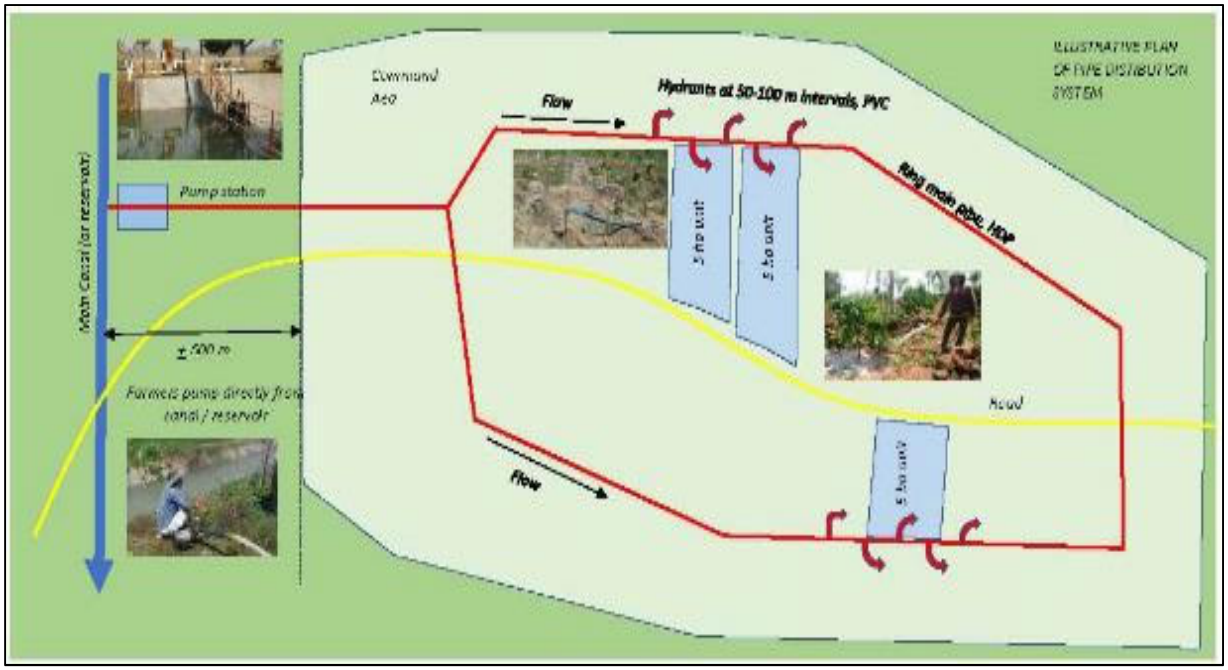
Table 2: Design Pipe Diameters and Lengths

∅ (mm)	Pipe Lengths (m)					
	Ea Drang	Buon Yong	Ea Kuang	Krong Buk Ha	Doi 500	Total
110	880	1,465	1,337	2,244	467	6,503
140	97	0	0	0	0	237
160	229	2,251	2,047	3,573	827	9,087
225	512	2,274	1,464	2,921	1,303	8,699
280	685	1,135	1,354	2,310	815	6,579
355	295	697	1,719	1,831	352	5,249
400	0	441	1,873	1,120	302	4,136
450	0	120	950	1,405	0	2,925
500	0	0	0	489	0	989
560	0	124	959	833	0	2476
710	0	0	0	149	0	859
Total	**2,698**	**8,507**	**11,703**	**16,875**	**4,066**	**43,849**

Source: Dak Lak Subproject, PPTA Study Report. July 2017.

24. For the piped systems, the layout design adopted the following principles: (i) each point will delivers 5 l/s, 60-mm diameter polyvinyl chloride (PVC) hydrants with a manifold to split flow to individual farmers; (ii) 500-m maximum distance from hydrant/source of water to farmer's field; and (iii) minimum residual pressures at the hydrants of 1-10 m. Where appropriate, ring main systems will be used (being more cost-effective than dead-end pipe branching systems), while in narrow areas, a single supply pipeline will be used. For combined pipes and canals, the design options and issues include: (i) pumping directly from canals; (ii) lining of canals; (iii) provision of balancing storage; and (iv) size of communal pumped pipe schemes. A schematic diagram of the ring main pipeline or modernized piped irrigation system (MPIS), which will be adopted in the five schemes, is shown in **Figure 2**.

Figure 2: Schematic Diagram of Modernized Piped Irrigation System



Source: Dak Lak Subproject, PPTA Study Report. July 2017.

IV. DESCRIPTION OF THE ENVIRONMENT

A. Physical Environment

1. Topography

25. Dak Lak Province is located to the west of Truong Son Ranch. The topography of the province slopes gradually from the southeast to the northwest, is hilly and with plateaus lying together. The main topographical types are mountainous areas, plateaus, Ea Soup peneplain, Krong Pach–Lak Katabothron. The plateau occupies most of the land area in Dak Lak, with the two largest plateaus in Buon Ma Thuot and M'Drak. The topography of the district subproject areas is briefly described below.

26. Ea H'Leo District, where the Trung Tam (Ea Drang) system is situated, is hilly to mountainous. The terrain elevation gradually decreases, trending from southeast to northwest. The mountainous areas are located in the west and southwest of the district.

27. The topography of the Buon Jong system is characterized as flat to mountainous, with majority of the area having a continuous low hill configuration. The average elevation of the area is 450 m above sea level (masl). The area is typically underlain by basaltic soil, accounting for 34.92% of the total land area (189.04 ha), and is evenly distributed in the communes.

28. The Krong Buk Ha system is characterized by a relatively flat terrain with an average elevation of 475-520 masl. The upper area of the area has a flat to hilly topography, with an average slope of 20°–30°.

29. The topography of the Ea Kuang system is typically flat, with an average elevation of 500 masl. The elevation decreases from northwest to southeast of the area. The soils are mostly basaltic, being found in 63.85% of the total land area. This type of soil is very good for agricultural development, mainly for HVCs.

30. The 500 hill system lies on the Dak Lak Highlands, with a typical mountainous topography. The average elevation in the area is 450 masl, with the elevation in the southeast ranging from 500-533 masl and gradually decreasing towards the eastern section of the area.

2. Climate

31. The southern part of Vietnam has a warm temperate climate characterized by dry winters and hot summers. The rainy season starts from May and lasts until October, with July to September accounting for 60-80% of the total annual rainfall. The prevailing winds during this period are the southwest monsoons. The dry season occurs from November to April. It is generally cooler, though temperatures rise significantly in March and April prior to the onset of the rainy season. The average annual rainfall in the subproject area ranges from 1,800-2,400 mm, while average temperature is 23.5ºC in the rainy season and 24.3ºC in the dry season.

3. Hydrology

32. The subproject area is located in the subregion of the H'Nang river system. The H'Nang river system is 30.3-km long and includes the H'Nang River, Ea Dhong Mia Stream, Ea Troh Stream, and Thor Ea Ea Tao Stream. In Krong Buk Ha, two major rivers exist: Krong Buk River and Ea Krong River. There are five major rivers in the Ea Kuang system, namely: Ea Knuec, Ea Wy, Ea Kuang, Krong Buk, and Krong Pac rivers.

33. The hydrology of the five subproject irrigation schemes is summarized in **Table 3**.

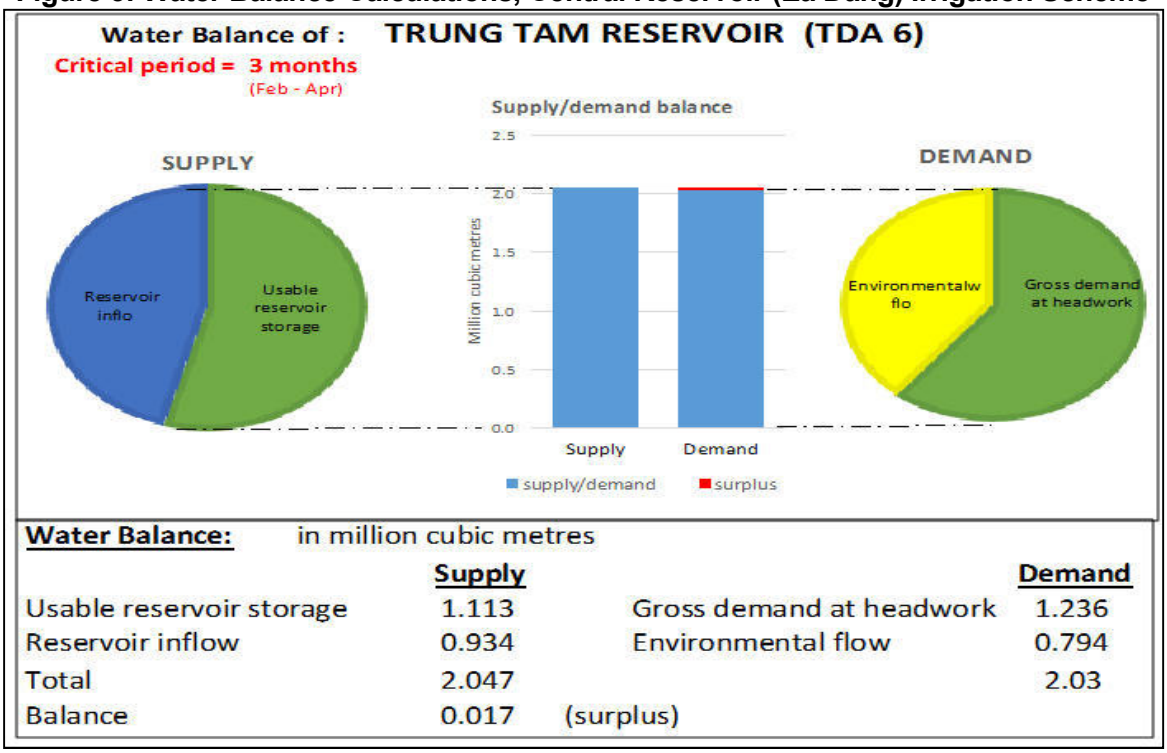
Table 3: Summary Hydrology of Subproject Schemes

Scheme	Reservoir Inflow	Reservoir Storage	Total Supply
	(mm^3)	(mm^3)	(mm^3)
Doi 500	0.44	1.64	2.1
Ea Kuang	1.82	5.00	6.8
Buon Jong	0.71	15.24	15.9
Krong Buk Ha	35.84	95.70	131.5
Trung Tam (Ea Drang)	0.94	1.11	2.1

4. Subproject Water Balance

34. The water balance in the five irrigation schemes of the subproject was calculated by the Institute of Water Resources Planning (IWRP) based on the usable reservoir capacity, reservoir inflow, and gross irrigation demand of the command areas with the crop patterns and environmental flow of each reservoir. The results showed that the capacity of the five irrigation schemes of the subproject will meet the irrigation demands of the target watering areas. The detailed calculations are presented in **Figures 3-7** below.

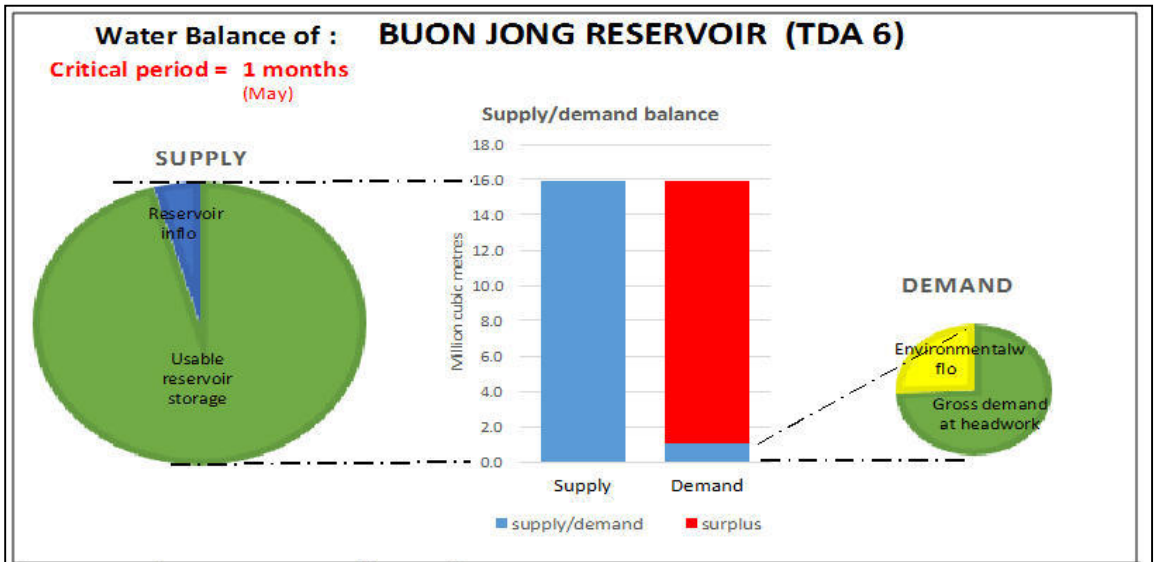
Figure 3: Water Balance Calculations, Central Reservoir (Ea Dang) Irrigation Scheme



Water Balance: in million cubic metres

	Supply		Demand
Usable reservoir storage	1.113	Gross demand at headwork	1.236
Reservoir inflow	0.934	Environmental flow	0.794
Total	2.047		2.03
Balance	0.017	(surplus)	

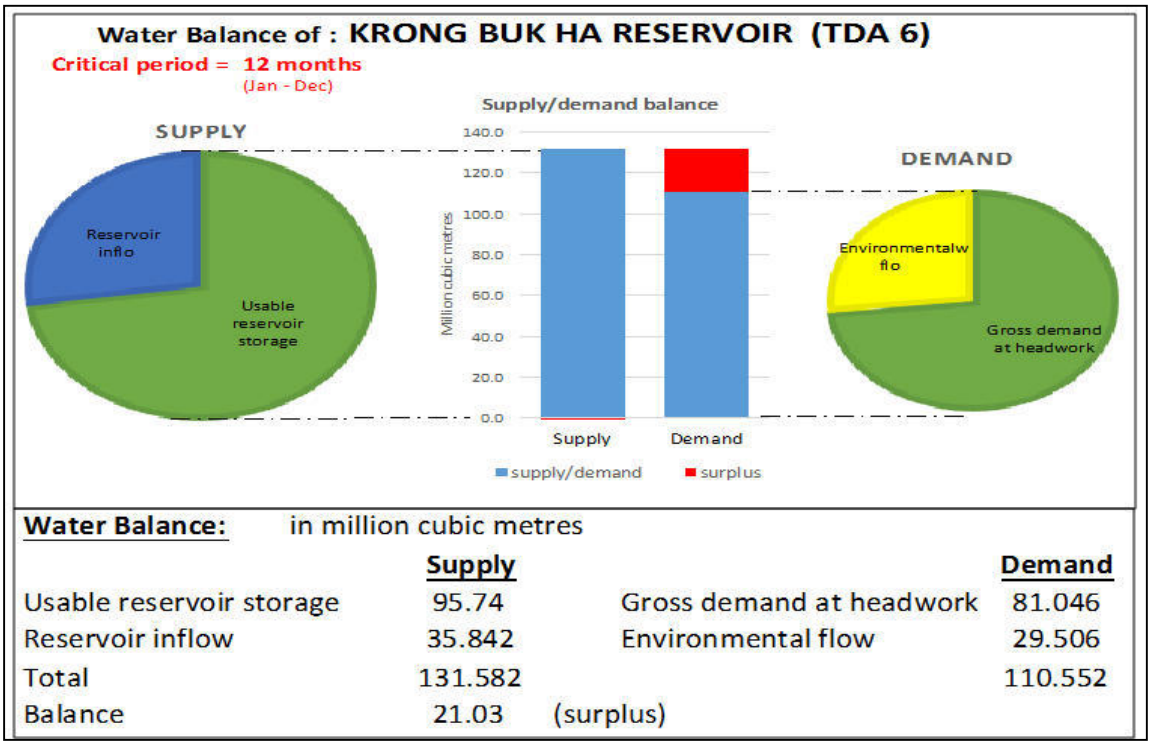
Figure 4: Water Balance Calculations, Buon Yong Reservoir Irrigation Scheme



Water Balance: in million cubic metres

	Supply		Demand
Usable reservoir storage	15.24	Gross demand at headwork	0.773
Reservoir inflow	0.71	Environmental flow	0.266
Total	15.95		1.039
Balance	14.911	(surplus)	

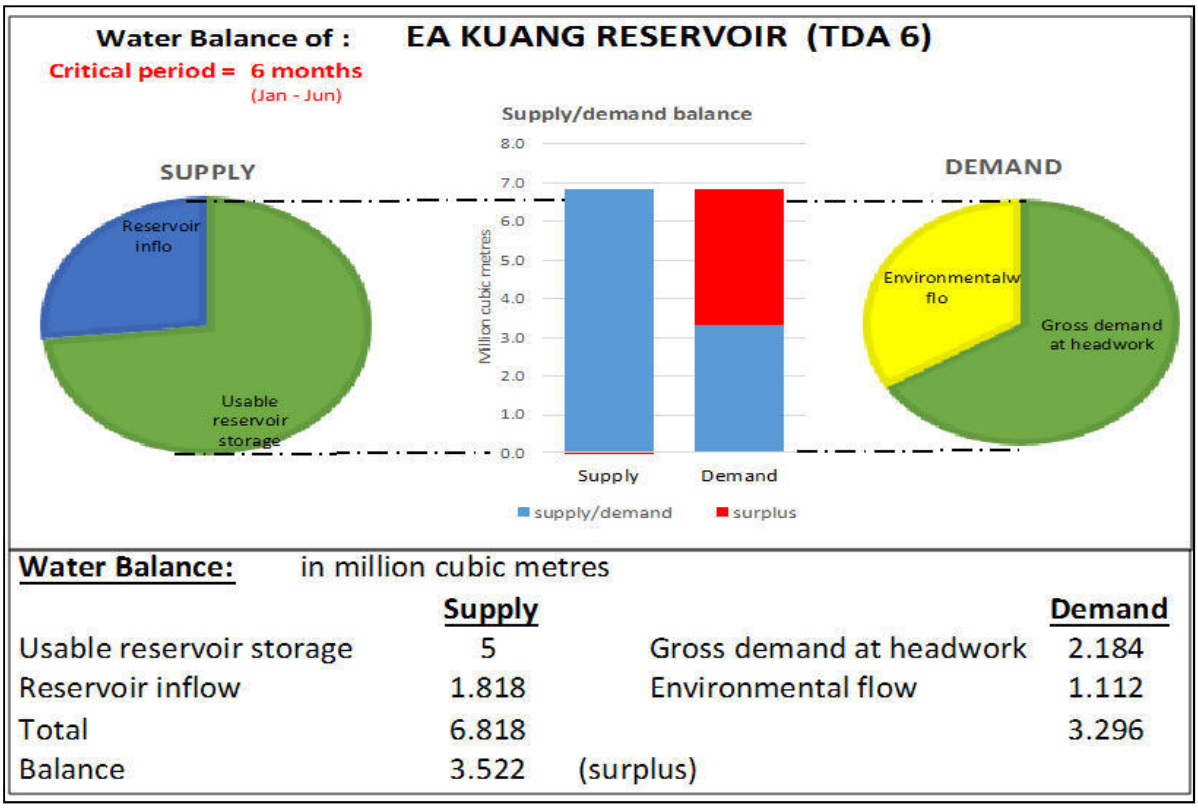
Figure 5: Water Balance Calculations, Krong Buk Ha Reservoir Irrigation Scheme



Water Balance: in million cubic metres

	Supply		Demand
Usable reservoir storage	95.74	Gross demand at headwork	81.046
Reservoir inflow	35.842	Environmental flow	29.506
Total	131.582		110.552
Balance	21.03	(surplus)	

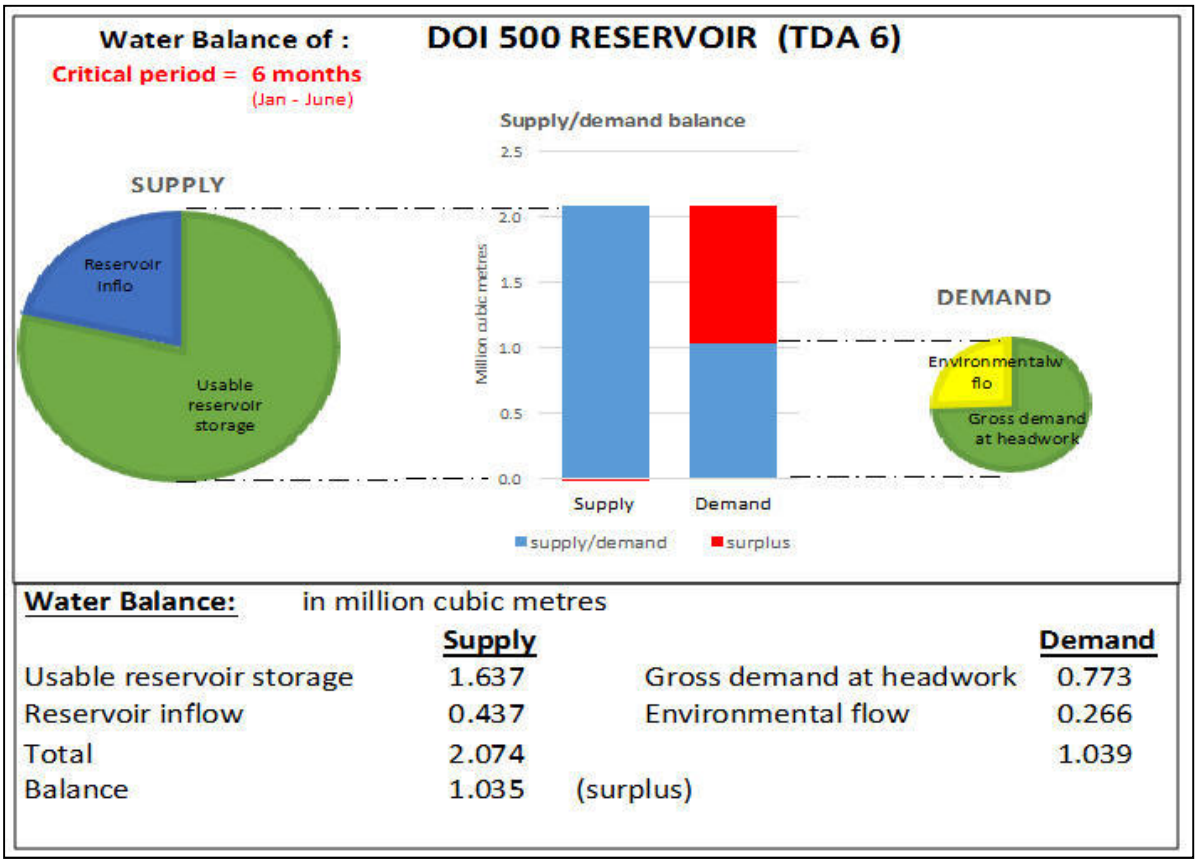
Figure 6: Water Balance Calculations, Ea Quăng Reservoir Irrigation Scheme



Water Balance: in million cubic metres

	Supply		Demand
Usable reservoir storage	5	Gross demand at headwork	2.184
Reservoir inflow	1.818	Environmental flow	1.112
Total	6.818		3.296
Balance	3.522	(surplus)	

Figure 7: Water Balance Calculations, 500 Hill Reservoir Scheme



35. The subproject consists of small existing irrigation resevoirs and rivers in 04 districts that the drought areas in dry season are large, from 1.000 ha to 4.500 ha in Cư Mgar, Ea Kar, Ea H'Leo, Krông Pem. The aqua-ecosystem is in poor condition. The flora in the reservoir and river consists mainly of mosses and water hyacinth. The fauna consists of small river fish, shrimp and crab. These are no endemic or otherwise significant species in the river that need to be protected.

5. Surface Water

36. To assess the quality of the water sources in the subproject area, the surface water of five existing reservoirs was analyzed in 2016 by Southern Environment Experiment Analysis Co., Ltd. for EIA purposes. The results indicated that the quality of water in the subproject area is relatively good as the parameters were within acceptable limits set in *QCVN 08/2015/BTNMT* (**Table 4**). However, the surface water is good only for irrigation, but not for drinking purposes.

Table 4: Results of Surface Water Quality Analysis, Dak Lak Subproject

Parameter	Unit	Doi 500 Reservoir (4/8/2016)	Ea Kuang Reservoir (3/8/2016)	Krong Buk Ha Reservoir (3/8/2016)	Ea Drang Town (2/8/2016)	Buong Yong Reservoir (2/8/202016)	QCVN 08:2015/ BTNMT (Column B1)
Temp.	oC	26.0	26.5	27.1	26.8	26.2	
DO	mg/L	7.34	7.48	8.1	7.91	7.67	≥ 4
TSS	mg/L	17	3	31	25	11	50
COD	mg/L	15.8	4.82	7.14	1.53	12.2	30
BOD5	mg/L	6.2	2.1	4.2	5.6	5.1	15
Pb	mg/L	0.031	.0028	0.0041	0.0051	0.0040	0.05

Cd	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	0.01
As	mg/L	0.0038	0.0034	0.006	0.0051	0.005	0.05
Hg	mg/L	<.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.001
Total Coliform	CFU/100mL	900	600	1,200	980	860	7500

Source: EIA, 2016.

6. Groundwater

37. Groundwater is quite scarce in the subproject area. Groundwater depth ranges from 15-120 m in the 500 reservoir command area, but only 3-10 m in the area surrounding the Krong Buk Ha Reservoir. The analysis of groundwater samples taken from wells located in each irrigation scheme command area showed that the quality of water meets the limits set in *QCVN 09/2015/BTNMT* (**Table 5**).

Table 5: Results of Groundwater Analysis, Dak Lak Subproject

Parameter	Unit	Hill 500 Reservoir (4/8/2016)	Ea Kuang Reservoir (3/8/2016)	Krong Buk Ha Reservoir (3/8/2016)	Ea Drang Town (2/8/2016)	Buong Yong Reservoir (2/8/202016)	QCVN 09:2015/ BTNMT
Temp.	^oC	25.8	26.1	25.3	25.5	26.0	-
DO	mg/L	7.12	6.9	6.65	7.21	7.34	-
TSS	mg/L	4	4	15	11	20	-
Fe	mg/L	0.187	0.202	0.2	0.15	0.146	5
Cu	mg/L	0.012	0.01	0.09	0.011	0.008	1
As	mg/L	0.006	0.009	0.004	0.006	0.005	0.05
Hg	mg/L	<0.004	<0.04	<0.004	<0.004	<0.004	0.001
Total coliform	CFU/ 100mL	130	150	140	135	120	NA

Source: EIA, 2016

7. Air Quality and Noise

38. Air quality in the subproject area is generally good as there are no industries producing emissions, and pollution from vehicular exhaust emissions are not significant given the low level of traffic and absence of traffic congestion. The only significant air pollutant is dust arising from the passage of vehicles over unsealed roads during the dry months. This is an intermittent problem with a minor effect over a limited area of 5-10 m on either side of the road.

39. The subproject components are located relatively far from noise generating activities. There are also no industries which could generate noise. Thus, ambient noise levels are very low.

40. **Tables 6** and **7** present the ambient air quality measurements and ambient noise measurements taken in 2016 during the preparation of the environmental assessment for the subproject.

Table 6: Ambient Air Quality Measurements, 2016

Parameter	Unit	Doi 500 Reservoir (4/8/2016)	Ea Kuang Reservoir (3/8/2016)	Krong Buk Ha Reservoir (3/8/2016)	Ea Drang Town (2/8/2016)	Buong Yong Reservoir (2/8/202016)	QCVN 09:2013/ BTNMT
TSP	$\mu g/m^3$	85/76	71/83	65/60	62/79	92/83	300
CO	$\mu g/m^3$	1,750/1,840	1,940/2,020	1,530/1,520	2,420/2,500	2,850/3,140	30,000
NO2	$\mu g/m^3$	31/33.4	42.4/31.3	23.3/29.2	41.5/34.8	38.7/35.6	200
SO2	$\mu g/m^3$	42.1/47.4	36.3/41.5	31.2/34.5	26.7/27.1	35.2/24.4	350

Source: EIA, 2016

Table 7: Ambient Noise Measurements (dBA), 2016

Parameter	Unit	Doi 500 Reservoir (4/8/2016)	Ea Kuang Reservoir (3/8/2016)	Krong Buk Ha Reservoir (3/8/2016)	Ea Drang Town (2/8/2016)	Buong Yong Reservoir (2/8/202016)	QCVN 09:2013/ BTNMT
Noise	dBA	64/62	63/61	67/54	55/57	54/58	70

Source: EIA, 2016

B. Socioeconomic Features

1. Population and Ethnic Minorities

41. Dak Lak has a total land area of 13,125.4 km^2 and an estimated population 1,853,698 in 2015. About 75% of the population live in the rural area, and the rest are concentrated in Buon Ma Thuot, with a population density of 943 persons/km², more than six times the provincial average.

42. Dak Lak Province has 15 administrative units including Buon Ma Thuot City (the provincial capital), Buon Ho Township, and 13 districts. The province is home to over 40 ethnic minority (EM) groups, which account for 34.3% of the provincial population. Among them, the E De ethnic group comprises about 14%, Mo Nong (4.4%), Gia Rai (0.8%), Tay (3%), Thai (1.2%), H'mong (0.97%), Muong (0.6%), and Hoa (Chinese), 0.3%. The E De, Mo Nong, and Gia Rai are indigenous peoples (IPs), while the other ethnic groups migrated from other provinces, especially from the northern mountainous provinces, in the 1990s. The EM groups live in harmony in mixed communities alongside the Kinh (Vietnamese) in all administrative units of the province. The IPs are concentrated in Cu M'gar (37%), Krong Buk (31%), Cu Kuin (27%), and M'Drak (22.5%) (**Table 8**).

Table 8: Economic Profile of the Districts in the Subproject Area

Items	District			
	Cu M'ga	Ea Kar	Ea Hleo	Krong Pak
Land area (km^2)	824.4	1,037.47	1,335.12	625.81
Population (no. of persons)	170,000	143,506	135,655	199,711
EM population out of total district population (%)	46	28	40	34.7

2. Agricultural Land Use

43. Land in the subproject area is used primarily for agriculture (**Table 9**). The crops planted in the agricultural areas are rice, maize, and cassava, which are harvested twice a year, as well as rubber, coffee, and pepper.

Table 9: Agricultural Land Utilization in the Subproject Area

Commune/Town	Total Land Area (ha)	Total Agricultural Land (ha)	Annual Crops (%) Grown in Agricultural Land	Industrial Crops (%) Grown in Agricultural Land
Ea Drang Town	1,688.0	1,071.9	17.6	82.4
Dlie Yang	2,806.3	1,897.1	13.5	86.5
Êa Yong	5,750.0	4,677.0	23.0	77.0
Ea Phe	4,452.0	3,045.2	25.9	74.1
Krong Buk	35,867.71	6,526.3	84.2	15.8
Xuan Phu	2,541.0	2,117.1	25.4	74.6
Quang Tien	2,666.0	1,767.6	13.3	86.7

Source: Socio-economic Report of Communes and Towns, 2015.

3. Employment, Income, and Living Standards

44. Agriculture, forestry, and fishery are the main economic activities in the subproject area, with the following communes contributing significantly to the gross domestic product (GDP) of the area: Cu M'gar (62.36%); Ea Kar (60.5%); and Ea H'leo (47.4%) (**Table 10)**. Average annual income per capita is relatively low at 26 million Vietnamese Dong (VND) in Cu M'gar and 28 million VND in Krong Pak. The ratio of poor EM households to the total poor households in the district is very high at over 58%.

Table 10: Summary of Income and Poverty Rate in the Subproject Districts

Items	District			
	Cu M'ga	Ea Kar	Ea Hleo	Krong Pak
GDP structure				
Agriculture, forestry, and fishery (%)	62.36	60.5	47.4	40.4
Industry and construction (%)	15.9	22.9	28.4	16.3
Commerce and services (%)	16.9	16.6	24.2	43.3
Average annual per capita income (million VND)	26	31	30	28
Ratio of poor households (%)	10.2	22.8	17.3	17.5
% of poor EM households of total poor households in the district	63.1	58.3	59.1	65.6

45. The subproject will have a total command area of 2,650 ha located in Ea Drang Town and Phe Yang commune in Ea Hleo District, Quang Tien Commune in Cu M'ga district, as well as the communes of Ea Yong and Krong Buk in Krong Pak District. The demographics of the subproject area are shown in **Table 11**.

Table 11: Summary of Socioeconomic Features in the Subproject Communes

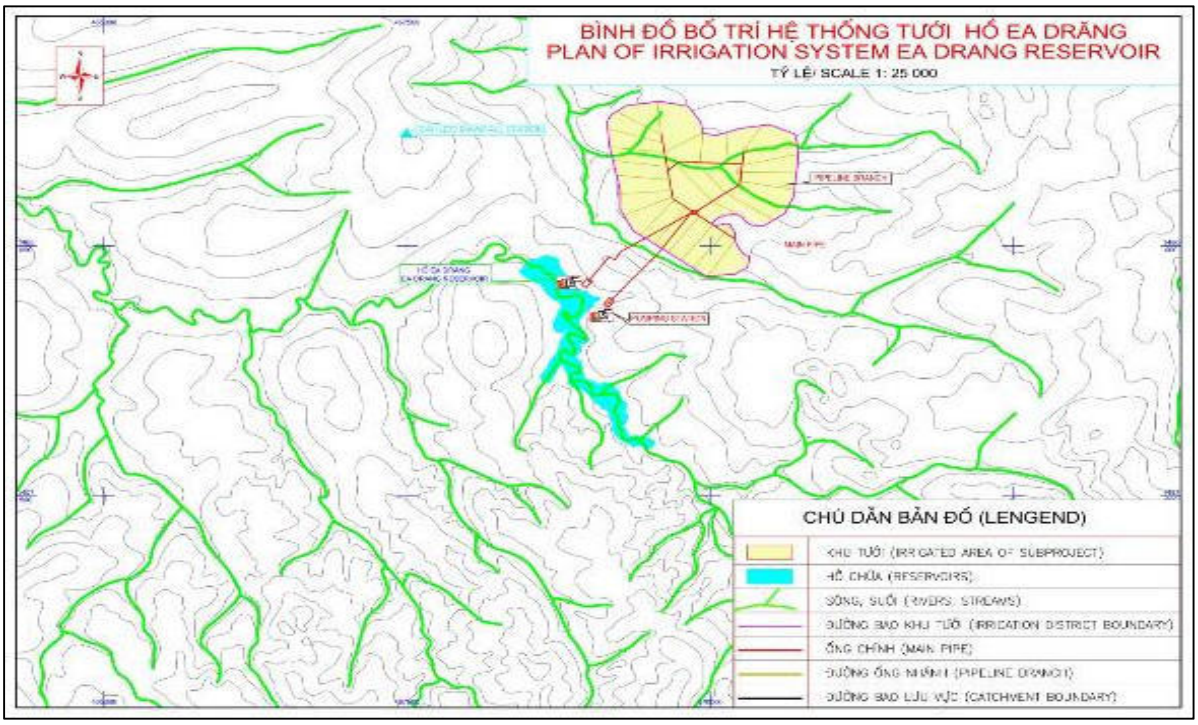
District	Ea H' Leo		Cu M' Gar	Krong Pak			Ea Kar
Communes	Ea Drang	Phe Yang	Quang Tien	Ea Yong	Krong Buk	Ea Phe	Xuan Phu
Population (no. of persons)	20,053	10,538	9,596	19,204	-	25,000	6,023
Number of households	4,563	2,217	1,796	3,902	2,986	5,148	1,439
GDP structure							
Agriculture	26.7	90	81.9	71	63.59	59.3	65.9
Commerce & service	38.9	-	-	24	24.4	28.8	29.8
Annual average income per capita (million VND)	33	29	40	29	25.9	35	26.6
Poor households (%)	7.6	14.2	3.6	5.4	26.4	3.96	13.5
EM households (no.)	330	-	15	1,768	1,571	-	49
Poor EM households per total poor households (%)	-	-	-	77.5	74.1	6.75	-
Ratio of children under 5 years old suffering from malnutrition (%)	14.3	9.5	15.6	19.5	-	-	-
Ratio of households using hygiene water (%)	-	-	-	100	90	-	85.36
Ratio of households with hygienic sanitary facilities (%)	-	-	-	85	-	-	-
Ratio of households with assess to electricity (%)	100	93	100	100	96	-	100

C. Main Environmental Features in the Locations of the Irrigation Schemes

1. Central Reservoir (Ea Dang) Irrigation Scheme

46. The water will be pumped from the central reservoir located in the center of Ea Dang Township through a pressure pipeline system to a storage tank located in a mountain, where water will flow by gravity to the command area. The layout of the irrigation scheme is illustrated in **Figure 8.**

Figure 8. Layout of Ea Dang Reservoir Irrigation Scheme



47. The pumping station is proposed to be constructed on public land along the bank of the reservoir with a high slope. If the excavated soil is stockpiled without a covered, it could cause water pollution in the reservoir once it rains (**Figure 9**).

Figure 9: Proposed Site of Pumping Station

48. The storage tank will be constructed on a hill about 2 km from the pumping station (**Figure 10**). The transportation of construction materials to the site may damage villagers' crops and disturb the cultivation activities of villagers.

Figure 10: Proposed Site of Storage Tank

49. The pipeline will be installed underground along a concrete road in Resident Block No. 1, Ea Dang Township, with a slope of 10-20% and 3-4 m wide towards the small stream. This road is being used by villagers to transport materials and products to and from their farms by small trucks. Both sides of the road are residential areas (**Figure 11**). Noise, dust, runoff, and traffic congestion may occur at the sites.

Figure 11: Proposed Site of Pipeline System towards the Small Stream

50. The pipeline will cross the provincial road at the residential area of Block No. 1 of Ea Dang Township (**Figure 12**). Traffic disruptions and accidents may occur at the site when installing the pipe across the provincial road.

Figure 12: Provincial Road at the Residential Area in Ea Dang Township

51. Another side of the provincial road is land with a slope of 5-10% towards the reservoir; villagers live along both sides of the road where the pipeline will be installed (**Figure 13**). Noise, dust, traffic disturbances, and runoff may affect local residents, and reservoir water quality could deterioriate due to runoff especially during the rainy season.

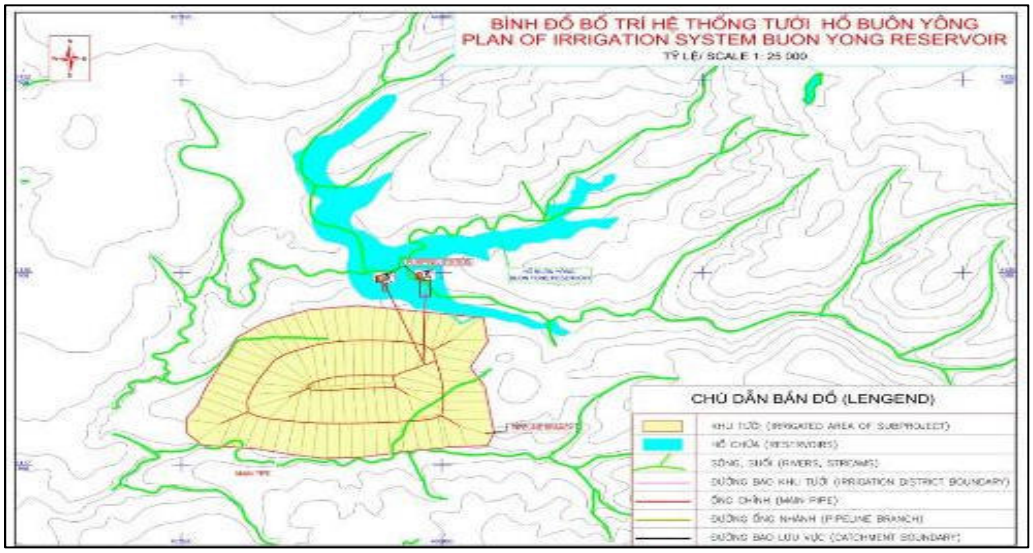
Figure 13: Proposed Site of Pipeline on Other Side of the Provincial Road

2. Buon Yong Reservoir Irrigation Scheme

52. Water will be pumped from the Buon Yong Reservoir located in Ea K Pam Commune (Quang Tien commune) in Cu M' Gar District through a pressure pipeline system to a storage tank to be set up in Block 3, Quang Tien Township. From there, the water will flow by gravity to the target watering areas in the township. The layout of the irrigation scheme is illustrated in **Figure 14**. The water in Buon Yong Reservoir is for irrigation use only. The pumping station is proposed to be established along the bank of the reservoir. Wild grasses are scattered on the reservoir banks with some *Eucalyptus* trees. No residential houses are located near the site but

Ede EM people work in the area. Runoff from construction and domestic wastes from the workers' camp could potentially affect reservoir water quality.

Figure 14: Layout of Buon Yong Reservoir Irrigation Scheme



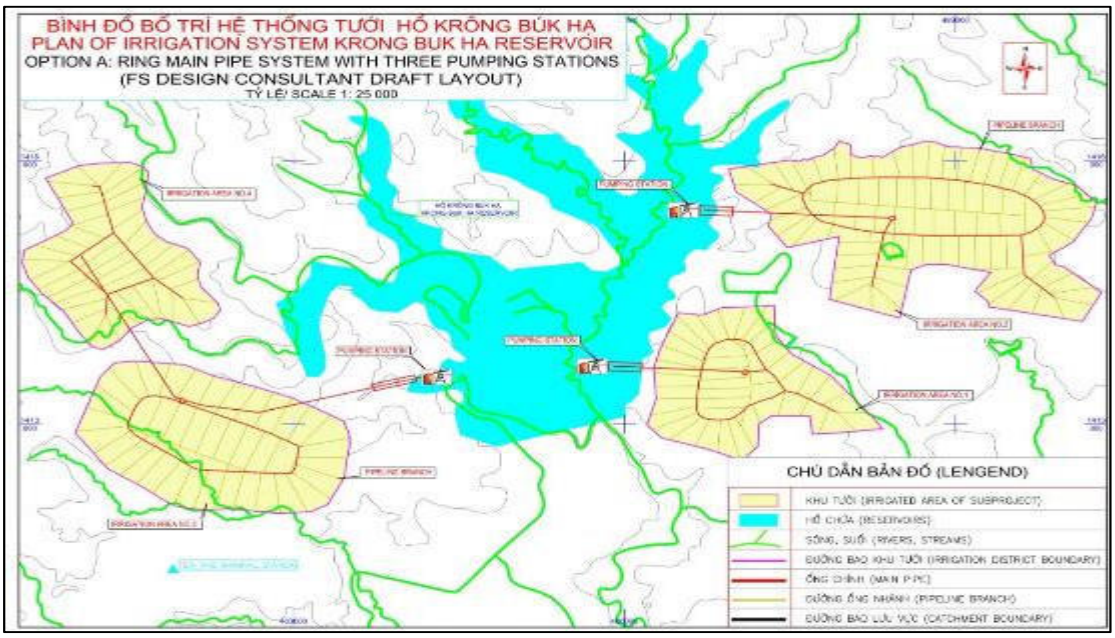
53. An elevated storage tank will be located on public land in Block 3, Quang Tien commune, and pipelines will be installed on both sides of the community road. The potential impacts on locals include dust, traffic disturbance, and damage of the community road. The environmental features of the Buon Yong irrigation scheme are shown in **Figure 15**.

Figure 15: Main Environmental Features Of Buon Yong Irrigation Scheme

3. Krong Buk Ha Reservoir

54. The Krong Buk Ha irrigation scheme has three separate irrigation systems located along both sides of the reservoir. Irrigation systems A and B are located in Village 8 of Krong Buk Commune in Krong Pak District, while irrigation system C is situated at the opposite side of the reservoir in Buon Poăn B, Ea Phe Commune, Krong Păk District. The proposed system will include pumping stations, pipeline systems, and storage tanks, from where water will flow by gravity to the target watering areas nearby (**Figure 16**).

Figure 16: Layout of Krong Buk Ha Reservoir Irrigation Scheme



55. Reservoir water is being used for irrigation and as the habitat of aquatic species such as fishes and shrimp, which are harvested by villagers for their subsistence or for sale (**Figure 17**).

Figure 17: Status of the Reservoir Surface Water Used by Locals

Warning signboard set beside the pond

Fishnet in the pond

56. As the pumping stations of irrigation systems A and B will be situated on the bank of the reservoir, the construction and operation of the pumps may potentially affect water quality due to runoff and construction and domestic wastes (**Figure 17**). Two elevated water storage tanks will be located on vacant public land in Village 8. Their capacity was designed to water 1,000 ha of coffee, pepper, and other perennial trees in the target watering area (**Figure 18**). The construction and operation of the pumping stations may disturb the cultivation activities of villagers.

Figure 18: Site of Proposed Storage Tanks and Watering Area of System A

	
Watering of pepper farm	A storage tank is proposed to be built on this piece of vacant land in Village 8.

57. In irrigation system C, the proposed pumping station will be built on a piece of vacant public land on the bank of the reservoir, with a slope of 3-5% (**Figure 19**). This could affect reservoir water quality due to runoff and construction and domestic wastes.

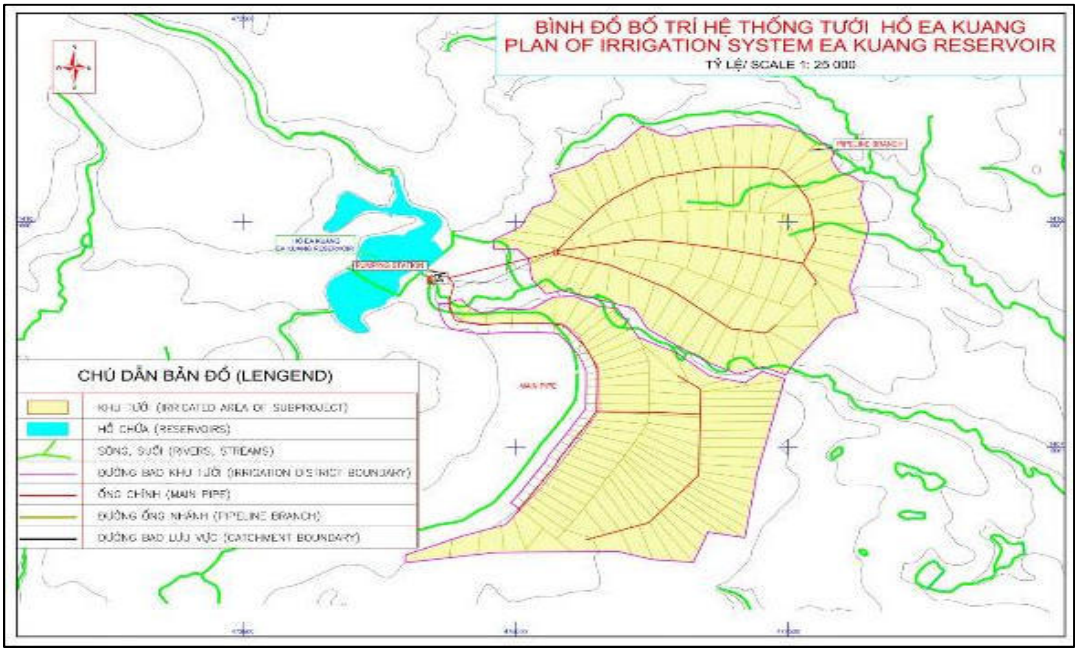
Figure 19: Site of Proposed Pumping Station of System C

	
The site is surrouded with maize	Site of proposed pumping station

4. Ea Kuăng Reservoir Irrigation Scheme

58. The irrigation scheme is located in Lang Son Village, Ea Yông Commune, Krong Păk District. On the site will be built one pumping station and its connecting pipeline. In addition, 5 km of the existing canal will be upgraded (**Figure 20**).

Figure 20: Layout of Ea Quăng Reservoir Irrigation Scheme



59. **Figure 21** shows that the site of proposed pumping station is on public land located near a canal providing water for the pump station. The site is surrounded by agricultural land with grown industrial trees such as coffee, durian, and pepper.

Figure 21: Site of the Proposed Pumping Station

	
Ea Kuang Reservoir	Proposed site of pumping station

Parenial trees surrounding the pumping station site

60. The pipeline system is proposed to be constructed along a small road leading to a storage tank to be located on a low hill, from which water will run by gravity to the target watering area located around the storage tank (**Figure 22**).

Figure 22: Site of Proposed Storage Tank and Pipeline System

Site of proposed storage tank and pipeline system

Watering area located around the site

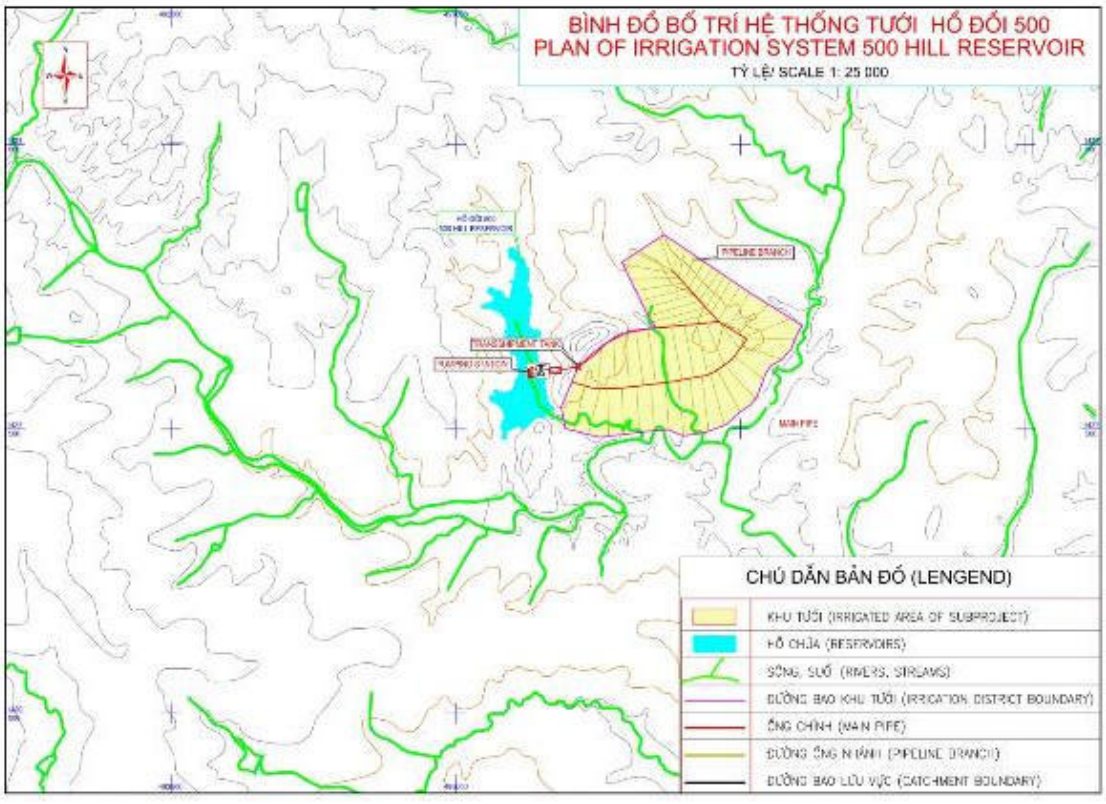
61. Construction of the pumped pipe system may disturb the cultivation activities of farmers and affect irrigation water quality due to runoff and construction and domestic waste at the site and from workers' camps. The proposed upgrading of 5 km of an existing irrigation canal may disrupt irrigation service to the existing command area and affect the trees located near the canal (**Figure 23**).

Figure 23: Site of the Proposed Canal Upgrading

5. Reservoir 500 Hill Irrigation Scheme

62. The Reservoir 500 Hill irrigation scheme is located in Suoi Cat Village, Xuan Phu Commune in Ea Kar district. It will include one pumping station, pipeline, and storage tank, as shown in the scheme layout in **Figure 24**.

Figure 24: Layout of 500 Hill Reservoir Irrigation Scheme



63. The pumping station will be set up on private land planted to pepper trees under one year old. The soft and dry soil is not fully covered with trees and grasses, and could be swept away to

the lake. On the land where the pumping station will be constructed, there is an existing, functional pipeline for watering the trees (**Figure 25**).

Figure 25: The Existing Pipeline and Pepper Trees under 1 Year Old

64. The slope of site is about 5%, sloping to a pond. The villagers in the area engage in some agricultural production activities, like cultivation of crops and perennial trees and raising cows in the reservoir catchment. The pond water is being used for irrigation (**Figure 26**).

Figure 26: Land to be Used for the Pumping Station

65. The pipeline will cross a road before reaching the mountain, where a tank will be built for storing water that will run by gravity to the watering area in Suoi Cat Village, Xuan Phu Commune. Wild trees and grasses are found on both sides of the road. Motorcycles are sometimes seen on this road. The tank will be build on mountainous public land covered with bushes and abandoned cassava plants (**Figure 27**).

Figure 27: Sites of Proposed 500 Hill Irrigation Scheme

	
A pipeline will cross this 5-m wide road.	The water tank will be located on this mountain.

66. Construction of the scheme may produce the following impacts: (i) deterioration of quality of reservoir water due to runoff, sediments, and construction and domestic wastes; (ii) disruption of irrigation service of existing pumped pipe system constructed by villagers; (iii) traffic disturbances during the installation of pipes across the community road.

V. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

67. This section discusses the potential positive and negative environmental impacts of the subproject and identifies mitigation measures to minimize the impacts during the design, construction, and operation phases of the subproject. Based on that, the detailed EMP of the Dak Lak subproject was developed and includes mitigation measures and monitoring plan for implementation during the design/pre-construction, construction, and operational phases of the subproject.

68. The criteria used for the assessment of environmental impacts are in line with ADB's SPS and Government of Viet Nam standards based on the *Environmental Protection Law 2014*. Where Government of Viet Nam standards or guidelines conflict with the ADB SPS.

A. Anticipated Benefits from the Project

69. Some beneficial impacts are expected from the proposed irrigation projects in Dak Lak Province. The principal economic benefits are better returns from planting HVCs and more cost-effective utilization of irrigation water by the farmers via the introduction of high-technology irrigation systems and improved access to reliable irrigation water supply. Moreover, the implementation of the proposed irrigation project will reduce the dependence of farmers on groundwater sources for their water requirement.

70. In general, the provision of sustainable and sufficient irrigation water supply is expected to result in improved economic conditions and, consequently, better quality of life for the communities. The immediate impact will be sustainable and reliable irrigation water supply that will translate into higher service levels, particularly in terms of coverage of agricultural areas. There will be longer supply windows that would eventually lead to 24-hour supply in the service areas. Water pressure will likewise improve. Farmers will also need less time and effort in securing water for their crops.

71. There will also be employment or livelihood benefits for the local people. Contractors will use local labor for simple works, creating jobs, raising income, and, thus, contribute to alleviating poverty

in the local communities in the short term. Local people in the residential areas of the subproject communes will benefit from subproject construction through their participation in the civil works. In order to support creating jobs for locals, there should be coordination between the contractor and commune people's committees (CPCs) of the subproject communes, as well as in nearby communes, in recruiting local laborers (contractors often prefer to engage their own trained workforces rather than training unskilled laborers). The duration of the impact is also short, only during the 24month construction period.

B. Potential Negative Impacts

1. Pre-Construction Phase

a. Existing Reservoir Water Quality

72. **Impacts.** Seven new pumped pipe irrigation schemes will be constructed and 5 km of an existing irrigation canal will be upgraded to bring water from five existing reservoirs to irrigate 2,650 ha of coffee, pepper, and other crops in the subproject command area. The water quality of the five existing reservoirs may not be adequate to supply the increased command area of 2,650 ha especially in the driest months.

73. **Mitigation measure:** Water balance calculations for the five reservoir irrigation schemes indicated that the water supply capacity of the five existing reservoirs will meet the irrigation demand of the subproject.

b. Impact on Land Acquisition and Community Assets

74. **Impact:** Limited land acquisition will be required for the development of the subproject component facilities as mostly public land will be used. Only around 6.4 ha of land planted to perennial trees will be affected, and no household has to be relocated. Aside from the existing trees on the land to be acquired, other assets, such as pumped pipe systems set up by villagers for watering their crops, may be affected. However, the impact was assessed to be minor and can be mitigated.

75. **Mitigation measure:** An updated Resettlement Action Plan (RAP) for the subproject has been prepared separately to ensure that any loss of land and trees or damage to property and disruption of cultivation activities will be subject to compensation and rehabilitation in accordance with the WEIDAP Resettlement Framework.

c. Unexploded Ordnance (UXO)

76. Data on bombs dropped by US forces between 1968 and 1972 are available at the concerned Government of Viet Nam agency. A survey on UXO is required for this subproject before construction.

2. Environmental Impacts During Construction

a. Water Pollution in Existing Reservoir

77. **Impact.** Except for the pumping station in the Ea Kuang reservoir irrigation scheme, which is located far from the reservoir, the remaining six pumping stations will be situated near or about 30-50 m from the reservoirs. With slopes ranging from 5-10% at the sites for the construction of pumping stations, there is potential for construction wastes, including excavated soil, and domestic wastes from workers' camps located near the reservoirs, to be carried to the reservoirs by rain and wind. The soil sediment and wastes may cause a deterioration of the reservoir water quality.

78. **Mitigation measures.** The contractor will be required to:

- Implement proper measures, including the provision of silt traps, ditches, and sump pits to intercept the flow of silt-laden runoff from the worksites into the reservoir;
- Schedule excavation works during the dry season or stop work during heavy rains;
- Properly manage all construction activities, including excavated soil and domestic wastes at sites, and prohibit all wastes, especially hazardous wastes, from being disposed in the reservoirs;
- Strictly comply with the regulations specified in *Circular 36/2016/BTNMT*, specifically the following:
  - The storage area for all hazardous substances must be located away from the reservoirs;
  - Ensure that safe storage of fuel and other hazardous substances is agreed by PPMU/CSC and have necessary approval/permit from DONRE and local authorities;
  - Equipment/vehicle maintenance and refueling areas will be confined to a especially designed site to contain spilled lubricants and fuels; and
  - Ensure that all storage containers are in good condition to avoid leaking into the environment.
- Workers' camps, if needed, will be constructed far from the reservoirs and provided with adequate latrines and dustbins. Waste from latrines will be collected and treated properly through an economic contract with local environmental cooperatives/companies.

b. Waste Management

i. Excavated Soil

79. **Impact.** Excavated soil that remains from backfilling the pipeline system will affect the land and cultivation of villagers. It will be a source of dust generation in the dry season and sediment runoff affecting the ponds and canals nearby.

80. **Mitigation measure.** Any surplus material will be disposed properly and given for free to interested villagers as backfill materials, in coordination with the village authority.

ii. Construction Waste

81. **Impact.** The inert waste that will be generated during the works will consist mainly of scrap wood and metal, cement bags, aggregates, and plastics, which could affect the quality of land in the construction sites and pose physical danger to farmers.

82. **Mitigation measure.** These wastes will be collected and classified for reuse or recycling or disposed in the landfills to avoid any danger or harm to people.

iii. Domestic Waste

83. **Impact.** The volume of domestic wastes is not anticipated to be significant as only small, temporary workers' camps will be established. There will be no camps at the work sites for the distribution pipelines. It is projected that the workers' camps will generate an estimated 0.4-0.5 kg/person/day, consisting mainly of plastic and glass bottles, paper, cardboard, food wastes, and packaging wastes.

84. **Mitigation measure.** The contractor will provide dustbins for worker camps to ensure that all domestic wastes will be collected. The waste, by then, will be transferred and disposed to/at (i) Ekadang town landfill, Eakhan Commune, Eahleo District for waste generated from town

construction work, about 2 km from the landfill; (ii) commune landfills of Ea Kpam, Ea Tul,Ea M'nang, Quảng Hiệp and Ea Kapam for waste generated from Buon Yong Reservoir construction work, about 5-6 km from the landfills, (iii) TDP4 landfill, Ya Kar Town for waste generated from Ho Doi Reservoir constructiobn work, about 3.5- 4.5 km from the landfill, (iv) Phuoc An Town Landfill for waste generated from Krong Bul Ha construction work, about 13 km form the landfill; (v) Phuoc An town landfill fro waste generated from Ea Kuang Reservoir construition work, about 7 km from the landfill.

. iv. Hazardous Wastes

85. **Impact.** Hazardous wastes, such as paint/solvent containers and spent batteries, will be generated during the works. Although the volume of such wastes is anticipated to be small, this type of waste is highly detrimental to the environment and public health.

86. **Mitigation measures.** The contractor will secure and control the storage of all hazardous materials, including resudial oil and fuel, following *Circular 36/2015/BTNMT.* By then, these wastes will be transferred and burned to/at designated areas of the landfills

c. Disturbance of Cultivation Activities

87. **Impact.** The excavation of land and subsequent installation of pipeline systems for seven irrigation schemes will be implemented near or in private farmlands and may disturb the cultivation activities of villagers. However, the impact was assessed to be minor, short, and reversible. Moreover, it could be managed through a suitable workplan and proper construction methods based on the actual circumstances at the sites.

88. **Mitigation measures.** Contractors will be required to:

- Cooperate with local people and authority to develop a pipe installation plan including specific construction methods to avoid disruption of farmers' cultivation activities;
- Avoid temporarily stockpiles and gather construction materials in areas that may prevent farmers from their cultivation activities;
- Prepare a temporary access road for farmers before installing the pipeline across their access roads;
- Immediately rehabilitate excavated areas and repair any damaged road and path sections of the access roads;
- Select the best working method to apply in the installation of pipes at the sites based on actual farm condition to avoid any damage of crops or trees nearby, and compensate farmers whose trees or crops are damaged or affected due to subproject construction.

d. Disruption of Existing Irrigation Service

89. **Impact.** Besides establishing a pumped pipe system, the subproject will upgrade 5 km of an existing canal in the Ea Kuang reservoir irrigation system, which is supplying water to paddy fields and other crops. Upgrading of the canal may disrupt the irrigation service, especially when the crops need water. Construction wastes, such as cement residues, sand, stones, and excavated soil may contaminate the fields, affecting agricultural land quality and crop productivity. However, the impact was assessed to be minor, short, and reversible and could be mitigated through the preparation of a work plan based on the cropping schedule and the use of appropriate construction methods.

90. **Mitigation measures.** The contractor will be required to:

- Collaborate with local people and authorities in identifying the most appropriate time for the start of construction and in finding alternative irrigation sources during construction so as not to disrupt the farmers' activities;
- Comply strictly with the construction schedule to ensure the availability of irrigation service for their next cropping season; and
- Address any shortcomings or compensate farmers' losses in case their crops are affected by water pollution caused by construction activities and by the delay in restoring the irrigation service after canal upgrading.

e. Dust and Noise

91. **Impact.** Noise and dust will be mainly generated from (i) earthworks concentrated within a 50-m radius of the work site, (ii) the operation of construction equipment and machinery, and (iii) vehicles transporting construction materials to the area. The impact was assessed to be minor, short-term, and could be controlled by proper mitigation measures as most of the construction sites are located far from the residential areas. However, some construction sites are more likely to be affected by construction activities. For example, the installation of the main pipeline of Ea Dang and Buon Yong reservoir irrigation systems along the Block 1 of Ea Dang township could generate noise and dust that may affect village residents at both sides of the road and travellers along the community road in Village 3 of Quang Tien commune.

92. **Mitigation measures.** To minimize the above impacts, the contractor will:

- Keep excavated material and stockpiles moist;
- Conduct water spraying along the community road during the cutting of concrete, excavating, and levelling after completing pipeline works to suppress dust at all times and avoid any complaints from residents;
- Require transport vehicles to install tarpaulin covers or other suitable material to prevent spillage of the hauled materials;
- Keep the construction equipment and vehicles well maintained and in good working condition all times to reduce fugitive emissions;
- Impose speed limits in the construction sites to minimize dust emission;
- Limit work at the sites to 0700H to 1800H;
- Install stationary equipment, like diesel generators, as far as practicable from sensitive receptors and establish buffers as further mitigation.

f. Traffic Congestion, Accidents, and Damage of Community Road

93. **Impact.** The use of community roads for the transport of construction materials to the worksites may result in damage to the community roads and traffic disturbances due to an increase in traffic density at the subproject sites. A section of the provincial road traversing Block 1 of Ea Dang Township is also likely to be affected by the pipe installation across the existing road and the section of commune road passing 500 Hill reservoir (Xuan Phu Commune). However, the impact was assessed to be small, localized, short-term, and can be mitigated as the traffic density at the construction sites, including the provincial road, is quite sparse.

94. **Mitigation measures.** Contractors will be required to:

- Conduct a road transportation study before construction to assess the community road condition and identify potholes in the roads which could cause traffic accidents;
- Collaborate with local transportation agency to install traffic signboards near the sites with large potholes;
- Use appropriate vehicles suited to the road situation to avoid heavy damage on the community roads;

- Bear all responsibility for the rehabilitation of, or compensation for, road damage caused by subproject construction;
- Install traffic sign boards on both sides of the roads and assign traffic staff to direct traffic during the installation of pipes across the provincial and community roads; and
- Restore the road to its previous condition before returning it to the community to ensure that there are no holes or residues of materials/wastes on the road.

g. Community Health and Safety

95. **Impact.** During the works, the community may be exposed to health and safety risks from increased vehicular movements, open excavations, and operation of heavy equipment in the area.

96. **Mitigation measures.** The contractor will be required to:

- Install barricades/barriers and sturdy plate covers in open excavations during non-working hours;
- Install warning signs in the area; and
- Give priority to locals when hiring construction workers and consult with local authorities to avoid conflicts if migrant workers will be brought to the site.

h. Occupational Health and Safety

97. **Impact.** The implementation of the works may result in hazards to the safety of workers, such as tripping, slippery surfaces, carrying heavy loads, and accidents during the operation of machines, equipment, and electricity.

98. **Mitigation measures.** The contractor will be required to implement a construction health and safety plan in accordance with the World Bank's Environmental Health And Safety (EHS) Guidelines (http://www.ifc.org/ehsguidelines) as a minimum standard. The contractor will appoint an EHS officer to ensure the implementation of the EHS plan. At the very least, the EHS Plan will include the following:

- Provision of first-aid facilities readily accessible to workers;
- Provision of PPE, such as hard hats, gloves, rubber boots, etc.;
- Mandatory wearing of PPE by workers while working onsite;
- Posting of safety signs/reminders in strategic areas within the construction area;
- Ensuring that vehicle and equipment operators are properly licensed and trained; and
- Providing staff with communicable disease and HIV-related awareness training.

3. Environmental Impacts during Operation

99. The potential long-term or permanent impacts of project development are most important and generally determine the level of impact assessment an irrigation improvement project requires. The potential long-term impacts include: (i) deterioration of water quality; (ii) pipe leakages; (iii) occupational health and safety hazards; and (iv) community health and safety hazards.

a. Deterioration of Water Quality

100. **Impact.** The usable reservoir storage of existing reservoirs, which are the main water sources for irrigation, is highly dependent on rainfall. Therefore, to ensure the sustainability of the proposed reservoir schemes, it is necessary to protect the reservoir from sedimentation due to runoff and cultivation activities of local people in the reservoir catchments. The quality of raw water may deteriorate due to detrimental human activities in the upstream catchment area of the reservoirs and the lack of, or inadequate, waste management in the subproject pumping stations located within reservoir basins. This may, in turn, affect the quality of irrigation water.

101. **Mitigation measures.** DARD will collaborate with other concerned agencies to:

- Prevent local people from encroaching in the reservoir catchments for cultivation in order to minimize sedimentation of the reservoir due to runoff;
- Prepare a watershed management plan to protect the natural forest cover in the reservoir catchments;
- With with the Independent Environmental Management Consultant (IEMC), coordinate with the village and district authorities regarding community activities in the catchment area;
- Coordinate with the IEMC in monitoring watershed activities that may contribute to the contamination of raw water and in conducting regular monitoring of water quality in the reservoirs.

b. Leaks in Pipelines

102. **Impact.** There is a potential risk of high water pressure that could cause bursting of pipes although this is very low-risk occurrence.

103. **Mitigation measure**s. To mitigate this potential impact, the following measures will be taken:

- Use of durable standard pipes for the pipelines;
- Conduct of construction supervision by the Contractor to ensure that pipe laying and joining are done to high standards;
- Regular inspection of the network and prompt isolation and repair when leaks occur; and
- Preventing locals from occupying the protected right of way (ROW) for cultivation.

c. Occupational Health and Safety

104. **Impact.** The operation of all pumped pipe irrigation schemes will require operating equipment, which could pose risks to the safety of workers and staff.

105. **Mitigation measure.** Proper guidance and adherence to occupational health and safety protocols will be established in the subproject facilities in accordance with the World Bank's EHS Guidelines as the minimum standard.

d. Community Health and Safety

106. **Impact.** Community people may be at risk of high-voltage electric shocks from touching electric-powered machinery and equipment or from using electric pumps for watering their crops.

107. **Mitigation measures.** The constructed facilities will be properly fenced off and secured to restrict access and intrusion of unauthorized personnel, most especially at the pumping station and storage tank area. Watchmen/security personnel will be hired to secure the facilities on a 24-

hour basis. The project will also provide a training course on techniques of effective application and safety for those who will be using water from the subproject.

VI. ANALYSIS OF ALTERNATIVES

A. Alternatives to the Subproject

108. The beneficiary villages in and around the Dak Lak subproject facilities have been selected as the site of the subprojects. The selection process adopted for WEIDAP involved screening, prioritization, and selection of the candidate subprojects for feasibility study. The feasibility study then confirmed the eligibility of the subproject eligibility. Prioritization was based on a set of criteria aimed primarily at ensuring alignment with Government priorities, maximizing impact in terms of number of population to be served, and also maximizing the contribution to economic development and poverty alleviation.

B. Alternatives within the Subproject

109. Alternatives considered for the preliminary design included: (i) the configuration and location of the distribution system; (ii) alternative water sources/reservoirs; and (iii) village areas to be included. During the evaluation of possible service areas, the most populated and easily accessible villages were selected to be included in the irrigation improvement project.

110. Based on the principles of irrigation modernization, the project seeks to improve the level of service (LOS) to enable farmers to receive reliable deliveries of irrigation water, nearly on-demand, and at levels demanded by HVCs. Given this objective, the lower unit cost rehabilitation alternative is inconsistent with project objectives. As such, the unit hectare investment costs are higher. Proposed designs include the introduction of piped distribution systems that not only reduce water losses but also reduce operation and maintenance (O&M) requirements, as distribution pipes are buried and less vulnerable to solar deterioration and physical damage. Given the extensive use of piped distribution, costs were minimized by limiting the offtake hydrants and ensuring that pipe diameters are appropriate for system capacity. The project is not intended to rehabilitate (i.e., restore to the same level of service), but to enhance the level of service requiring a higher unit investment.

C. “No Project” Alternative

111. The “No Project” alternative would mean that the opportunity to provide more cost-effective and high-technology irrigation systems, which are highly suitable for the production of HVCs towards meeting Government of Viet Nam goals and priorities, would not be realized.

VII. INFORMATION DISCLOSURE, CONSULTATION, AND PARTICIPATION

A. Public Consultations

1. Methnodology

112. Formal disclosure to stakeholders about the proposed Dak Lak subproject facilities occurred during the preparation of the IEE. A stakeholder consultation strategy was developed to meet the requirements of conducting meaningful consultation with stakeholders, as stipulated by the ADB SPS (2009). The strategy embodied the principles of meaningful engagement, transparency, participation, and inclusiveness to ensure that affected and marginalized groups, such as women and the poor, are given equal opportunities to participate in the planning of the subproject.

2. Identification of Related Stakeholders

113. Stakeholders were identified and engaged in a participatory manner. Stakeholder consultations focused on institutional stakeholders, affected communities, and persons directly affected by the proposed subproject interventions. The identified subproject stakeholders include: (i) Institutional stakeholders such as People's Committee and Commission (PCC), District People's Committee (DPC), PPMB, commune leaders, and design consultants. (The PPMB and the design consultant provided information for the design of the subprojects and the implementation of measures and interventions). Other stakeholders include the mass organizations, such as Women's Union and Farmers' Union, and villagers living in subproject areas, including beneficiaries and potential APs.

3. Public Consultation Meetings

114. Formal community consultations were held to discuss the location and potential impacts of the Dak Lak subproject on the environment and people in the districts and communes to be covered by the subproject. The community consultation meeting was held on 2-4 August 2016 in nine communes of four districts: four communes in Krong Pak District, two communes in Cu M' Gar District, two communes in Ea H'leo District, and one commune in Ea Kar District. A total of 190 people participated in the consultations, with women accounting for 30% of total. The participants included 52 EMs, representing 27% of the Ede, Tay, and Nung groups who can understand and speak the Kinh language fluently. Summary information on the meeting participants is presented in **Table 12**.

Table 12: Participants during the Community Consultation Meetings

Districts	Communes/Township	Officials		Households		Total			Ethnic Groups	
		M	F	M	F	M	F	Total	Minority	EMs
Cu M'Gar	Ea Kpam	1	1	25	4	26	5	31	4	Kinh, Ede
	Quang Tien	3	2	9	6	12	8	20	0	Kinh
Ea H' Leo	Phe Yang	4	0	5	4	9	4	13	4	Kinh, Ede
	Ea Drang township	2	2	4	4	6	6	12	0	Kinh
Krong Pak	Ea Phe	5	1	16	4	21	5	26	14	Ede, Kinh
	Ea Kenh	5	2	9	9	14	11	25	5	Kinh, Ede, Tay, Nung
	Ea Jông	2	1	13	5	15	6	21	9	Kinh, Ede, Tay, Nung
	Krong Buk	3	2	7	8	10	9	19	5	Kinh Ede
Ea Kar	Xuan Phu	5	1	14	3	19	4	23	11	Kinh, Tay, Nung
Total	**9**	**30**	**12**	**102**	**47**	**132**	**58**	**190**	**52**	**4**

M=Male; F=Female

115. The public meetings were conducted in each subproject commune in the local language using a loudspeaker and following a number of procedures, as listed below.

- The engineering consultant introduced the subproject, including the basic designs of each subproject work located in the project commune area.
- The environmental consultant presented ADB's environmental policy, safety regulations in Viet Nam construction sector, anticipated environmental impacts and mitigation measures to be developed in the IEE, and the grievance redress mechanism (GRM) for environment and resettlement issues;
- The social/resettlement consultants presented ADB's resettlement policy, impacts due to the acquisition of land and properties, policies of the Government and local authorities, and subproject policies on compensation as required by the State; and

- Open discussion of issues and concerns by the stakeholders.

4. Issues and Concerns Raised during the Public Consultations

116. During the meeting, the participants raised their questions and comments on the subprojects. The technical consultants and IEE national consultant, as representative of EA/IA, answered and explained all questions to the participants. The following are the comments raised during the consultation meetings:

- Local authorities and people are highly in favour of the subproject because of the benefits that can be derived from its implementation, such as the availability of irrigation water for HVCs like coffee and pepper, on one hand, and the minimal adverse environmental impacts that could result from the subproject, on the other.
- Although most of the civil works will be constructed on public land, compensation and supporting policies should be developed to satisfy the affected people.
- Even if the subproject is not likely to produce significant environmental impacts, as there are no sensitive or protected areas near the sites and the residential areas are far from the subproject sites, mitigation measures should be developed to address some negative impacts (such as runoff, noise, and dust) during the construction phase.

117. The comments and questions from the meeting participants and the corresponding responses of the project owner are summarized in **Table 13** below.

Table 13: Summary of Participants' Comments and IEE Responses

Location and Date	Comments/Questions from Participants[3]	Issues Addressed in the EMP
Cu M' Gar		
Ea Pam 2 August 2016	Environmental impacts generated during the construction of the pumping station and its pipeline and storage area should be paid attention to.	Mitigation measures have been developed to address the impacts at each specific site.
	The project should prioritize jobs for local people, especially the EMs. Local people can participate in the community monitoring board.	This is addressed in the EMP. The contractors should coordinate with the local authorities in the identification of qualified construction workers.
	Compensation and supporting policies should be developed to satisfy the affected people.	An updated Resettlement Plan (RP) has been prepared separately to address these issues.
Quang Tien 4 August 2016	The dead water level in the pond during summer should be taken into account when designing the pumping station.	This issue has been considered in the design of the facilities and described in the IEE chapter on Description of the Project.
	The pipeline needs its own right of way for maintenance activities and to prevent people breaking through the barrier for their activities.	This is mentioned in the EMP and addressed in the updated RP.
Ea H' Leo		
Phe Yang 2 August 2016	The project should prioritize jobs for local people, especially the EMs. Local people can participate in the community monitoring board.	This is addressed in the EMP. The contractors should coordinate with the local authorities in the identification of qualified construction workers.

[3] Questions and issues raised during public consultation meetings are recorded in the table as received.

Location and Date	Comments/Questions from Participants[3]	Issues Addressed in the EMP
	Compensation and supporting policies should be developed to satisfy the affected people.	An updated Resettlement Plan (RP) has been prepared separately to address these issues.
Ea Drang Township 2 August 2016	The land of some EM households may be acquired by the project. The project should pay attention to the unique culture of the EM groups.	This issue is addressed in the updated Resettlement and Ethnic Minority Development Plan (REMDP).
	Gender issues should be integrated into the project's training courses.	A Gender Action Plan has been prepared for implementation under the loan project.
Krong Pak		
Ea Phe 3 August 2016	Environmental quality is still good in the commune. Environmental impacts due to the project will be insignificant because of the small scale of construction. However, compensation of affected households should satisfy their needs.	An updated Resettlement Plan (RP) has been prepared separately to address this issue.
	The improved irrigation system will open up new economic opportunities for the local villagers. However, the local farmers need training on the application of new technology for effective watering of agricultural land.	This issue will be taken into account during the development of training courses.
Ea Kenh 3 August 2016	The project should prioritize jobs for local people, especially the EMs. Local people can participate in the community monitoring board.	This is addressed in the EMP. The contractors should coordinate with the local authorities in the identification of qualified construction workers.
	The land of some EM households may be acquired by the project. The project should pay attention to the unique culture of the EM groups.	This issue is addressed in the updated Resettlement and Ethnic Minority Development Plan (REMDP).
Ea Jông 3 August 2016	There are some small and big reservoirs in the commune, but all of them suffer from water shortage for watering the crops and trees during summer. Therefore, the new investment in irrigation systems is considered a necessity by the local people.	The positive impacts of the subproject are described in the IEE.
Krong Buk 4 August 2106	The project should prioritize the local people, especially the EMs and women, in the identification of construction workers for the subproject.	This is addressed in the EMP. The contractors will coordinate with the local authorities in the identification of construction workers, including EM and women.
	The land of some EM households may be acquired by the project. The project should pay attention to the unique culture of the EM groups.	This issue is addressed in the updated Resettlement and Ethnic Minority Development Plan (REMDP).
Ea Kar		
Xuan Phu 4 August 2016	The project should prioritize the local people, especially the EMs and women, in the identification of construction workers for the subproject.	This is addressed in the EMP. The contractors will coordinate with the local authorities in the identification of

Location and Date	Comments/Questions from Participants[3]	Issues Addressed in the EMP
		construction workers, including EM and women.
Conclusion	The project will be responsible for providing further information to the concerned communes and take the issues raised by the local people to the experts for further study. The project will also ensure that local people benefit from the subproject and help protect the environment from negative impacts during construction and operation, thereby contributing to the sustainability of the subproject facilities.	

B. Information Disclosure

118. Prior to project implementation, a copy of the approved Updated IEE and EMP will be submitted by CPMU to the DONRE in Dak Lak Province. The updated IEE will also be posted on the ADB and MARD website. During construction and operation, communities within the impact area of the subproject area will be kept informed of construction activities through billboards or information boards about the construction activities and schedules. Detailed information on the PMU and the grievance redress mechanism (GRM) focal persons, as well as the Construction Managers, will be prominently displayed in the respective construction areas for the reference of affected communities/persons. Complaints and grievances, both written and verbal, can be directly filed, with the concerned entities. This will be an alternative to the village complaint system. All suggestions, opinions, and responses from the community on the project should be taken into account, and feedback provided on how the concerns and recommendations have been addressed.

VIII. GRIEVANCE REDRESS MECHANISM

A. Purpose of the Mechanism

119. During the deployment of the subproject, local people will be provided with information on environmental protection activities, such as EMP. Negative impacts on the environment may occur during the construction and operational phases. Any comments/suggestions of local people will be solved quickly, transparently, and according to the law, particularly for AP. A complaint handling mechanism will be established, classified by level and including the responsibilities of involved parties.

B. Grievance Redress Mechanism

120. Affected persons will be informed of policies and procedures to ensure that their livelihood will not be severely affected by the subproject. AHs will also be informed that, if they have any questions or concerns regarding the subproject, PPMU will be responsible for providing assistance to resolve such concerns. The GRM consists of several steps, namely:

- **Step 1:** Complaint form will be sent by APs, AHs, or groups of HHs to the subproject CPC.
- **Step 2:** The Subproject CPC will investigate the complaint within 15 days. If it is judged to be valid, the Complaint Form will be forwarded to the PPMU.
- **Step 3:** Within 15 days from the date the complaint is received, the PPMU and Subproject CPC will organize meetings to discuss how to resolve the matter. All meetings will be recorded, and copies of the minutes of meetings will be provided to APs/AHs.
- **Step 4:** PPMU shall take such mitigation measures, as agreed in meetings, from Step 3 by PPMU and Subproject CPC within 15 days, or some other period acceptable to the parties referred to in Step 3.
- **Step 5:** When the complaint is resolved, the Complaint Form needs to be signed by Complainer/HH head, subproject CPC, PPMU, and annotated at each stage of the process by PPMU.

- **Step 6:** In case no understanding or amicable solution is reached, or if no response is received from the subproject CPC within 15 days after the registration of complaint, the APs/AHs can appeal to the DPC. The APs/AHs must lodge the complaint within 30 days of registering the original complaint and must produce documents with copies of appeal that support his/her claim. The DPC will provide a decision within one month of receiving the appeal.
- **Step 7:** If the APs/AHs are not satisfied with the decision, or in the absence of any response from DPC, the APs/AHs can appeal to the PPC, which will then review and issue a decision on the appeal within 30 days from the day it is received.
- **Step 8:** If the AP is still not satisfied with the decision of the PPC, or in the absence of any response within the stipulated time, the AP, as a last resort, may submit his/her case to the court, which will render the final decision.

C. Type of Grievances

121. Complainants are entitled to lodge complaints regarding any aspect of the project. Any affected person will be able to submit a grievance if he/she believes that a practice has a detrimental impact on the community, the environment, or their quality of life. Eligible grievances or complaints include:

- Negative impacts on a person or a community (e.g., financial loss, such as from loss of water or roadside trees, health and safety issues, nuisances, etc.);
- Dangers to health and safety or pollution of the environment;
- Hazards due to construction activities (e.g., noise, dust, disruption of access, etc.);
- Impacts on social infrastructure;
- Failure to comply with standards or legal obligations;
- Improper conduct or unethical behavior of contractor leading to the nuisance of affected person(s);
- Misuse of funds and other irregularities;
- Grievances due to land acquisition, resettlement, compensation, relocation, and unaddressed losses.
- Complaints related to gender issues.

D. Grievance Resolution Process

122. Complaints can be made verbally or in written form. It is recognized that, in many cases, complainants do not have the writing skills or ability to express their grievances verbally. However, complainants are encouraged to seek assistance from family members or village heads to have their grievances recorded in writing and to ensure that, where disputes occur, all the details have been recorded accurately to enable all parties to be treated fairly. In the case of verbal complaints, a written record of the complaint will be made during the first meeting with the complainant. Complainants, who present their complaints within the prescribed procedures, will be exempt from all administrative fees incurred. In addition, complainants who lodge complaints and appeals to district courts will be provided with free legal representation. If efforts to resolve complaints or disputes are still unresolved and unsatisfactory following the Government's grievance redress mechanism, the AP/AHs have the right to send their concerns or problems directly to ADB's Operations Department (i.e., Natural Resources, Environment, and Agriculture Division (SEER), Southeast Asia Department (SERD) or through the ADB Vietnam Resident Mission (VRM). If the AP is still not satisfied with the responses of SERD, he/she can directly contact the ADB's Office of the Special Project Facilitator, as outlined in the *Information Guide to the Consultation Phase of the ADB Accountability Mechanism*. The Information Guide can be downloaded through this link: https://www.adb.org/documents/information-guide-consultation-phase-adb-accountability-mechanism

IX. ENVIRONMENTAL MANAGEMENT PLAN

A. Institutional Arrangements for Implementation

123. The CPMU under MARD, the Dak Lak PPMB, and the Dak Lak DARD are the key institutions that will play crucial roles in the implementation of the subproject as well as in ensuring environment safeguards. CPMU/PPMU will recruit one Environment Safeguards Specialist (ESS) under the Loan Implementation Consultant (LIC) to support subproject implementation in Dak Lak. The ESS will support the PMUs in updating the EMP and in monitoring the compliance of the contractors during the construction phase. The ESS will also be responsible for training and capacity building on EMP implementation. The PMUs will engage a Construction Supervision Consultant (CSC) for the monitoring and supervision of the subproject, including environmental monitoring. The CSC will ensure that the contractors implement the provisions of the subproject EMP. The administrative and environmental management responsibilities of these institutions are summarized in **Table 14**.

Table 14: Environmental Management Responsiblities of Concerned Parties

No.	Organization	Environmental Management Responsibilities
1.	CPMU	• Exercise general responsibility for entire supervision, monitoring, and preparation of environmental monitoring reports (EMRs) submitted to ADB. • Provide training on environmental safeguard policy for subproject staff. • Prepare bidding documents, including the Scope of Work for adverse environmental impact mitigation, as contained in the EMP. • Recruit an independent environmental monitoring consultant (IEMC) during subproject civil works implementation to monitor the implementation of the contractor's Site EMP. • Prepare periodic EMRs for submission to ADB.
2.	PPMU	• Deploy for implementation of all environmental protection and mitigation activities included in the subproject EMP during pre-construction and construction phases. • Prepare bidding documents and integrate environmental mitigation measures in the EMP to ensure that contractors comply fully and correctly with the regulations. • Supervise and report on the implementation, by the contractor, of those mitigation measures according to approved detailed EMP for construction activities. • Support the contractor in the implementation of mitigation measures during construction. • Facilitate effective coordination among the contractor, local authorities, and local communities during construction, establish linkages among all relevant parties during project implementation and environmental management work of the subproject. • Coordinate with the local governments in dealing with complaints (if any). • Prepare periodic reports to CPMU on the implementation of the subproject and the EMP.
3.	Contractor	• Prepare Contractors' Site Environmental Management Plan (SEMP) for construction activities to meet environmental management requirements for the subproject. Such detailed plans shall be approved by the project owner before the commencement of construction activities. • Implement measures specified in the approved SEMP, especially effective mitigation measures during construction and other issues related to the EMP for the subproject and propose amendments or alternative mitigation measures if necessary. • Proactively contact local community representatives and deploy measures to avoid unnecessary disturbances during the construction activities, train workers on knowledge of environmental issues during construction, and be responsible

No.	Organization	Environmental Management Responsibilities
		for implementation of SEMP and labor safety measures in the construction sites. • Ensure that all construction activities have secured necessary permits from competent authorities. • Report to PPMU on any difficulties faced and propose solutions. • Immediately report to the local authorities and PPMU any environmental accidents and coordinate with relevant authorizes and parties to solve the problem. • Solve any complaints concerning construction activities and conduct issues of workers. • Submit weekly/monthly reports on the implementation of mitigation measures to construction supervision consultant and PMU.
4.	Construction Supervision Consultant (CSC)	• Support PPMU in supervising environmental safeguards in accordance with the daily EMP. • Prepare a rapid periodic report on EMP implementation at the construction sites together with proposed improvements to the Contractor for synthesis and submission to PPMU. • Maintain contacts with the local communities. • Support PPMU in resolving any construction-related complaints following the subproject's GRM.
5.	Project Implementation Consultant (PIC)	• Support CPO/PMU to procure environmental monitoring contract; • Work closely with CSC and independent environmental monitoring consultant (IEMC) to support the PPMU in monitoring and supervision of EMP implementation and ensure environmental compliance in each subproject. • During the construction phase, support the PPMB to prepare and submit semi-annual EMRs to CPO/PMU (on behalf of MARD) and ADB for review and uploading on ADB's website.
6.	Environment Safeguard Specialist (ESS)	• Assist CPO/PMU with the review of the IEEs and associated EMPs prepared for each subproject during the PPTA and assist with updating the EMPs in response to requirements of the detailed engineering design. • Brief the staff of the CPO/PMU and DARD/PPMUs on the environmental procedures and requirements for subproject implementation (construction and operations). • In cooperation with the M&E specialists, develop the indicators that need to be monitored for groundwater quality and levels that can be incorporated into routine project monitoring activities. • Support PPMU to establish an environmental management system that links with CPO/PMU environment management, including the procedures of construction inspection and monitoring, periodic reporting, and responsibilities of each party in the project's environment management system. • Support CPO/PMU to procure independent environmental monitoring contract and support the IEMC to prepare semi-annual EMRs to be submitted to CPO/PMU and ADB for review and uploading on ADB's website; • Visit each subproject during construction to ensure that environment safeguards are being properly conducted in accordance with the subproject EMP; • Develop environmental management procedures to be adopted by both the provincial IMCs in operating the system storage facilities to sustain environmental flows and the PPP irrigation operators drawing water from existing reservoirs to pump to beneficiary farmers within newly established command areas. • Assist in developing operational guidelines for water utilization by beneficiary farmers to maximize the efficient use of water from irrigated agriculture. • Assist in the preparation and implementation of training activities with regard to the environmental aspects of the project.

No.	Organization	Environmental Management Responsibilities
7.	Independent Environmental Monitoring Consultant (IEMC)	• Conduct periodic independent supervision of contractor's implementation of SEMP. • Perform quarterly environmental quality monitoring of key analytical parameters (i.e., air, water, soil, noise, etc.) in the subproject sites to assess the effectiveness of mitigation measures in addressing construction-related adverse environmental impacts during the construction and operations phases. • Collaborate with/support PPMU and the Contractor in the effective implementation of the EMP in the construction areas.
8.	Systems Operating Organization	• Be responsible for environmental management during the operation period of the subproject. • Implement mitigation measures during the O&M period.
9.	Local Resident Communities	• Local resident communities have the right and responsibility to conduct preliminary supervision of activities related to the environment during the construction phase to ensure their rights and safety is adequately protected, and that mitigation measures are effectively implemented by the contractor and PPMU. They shall report any unexpected environmental issues arising from the construction works to the CSC/PPMU/CPCs.
10.	Local Governments: PPC, DPC, and CPC of the Subproject Area	• Monitor the implementation of the subproject based on recommendations of the provincial DONRE and PPMU to ensure compliance with the regulations and policies of the Government.
11.	Provincial Environmental Management Agency	• DONRE is the provincial environmental management agency, representing MONRE in managing environmental issues in the province. • DONRE will be responsible for the supervision of compliance with environmental regulations of the Government during various implementation phases of the subproject.
12.	Other Concerned Parties	• Advise and inform of any aspects related to the environmental management and protection regulations of Vietnam. • Provide technical support during the construction of the subproject, as necessary. • Participate in the resolution of environment-related issues (if any).

B. Environmental Management Plan

124. The anticipated environmental impacts and mitigation measures discussed in the previous section are presented in **Table 15** for the Dak Lak subproject. The responsibilities and timeframe/schedule for implementation of mitigation measures of stakeholders, as shown in the tables, indicate that most mitigation activities during pre-construction are to be implemented by the PMU/ESS, while the measures will be primarily implemented by the contractors during the construction phase. During subproject operation, DARD will carry out the environmental mitigation and monitoring requirements specified in the EMP. To ensure implementation of mitigation measures during construction, the EMP shall be included in the tender and contract documents for civil works. Contractors' conformity with environmental contract procedures and specifications shall be regularly monitored by PMUs with assistance from CSC and results shall be reported semi-annually to ADB.

Table 15: Detailed Environmental Management Plan of Dak Lak Subproject

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
I. Pre- construction Phase						
Conflicts of water use	To prevent reservoir water quality from deterioration due to an increase in irrigation demand from the new command area of the subproject.	• Water balance calculations for the five reservoir irrigation schemes by the IWRP indicated that the water supply capacity of these reservoirs will meet the irrigation demand of the subproject.	PMU	Before construction	N/A	Included in the contract with ESS and PMU operation budget
Land acquisition and resettlement	To minimize physical and socioeconomic impacts due to land acquisition and loss of assets.	• Implement the updated land acquisition and compensation plan that was approved by the ADB for the subproject. • Design access roads to the minimum necessary width and provide a Right-of-Way (ROW) for the pipelines to be installed, when feasible.	PMU; ESS	Before construction	N/A	Included in the contract with ESS and PMU operation budget
UXO	To avoid any accident due to UXO that may still	• A survey on UXO is required for this	PMU	Before construction	N/A	Included in the contract with ESS

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
	be underground in the subproject work sites.	subproject before construction.				and PMU operation budget
Environmentally responsible procurement	To ensure that the EMP is properly implemented by the selected contractors.	• Update the EMP. • Include the EMP in the tender documents to ensure that mitigation measures are budgeted and prepare the contractors for environmental management responsibilities. • Specify in bid documents that the Contractors shall engage capable and trained staff to take responsibility for environmental management and safety issues at the working level, monitor the effectiveness, and review mitigation measures as the subproject proceeds.	ESS, PMU	Before bidding and before construction commencement	N/A	Included in the contract with ESP and PMU operation budget

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		• Contractors should recruit qualified staff to oversee the implementation of environmental and safety measures specified in EMP.				
Environmental capacity development	To develop environmental management capacity of PMU to ensure proper EMP implementation and promote environmental awareness among workers.	• PMU to commit and retain dedicated staff for the subproject duration to oversee EMP implementation. • ESP to train PMU to build their capacity in EMP implementation, monitoring, and reporting using workshops and on-the-job training techniques and case studies. • Conduct workers' orientation on EMP provisions. Such orientation should be periodically conducted by the ESS as every new	PMU, ESS	Throughout the pre-construction and construction phases	N/A	Included in the contract with ESS and PMU operation budget

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	**Responsible Party**	**Timing**	**Location**	**Mitigation Cost**
		contractor is engaged.				
II. Construction Phase						
Reservoir water quality	To prevent the reservoir water quality from deterioration due to improper managemen t of runoff as well as construction, domestic, and hazardous wastes.	• Implement proper measures including the provision of silt traps, ditches, and sump pits to intercept the flow of silt-laden runoff from the worksites into the reservoir. • Schedule excavation works during the dry season or stop work during heavy rains. • Properly manage all construction, including excavated soil and domestic wastes at sites, and prohibit the disposal of wastes in the reservoir basins, especially for hazardous wastes, Contractors will strictly comply with regulations specified in *Circular 36/2016/BTNMT*, specifically:	PMU, Contractor	During civil works at site	Ea Dang, Buon Yong, Krong Buk Ha and 500 Hill reservoir s	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		• The storage area for all hazardous substances should be located away from the reservoirs; • Ensure that safe storage of fuel and other hazardous substances is agreed by PPMU/CSC and has necessary approval/permit from DONRE and local authorities; • Equipment/vehicle maintenance and refuelling areas will be confined to the area in a specialised designed site to contain spilled lubricants and fuels; • Ensure that all storage containers are in good condition to avoid leaks into the environment. • Workers' camps, if needed, will be constructed far from the reservoirs				

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	**Responsible Party**	**Timing**	**Location**	**Mitigation Cost**
		and provided with adequate latrines and dustbins. Waste from latrines will be collected and treated properly through an economic contract with local environmental cooperatives /companies.				
Waste management	To avoid or minimize negative impacts on environment due to improper management of wastes at sites	**Excavated soil** • Any surplus material will be disposed properly and given for free to interested villagers as backfill materials in coordination with the village authority; **Construction wastes** • These wastes will be collected and classified for reuse or recycling or otherwise disposed in the landfills to avoid risks to people. **Domestic wastes** Contractor will provide dustbin for worker camps to	PMU, Contractor	During civil works, transportation	N/A	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		ensure that all domestic wastes are collected and properly disposed in the commune and townlandfills **Hazardous wastes** • All hazardous materials, including fuel and lubricants, will be stored in a secure place following *Circular 36/2015/BTNMT.*				
Disturbance of cultivation activities	To ensure normal cultivation activities in the area of pumped pipeline system installation.	• Cooperate with local people and authority to prepare a pipe installation plan through farmlands, using specific methods so as not to disturb farmers' cultivation activities. • Prevent temporary stockpiling of construction materials on roads that may prevent farmers from their cultivation activities.	PMU, Contractor	During the installation of the pipeline system	Command areas	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		• Prepare a temporary access road for farmers before installing the pipeline across their access road. • Immediately rehabilitate excavated areas and any damaged roads or paths to the access roads. • Select the best working method for installing pipes at the site based on the actual farming status to avoid any damage to trees or crops nearby. • Compensate farmers whose trees are injured or die due to subproject construction.				
Disruption of existing irrigation service	To ensure continuing irrigation service for rice and other crops serviced by the Ea Kuang canal.	• Contractors will collaborate with local people and authorities to determine the most appropriate time for starting construction.	PMU, Contractor	During the upgrading of the existing canal	Command areas being irrigated by Ea Kuang canal	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		If the impact is unavoidable during the time of upgrading canals, PMU/contractors will discuss further with local authorities to find alternative irrigation sources. • Contractors will comply strictly with the construction schedule to ensure that the irrigation service is available for farmers to cultivate the next crop on time. • Any delays, regardless of the reason, in the upgrading of the canal will affect the cultivation of farmers. Thus, the contractors will bear the responsibility for compensation of farmers' losses in the event of delayed construction.				
Traffic	To minimize	• Conduct a	PMU,	Throughout	All roads	Included in

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
congestion, accidents, and damage to community road	traffic congestion, accident and protect community road from deterioration	road transportation study before construction to assess the condition of the community road and identify any large potholes in the road with a high risk of traffic accidents. • Collaborate with local transportation agency to install traffic signboards near the identified potholes; • Use vehicles suitable for the road condition to avoid heavy damage to community roads; • Bear all responsibility for the rehabilitation of, or compensation for, any road damage caused by subproject construction. • When installing pipes across provincial and community roads, install	Contractor	construction phase	used for transport of materials to sites Provincial road traversing Block1A of Ea Dang township Community road of Block 3 of Quang Phu township Community road passing through 500 Hill reservoirs	civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		traffic signboards on both sides of the roads and assign traffic staff to direct local travellers during construction. • Restore the road to its previous condition before returning it to the community to ensure that there are no holes or residues of materials or, wastes on the road, especially at nighttime.				
Community health and safety	To minimize the risk of exposing locals to the danger of open excavations and conflicts with migrant workers	• Install barricades/barriers and sturdy plate covers in open excavations during non-working hours. • Install warning signs in the area. • Ask the contractor to give priority to local qualified villagers when hiring construction workers and consult with	PMU, Contractor	Throughout the construction phase	N/A	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		the local authorities to avoid conflicts if migrant workers will be brought to the site.				
Occupational health and safety	To minimize the risk of workers when working at the site.	• Require the contractor to implement the construction health and safety plan in accordance with the World Bank EHS Guidelines as a minimum standard. The contractor will appoint an EHS officer to ensure implementation of the plan. The plan will, at a minimum, include the following: • Provision of first-aid facilities readily accessible by workers; • Provision of PPEs, such as hard hats, gloves, rubber boots, etc.;	PMU, Contractor	Throughout the construction phase	N/A	Included in civil works cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	**Responsible Party**	**Timing**	**Location**	**Mitigation Cost**
		• Mandatory wearing of PPE by workers while working onsite; • Posting of safety signs/reminders in strategic areas within the construction area; • Ensuring that vehicle and equipment operators are properly licensed and trained; • Providing staff with communicable disease and HIV-related awareness training.				
III. Operation Phase						
Deterioration of water quality	To protect the water quality of the five existing reservoir from deterioration.	• Prevent local people to encroach the reservoir catchments for cultivation to minimise sedimentation to reservoir due to runoff. • Make plan to cover the reservoir catchments	Irrigation Division/ DARD	Throughout the operation phase	Five subproject reservoirs	Operation cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		with natural protective forest; • The IMC will continuously coordinate with the villages and District authorities regarding community activities in the catchment area to monitor watershed activities that may contribute to the contaminatio n of raw water. The IMC will conduct regular monitoring of the water quality parameters of the reservoirs.				
Leak of pipeline	To protect the pipeline from any damages.	• Prevent locals from occupying the protected ROW for cultivation. • Use durable standard pipes for the lines. • Contractor to conduct construction supervision to ensure that pipe laying and joining are	Irrigation Division/ DARD	Throughout the operation phase	Along the alignmen t	Operation cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		done to the high standards. • Conduct regular inspection of the network and prompt isolation and repair when leaks occur.				
Occupational health and safety	To prevent operational staff and workers from any occupational risks	• Establish proper guidance and adherence to occupational health and safety protocols in the subproject facilities in accordance with the World Bank's EHS Guidelines as a minimum standard.	Irrigation Division/ DARD	Throughout the operation phase	N/A	Operation cost
Community health and safety	To prevent locals from electricity-related accidents due to exposure to protected pumping stations.	• Fence off the constructed facilities and restrict access to prevent intrusion of unauthorized personnel, most especially the pumping station and storage tank area. • Hire watchmen/security personnel to secure the facilities on a	Irrigation Division/ DARD	Throughout the operation phase	N/A	Operation cost

Environmental Concern	Objective	Impact Mitigation				
		Mitigation Measures	Responsible Party	Timing	Location	Mitigation Cost
		24-hour basis. • Provide training course on techniques of effective application and safety for those who will use the subproject water.				

C. Environmental Monitoring

1. Compliance Monitoring

125. **Table 16** below shows the program for monitoring the compliance on various provisions of the EMP during pre-construction, construction and operation phases. ESP needs to implement a number of measures during detailed design phase (e.g., incorporation of environmental design measures into the detailed design, update EMP, etc.) and this will be confirmed by CPMU/PPMU (PMU) to ADB. During construction, most of the mitigation measures be implemented by the contractors and their environmental performance, in terms of implementation of such measures, shall be monitored by CSC and ESP. The timing or frequency of monitoring is also specified in Table 15. During operation EMP implementation shall be the responsibility of Dak Lak DARD

126. At design phase, PMU shall ensure that EMP measures for the design stage are incorporated in the detailed design. The effective incorporation of the EMP in the civil works contracts shall also be ensured be by PMU with assistance from ESP and this, along with implementation of EMP provisions, shall be audited by ADB as part of the loan conditions.

127. Prior to implementation of the subproject the IEE and EMP will be updated and amended, as necessary, by ESP after the detailed designs are complete and contracting arrangements are known. Such updating shall be based on reconfirmation and any additional information on the assumptions made at this feasibility stage on location scale and expected conditions of the subproject.

128. At pre-construction phase, PMU with the support from ESP will prepare all environmental protection compliance certificates under Viet Nam's regulations as guided through LEP 2014. CSC and ESP will also need to confirm that Contractors and their suppliers have complied with all statutory requirements for permits from DONRE and provincial authorities. CSC and ESP will check that Contractors have all the necessary valid licenses and permits for use of powered mechanical equipment if necessary and the use of local water supplies (and to construct or operate plant such as for cement batching or asphalt/bitumen (if required) in line with all environmental regulations and permit conditions from provincial authorities.

129. At construction phase, the ESP will undertake regular monitoring of the contractor's implementation of mitigation measures specified in the Subproject EMP if applicable. On the other hand, CSC will also monitor the construction activities on daily basis. They will ensure that the contractors comply with all environmental regulations as specify in subproject EMP if applicable.

130. Dak Lak DARD will be in charge of EMP implementation in the operation phase. The tasks are including monitoring of water quality, leak of pipeline and community and occupational health and safety.

2. Environmental Effects Monitoring

131. Environmental effect monitoring of water and air quality will be not undertaken because the all impacts assessed to be minor, locality, short and reversible.

Table 16: Environmental Monitoring Compliance

Environmental Concern	Parameter to monitor	Location	Frequency & Verification	Responsible to Monitor	Monitoring Cost
Design and Pre-construction Phase					
Conflicts of water use	Water balance calculations	N/A	Once during project preparation phase	Detailed design consultants/PMU	Included in the operation budget of PMU
Land acquisition	Compensation documents	N/A	Only once before the start of construction	Dak Lak DARD/ DONRE, PMU	Included in the operation budget of PMU
UXO clearance	Dak Lak PPC Decision	N/A	Only once before the start of construction	Dak Lak DARD/ DONRE; PMU	Included in the operation budget of PMU
Environmentally responsible procurement	Include in bidding documents. Check compliance	N/A	Bidding preparation period; Before the start of site works	PMU	Included in the operation budget of PMU
Environmental capacity development	Require in contract with ESS; check duing detailed design; Complete training and check before and during the construction works.	N/A	Before the start of construction and at the beginning of the construction phase	PMU	Included in the operation budget of PMU
Construction Phase					
Water quality of subproject reservoirs	Check during implementation	Construction site of pumping stations	Biweekly and spot checks; Part of daily construction supervision	ESS/PMU	Water quality of subproject reservoirs
Disturbance of local cultivation activities	Check during implementation	Construction sites of pipeline installation and upgrading of existing canal	Biweekly and spot checks; Part of daily construction supervision	ESS/PMU	Disturbance of local cultivation activities
Disruption of paddy and other crop irrigation service	Check during implementation	Upgrading of 5-km Ea Kuang canal	Biweekly and spot checks; Part of daily construction supervision	ESS/PMU	Disruption of irrigation service to paddy and other crops
Waste management	Check during implementation	All worksites	Biweekly; part of daily construction supervision	ESS/PMU CSC	Waste management
Dust and noise	Check during implementation	All worksites, especially sites for pipe	Biweekly and spot checks;	ESS/PMU	Dust and noise

		installation in the Ea Dang reservoir irrigation system	Part of daily construction supervision		
Traffic disturbance and community road deterioration	Check during mplementation	Community roads used for subproject transportation, especially at sites in Ea Dang, Buon Yong, and 500 hill reservoirs	Biweekly; Part of daily construction supervision	ESS/PMU CSC	Traffic disturbance and community road deterioration
Occupational health and safety Community health and safety	Check during implementation; Check compliance with Labor Code of Vietnam and other relevant Decisions, Decrees, and Circulars under Government requirements	Throughout all theconstruction sites, quarry and borrow areas, community roads	Biweekly; Part of daily construction supervision	ESP/PMU CSC	Included in the operation budget of PMU/ ESP/ CSC
Operational Phase					
Water deterioration	Check during operation	Five subproject reservoirs	Semi-annual in the first two years	DARD/ESP	Included in operation budget of Dak Lak DARD
Protection of pipeline system	Check during implementation	Along the pipe alignment	Semi-annual in the first two years	DARD/ESP	Included in operation and maintenance cost
Occupational and community health and safety	Check during implementation	Along the pipe alignment, pumping stations, storage tanks, and villagers using private pumps	Weekly	DARD/ESP	Included in the operation budget of PPC

D. Reporting

132. PMU will submit environmental compliance monitoring reports to ADB. Environmental monitoring reports (EMRs) will describe the status of EMP implementation in terms of required mitigation measures for different phases of the subproject, necessary remedial actions to effectively address negative environmental impacts due to subproject implementation, status of environmental capacity building activities as well as documentation of complaints received and corresponding

action/resolution. The EMRs will be submitted to ADB semi-annually during the construction phase and annually for two years after the completion of construction (**Table 17**).

Table 17: Reporting Procedures

Project Phase	Type of Report	Frequency	Responsibility	Submitted to Whom
Construction	**Environmental Performance Report** indicating compliance with EMP and monitoring results at the contractor site	Monthly	Construction contractor	CSC
	Subproject EMP Compliance Report indicating compliance with subproject EMP and monitoring results	Quarterly	CSC	PMU
	EMP Compliance Report indicating compliance with subproject EMP and monitoring results.	Semi-annually during construction phase	ESS/PMU	ADB
Operation	**EMP Compliance Report: Operation** indicating compliance with subproject EMP commitments during operation	Annually in the first two years of operation. Ongoing frequency to be determined based on review after two years.	Binh Thuan DARD	Binh Thuan DONRE

E. Environmental Management Plan Implementation Costs

133. The costs of EMP implementation during construction phase will be included (i) the cost for implementation of mittigation measures which will be intergrated in the civil contract package and; (ii) the cost for environment management and monitoring including the cost for 06 man-months of environment saguard specialist and the cost for Independent Environment Monitoring Consultant, estimated about $90,000.

134. The cost of EMP implementation during the operation phase will be borne by the Irrigation Management Company (IMC), as part of their operation and maintenance (O&M) activities.

X. CONCLUSIONS AND RECOMMENDATIONS

135. This IEE for the Dak Lak Province subproject was undertaken to determine the environmental issues and concerns associated with the proposed irrigation system improvement, following modifications from the initial plans that were presented during project preparation. The modifications made are considered more suitable in terms of ensuring better irrigation water quality and quantity. The assessment confirms that the subproject remains classified as Category B for environment based on ADB's SPS (2009).

136. Beneficial impacts are expected in terms of the health and well-being of people because of the proposed irrigation subprojects in Dak Lak Province. Principal benefits will be derived from the improved accessibility to reliable irrigation water supply as well as economic benefits in the form of better returns from planting high-value crops and more cost-effective utilization of irrigation water by the farmers from the introduction of, and improved access to, high-technology irrigation systems.

137. **Most of the environmental impacts are expected to occur during the construction phase. The environmental impacts are not expected to cause irreversible and significant adverse environmental impacts,** and are easily controllable through the application of appropriate and conventional mitigation measures. Based on the assessment of environmental impacts, the anticipated adverse impacts during project implementation are related to nuisances which may happen during the construction of the subproject components, such as temporary alienation of access, temporary disruption of community facilities, noise, and sediment runoff, and release of dust and engine gas emissions. **Recommendations formulated in the EMP, its inclusion in the contractual framework, and an effective inspection of construction sites will reduce these risks to an acceptable level.**

138. Environmental mitigation measures have been designed, as outlined in the subproject EMP, to address any adverse impacts during the various phases of project implementation. The EMP also presents the institutional responsibilities for implementing the mitigation measures. All subproject activities prior to construction, during construction, and during operation will be managed as provided in the EMP, and the Contractor's compliance and implementation of the mitigation measures shall be monitored. An environmental monitoring plan has been provided to ensure compliance with prevailing Government of Viet Nam standards.

139. The IEE concludes that the subproject information on the affected environment is sufficient to identify the scope of environmental impacts of the subproject, and **no further environmental assessment is, therefore, required.**

Appendix 1

PICTURES AND MINUTES OF CONSULTATIONS AND MEETINGS

PICTURES OF PUBLIC CONSULTATIONS

Meeting with PPMU in Dak Lak DARD

Public consultation in EA Phe commune

Public consultation in EA Kenh commune

Public consultation in EA KPAM commune

Public consultation in EA DRANG town

MINUTES OF PUBLIC CONSULTATIONS, DAK LAK PROVINCE

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án:...

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Hôm nay là ngày..2..tháng..8..năm ..2014..

Cuộc họp được tiến hành tại: xã..... huyện..... tỉnh.....

Tổ chức họp dân về vấn đề: .....

Tiểu dự án: ... thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên:.....Chức vụ: ...PCT.....
2. Họ và tên.....Chức vụ: .....

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên.....Chức vụ: .....

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên:.....Chức vụ: ...Chủ tịch.....

3. Đại diện Hội nông dân xã :

Họ và tên:.....Chức vụ: .....

4. Đại diện hội cựu chiến binh xã :

Họ và tên:.....Chức vụ: .....

5. Đại diện Đoàn thanh niên xã :

Họ và tên:.....Chức vụ: .....

Đại diện hỗ trợ kỹ thuật huyện.....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện Ban quản lý dự án tỉnh: .....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện đơn vị tư vấn:

Họ và tên:.....Chức vụ: .....

Chức vụ: .....

Người dân trong xã tham gia:

Tổng số người tham gia: 29 /........ chiếm ..... % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:...25.....người, chiếm.86%

Nữ:....4......người, chiếm.13,8%

Dân tộc thiểu số:.........13,8........% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:......Nâng cấp xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn

Chủ toạ cuộc họp:..

Chức vụ:...

Nơi công tác:...

Nội dung làm việc:

Ý kiến chi tiết:

- xây dựng hồ Buôn Xây Nấp chủ yếu phục vụ vùng hưởng lợi cho xã Quảng Tiến và Quảng Phú. Người dân xã Ea Kpam không được hưởng lợi và thiệt thòi nhiều

- cần có những tham mưu đề xuất với Ban ngành để có những công trình phục vụ tốt cho nhân dân xã Ea Kpam

- Tác động ảnh hưởng tới:

+, Nếu dự án thực hiện dự án sẽ mang lại nhiều lợi ích cho người dân địa phương, góp phần giải quyết được vấn đề thiếu nước, chủ động được nguồn nước cho cây trồng mùa khô

+ Hiện nay tại khu vực TDA môi trường không khí cũng như chất lượng nước đất chưa bị ô nhiễm. Vì vậy khi triển khai thực hiện TDA cần chú ý đến vấn đề môi trường

+, Tác động tiêu cực của việc lấy đất người dân thuộc vùng TDA cũng như các khu vực lân cận tham gia vào các hoạt động của dự án

+, Quan tâm đến những đối tượng là người phụ nữ và người DTTS để cùng tham gia vào các giai đoạn

+, Thể mà đền bù, bồi thường để đảm bảo cuộc sống cho các hộ bị ảnh hưởng

=> Dự án được triển khai về cơ bản mang lại hiệu quả

...kinh tế xã hội cho người dân địa phương. Do vậy, chính quyền địa phương cũng như người dân trong thôn xã hoàn toàn đồng ý với thiết kế dự án phục hồi RNM

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng......năm..2016

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã ...Eakpam.........	**Đ/D: Cơ quan tư vấn**
PHÓ CHỦ TỊCH	
Nguyễn Công Định	Nguyễn Thị Hằng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ...nâng...cấp...xây...dựng...hệ...thống...tưới...phục...vụ...tưới...cho...cây trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ...Ea...Kpam..., ...huyện...Cư...M'Gar..., ...Đắk Lắk...

Thời gian: ...... giờ......, ngày .2.tháng ..8...năm ..2014.

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Ngô Vũ Thành	41	Kinh	x		
2	Ngô Văn Anh	56	Kinh	x		
3	Nguyễn Đức Mỹ	56	Kinh	x		
4	Lê Thanh Tùng	68	Kinh	x		
5	Trần Văn Lộc	57	Kinh	"		
6	Lê Thanh Tuấn	30	Kinh	x		
7	Trần Văn Lợi	53	Kinh	x		
8	Lưu Đình Hùng	44	Kinh	x		
9	Võ Tiến Ân	48	Kinh	x		
10	Trần Văn Huề	58	Kinh	x		
11	Y Ngọc Ayun	56	Ê Đê	x		
12	Trần Thanh Đô	58	Kinh	x		
13	Y Rai H Ayun	4[illegible]	Ê Đê	x		
14	Y Deo Niê	46	[illegible]	x		
15	Nguyễn Cảnh Thủy	53	Kinh	x		
16	Bùi Quang Đua	47	Kinh	x		
17	Phạm Văn Huệ	63	Kinh	x		
18	Nguyễn Cảnh [illegible]	31	Kinh	x		
19	Ngô Kế [illegible]	60	Kinh	x		
20	Nguyễn Văn Bền	48	Kinh	x		
21	Trần Văn Toàn	49	Kinh	x		
22	Bùi Văn Dũng	45	Kinh	x		

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
23	Nguyễn thị Lan	56	Kinh		x	[illegible]
24	Bùi thị Dung	46	K.		x	[illegible]
25	H B Lớn	29	Ê Đê		x	[illegible]
26	Trần Hữu Hùng	45	Kinh	x		[illegible]
27	Đàm Trí Quang	30	Kinh	x		[illegible]
28	Nguyễn thị Nga	40	Kinh		x	[illegible]
29	Nguyễn văn Tiến	51	Kinh	x		[illegible]

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án: Nâng cấp xây dựng hệ thống kênh phục vụ tưới cho cây trồng trên cạn

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Hôm nay là ngày 3 tháng 8 năm 2016

Cuộc họp được tiến hành tại: xã Ea Phê, huyện Krông Bắk, tỉnh Đắk Lắk

Tổ chức họp dân về vấn đề: Tham vấn kênh Bắc Krông Pắk

Tiểu dự án: Nâng cấp xây dựng hệ thống kênh phục vụ tưới cho cây trồng trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên:.....Chức vụ: .....
2. Họ và tên: Trần Trung Hiếu.....Chức vụ: Phó chủ tịch

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên: Hoàng Phi Long.....Chức vụ: Chủ tịch.....

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên: Lê Thị Bích Thuần.....Chức vụ: Chủ tịch.....

3. Đại diện Hội nông dân xã :

Họ và tên: Trần Hữu Tường.....Chức vụ: Chủ tịch.....

4. Đại diện hội cựu chiến binh xã :

Họ và tên: Hứa Văn Nguyên.....Chức vụ: Phó chủ tịch

5. Đại diện Đoàn thanh niên xã :

Họ và tên: Lâm Văn Hoài.....Chức vụ: Chủ tịch.....

Đại diện hỗ trợ kỹ thuật huyện.....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện Ban quản lý dự án tỉnh: .....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện đơn vị tư vấn:

Họ và tên:.....Chức vụ: .....

Chức vụ: .....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:…16……người, chiếm 80.%

Nữ:……4…..người, chiếm 20.%

Dân tộc thiểu số:………10……….% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:……………………………………………………………

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Chủ toạ cuộc họp:………………………………………………

Chức vụ:……………………………………………………………………………………………

Nơi công tác:………………………………………………………………………………………

Nội dung làm việc:

……………………………………………………………………………………………………

Nhóm TV giới thiệu thông tin dự án bao gồm trạm bơm và hệ thống đường ống bơm nước ngầm từ [illegible] chứa lên các bể chứa. Từ hệ thống bể chứa sẽ có đường ống tự chảy về các khu tưới [illegible] thuận lợi cho người dân [illegible] tưới tiết kiệm

Đại diện UBND xã [illegible] giới thiệu sơ lược về hệ thống dự án để người dân nắm rõ hơn về

Ý kiến của các hộ dân và đoàn thể

+ Việc thực hiện dự án phải chắc chắn hiệu quả, giúp người dân tiếp cận hệ thống tưới nước nhỏ giọt, sử dụng tiết kiệm nước và kinh tế

Bà [illegible]: khi tiếp cận được nguồn nước sẽ mở rộng được chăm [illegible] cây cà phê

+ Về [illegible] về khu vực dự án [illegible] mà [illegible] sẽ không có tác động lớn do việc thực hiện hệ thống chôn đường ống

+ Về thiết kế các bể [illegible] sẽ có tác động [illegible] xây dựng [illegible] nếu có tác động đến mặt đất thì cần chú ý đến các hoạt động hỗ trợ người dân

+ Chính quyền [illegible] khi có hoạt động lấy đất của người dân

+ [illegible] nước [illegible] tốt cho hoạt động [illegible] và chăm sóc của địa phương

+ [illegible] tạo ra [illegible] khi có dự án sẽ đảm bảo nhu cầu cấp nước cho địa phương

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng.....năm...201..

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã .....Fra.....Nhì.....

PHÓ CHỦ TỊCH

Trần Trung Hiếu

Đ/D: Cơ quan tư vấn

Nguyễn Thị Hải Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ....Nâng...cấp.....xây..dựng....hệ....thống....tưới...cho...cây..trồng...trên..cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ....UBND...xã.....Ea..Phê.........Krông...Pắc....Đắk...Lắk............

Thời gian: ...... giờ......, ngày .3..tháng ..8...năm ..2014.

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Lê Thị Bích Thảo	48	Kinh		x	
2	Y Phuất Niê	47	Êđê	x		
3	Y-Blư Mlô	71	Êđê	x		
4	Y-Rona Yăn	35	Êđê	x		
5	H.Nhung Ayun	41	Êđê		x	
6	H Phi Ayun	50	Êđê	x		
7	H Brut Ktla	30	Êđê		x	
8	Y Chu Êban	43	Êđê	x		
9	Y Ban Niê	47	Êđê	x		
10	Trần Hữu Tường	48	Kinh	x		
11	H Nhan Niê	32	Êđê		x	
12	Y Nam Ban	38	Êđê	x		
13	Hoàng Văn Hải	40	Kinh	x		
14	Y DJHIL - [illegible]	53	Êđê	x		
15	Y - WEO	58	Êđê	x		
16	Y Bliêng Knul	59	Êđê	x		
17	Y Năm Niê	50	Êđê	x		
18	Hoàng Thị Long	43	Kinh	x		
19	Huá Văn Quyết	42	Kinh	x		
20	Trần Trung Hiếu	38	Kinh	x		

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phun mưa tưới cho cây trồng trên cạn

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Hôm nay là ngày 2 tháng 8 năm 2011.

Cuộc họp được tiến hành tại: xã Dliê Yang, huyện Ea H'leo, tỉnh Đắk Lắk.......

Tổ chức họp dân về vấn đề: tham vấn về báo cáo ĐMTBĐ..............

Tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phun mưa tưới cho cây trồng trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên: Lương Thế Thuận Chức vụ: Bí thư xã
2. Họ và tên: Ksơr Y Khong Chức vụ: Chủ tịch

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên: Mlô Y Thoa Chức vụ: Chủ tịch

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên:..Chức vụ: ....

3. Đại diện Hội nông dân xã :

Họ và tên: Lê Thị Thuận Chức vụ: phó chủ tịch

4. Đại diện hội cựu chiến binh xã :

Họ và tên:..Chức vụ: ....

5. Đại diện Đoàn thanh niên xã :

Họ và tên:..Chức vụ: ....

Đại diện hỗ trợ kỹ thuật huyện............................

1. Họ và tên:..Chức vụ:............................
2. Họ và tên:..Chức vụ:............................

Đại diện Ban quản lý dự án tỉnh: ....

1. Họ và tên:..Chức vụ:............................
2. Họ và tên:..Chức vụ:............................

Đại diện đơn vị tư vấn:

Họ và tên:..Chức vụ: ....

Chức vụ: ....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:……….người, chiếm…..%

Nữ:……......người, chiếm…..%

Dân tộc thiểu số:……….........% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:……………………………………………………

……………………………………………………………………………………………

Chủ toạ cuộc họp:…………………………………………..

Chức vụ:……………………………………………………………………………………

Nơi công tác:………………………………………………………………………………

Nội dung làm việc:

Nhóm giới thiệu đến người dân về dự án giúp người dân nâng cao về công tác tưới tiêu, đồng thời nghe ý kiến của lãnh đạo xã và bà phổ người dân.

- Dự án giúp cho người mùa khô tiết kiệm nước, thời gian, nâng cao năng suất cây trồng

- Dự án góp phần phát triển KT vùng, thúc đẩy phát triển văn hoá, xã hội cộng đồng

- Dự án mang lại công ăn việc cho người dân. Nhất đây bao gồm: phụ nữ và dân tộc thiểu số

- Đảm bảo tưới tiêu đủ lượng nước tưới cây cho người dân

- Góp phần phát triển kinh tế, xã hội thúc đẩy nâng cao đời sống nhân dân

- Người dân cảm thấy hài lòng hơn

→ Dự án được triển khai có thể mang lại hiệu quả

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng.....năm.....

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã .....Phê.....Nông.....

CHỦ TỊCH

Ksor Y Thông

Đ/D: Cơ quan tư vấn

Nguyễn Thị Hằng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ..Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ....xã Dliê Yang, Ea H'Leo, Đắk Lắk.......................

Thời gian: ...... giờ......, ngày 2..tháng ..8..năm ..20[illegible]..

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
01	Ysôr Kthong	48	Êđê	✓		[illegible]
02	Lâm Thị Vui	30	Kinh		✓	Vui
03	Lê Thị Lợi	25	Kinh		✓	[illegible]
04	Nguyễn Ngọc Hàu	30	Kinh	✓		[illegible]
05	Bùi Duy Nam	50	Kinh	✓		[illegible]
07	Xsởr Kthong	27	Êđê		✓	[illegible]
08	Lương Mai Hoa	50	Kinh		✓	Hoa
09	Nguyễn Văn Nam	30	Kinh	✓		Nam

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án: Nâng cấp xây dựng hệ thống tưới phục vụ tưới cho vùng trồng cây
Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"
Hôm nay là ngày 5 tháng 8 năm 2021
Cuộc họp được tiến hành tại: xã Ea Kênh, huyện Krông Pắk, tỉnh Đắk Lắk
Tổ chức họp dân về vấn đề: Tham vấn lần 2 phương án GPMB
Tiểu dự án: Nâng cấp xây dựng hệ thống tưới phục vụ tưới cho vùng trồng cây
thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".
Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:
1. Họ và tên: Y Phương Ê Ban ..... Chức vụ: Phó chủ tịch
2. Họ và tên: Nguyễn Thị Hà ..... Chức vụ: Phó chủ tịch

Đại diện các tổ chức chính trị xã hội
1.Mặt trận tổ quốc xã:
Họ và tên: Nguyễn Quốc Vân ..... Chức vụ: CT
2. Đại diện Hội liên hiệp phụ nữ xã :
Họ và tên: Nguyễn Thị Thắng ..... Chức vụ: CT
3. Đại diện Hội nông dân xã :
Họ và tên: Nguyễn Văn Anh ..... Chức vụ: CT
4. Đại diện hội cựu chiến binh xã :
Họ và tên: Hoàng Tăng Thông ..... Chức vụ: CT
5. Đại diện Đoàn thanh niên xã :
Họ và tên: Lê Hồ Hải ..... Chức vụ: Bí thư đoàn
Đại diện hỗ trợ kỹ thuật huyện.....
1. Họ và tên:..... Chức vụ:.....
2. Họ và tên:..... Chức vụ:.....
Đại diện Ban quản lý dự án tỉnh: .....
1. Họ và tên:..... Chức vụ:.....
2. Họ và tên:..... Chức vụ:.....
Đại diện đơn vị tư vấn:
Họ và tên:..... Chức vụ: .....
Chức vụ: .....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam: 9 người, chiếm 50 %

Nữ: 9 người, chiếm 50 %

Dân tộc thiểu số: 22,2 % (nếu có)

Đã tiến hành tham vấn về tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phục vụ nước cho cây trồng trên cạn

Chủ toạ cuộc họp:………………………………………….

Chức vụ:……………………………………………………………………………….

Nơi công tác:………………………………………………………………………….

Nội dung làm việc:

Giới thiệu về dự án nâng cấp xây dựng hệ thống tưới phục vụ cây trồng trên cạn tới người dân. Người dân đa số ủng hộ cao và sẽ phối hợp lãnh đạo xã để tạo điều kiện:

Ý kiến đóng góp của lãnh đạo cũng như người dân tổng hợp qua:

- Người dân mong muốn khi có dự án nhanh tiết kiệm chi phí, thời gian cho người sản xuất để tưới tiêu phục vụ cây trồng

- Dự án thiết thực đẩy phát triển KT vùng đồi thấp phát triển KT XH cho toàn khu vực.

- Tạo điều kiện công ăn việc làm cho người dân địa phương

- Quan tâm đến công ăn việc làm cho người dân là phụ nữ, người dân tộc thiểu số

- Hỗ trợ bồi đắp bồi thường để dân ổn định bảo cuộc sống

=> Dự án được triển khai và có khả năng mang lại hiệu quả

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng.....năm.....

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã.....

PHÓ CHỦ TỊCH

Vi Phương Ế Ban

Đ/D: Cơ quan tư vấn

Nguyễn Thị Hải Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ...Nâng cấp xây dựng hệ thống khôi phục ... [illegible] nước cho cây trồng mùa cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ....UBND xã Ea Kênh, Krông Pắc, Đắk Lắk........

Thời gian: ...... giờ......, ngày 3 tháng 8 năm 2014

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Nguyễn Thị Hà	48	Kinh		x	[signature]
2	H Hương Niê	50	Êđê		x	[signature]
3	Hồ Thị Thu Điểm	45	Kinh		x	[signature]
4	Nguyễn Thị Linh	40	Kinh		x	[signature]
5	Lê Hồ Hải	48	Kinh	x		[signature]
6	Hoàng Trung Thông	46	Kinh	x		[signature]
7	Nguyễn Văn Đức	49	Kinh	x		[signature]
8	Nguyễn Thị Hằng	43	Kinh		x	[signature]
9	Nguyễn Bình Vân	36	Kinh	x		[signature]
10	Trần Đăng Hồng	48	Kinh	x		[signature]
11	Nguyễn Đức Sỹ	58	Kinh	x		[signature]
12	Phí Văn Quân	52	Nùng	x		[signature]
13	Hoàng Trung Tuyến	29	Tày	x		[signature]
14	Trương Thị Hồng	41	Kinh		x	[signature]
15	Lê Thị Hoa	49	Tày		x	[signature]
16	Trần Thị Nhung	40	Kinh		x	[signature]
17	Lê Thị Dương	47	Kinh		x	[signature]
18	Hồ Sỹ Dũng	50	Kinh	x		[signature]

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Hôm nay là ngày 2 tháng 8 năm 2016

Cuộc họp được tiến hành tại: xã Ea Yông, huyện Krông Pắk, tỉnh Đắk Lắk

Tổ chức họp dân về vấn đề: Tham vấn lần 1 báo cáo ESMF

Tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên: Tạ Văn Tuấn .... Chức vụ: P. Chủ tịch ....
2. Họ và tên .... Chức vụ: ....

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên .... Chức vụ: ....

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên: H'Sích Nhia .... Chức vụ: Pct Hội phụ nữ

3. Đại diện Hội nông dân xã :

Họ và tên: Hà Minh Tam .... Chức vụ: chủ tịch ....

4. Đại diện hội cựu chiến binh xã :

Họ và tên: .... Chức vụ: ....

5. Đại diện Đoàn thanh niên xã :

Họ và tên: .... Chức vụ: ....

Đại diện hỗ trợ kỹ thuật huyện ....

1. Họ và tên: .... Chức vụ: ....
2. Họ và tên: .... Chức vụ: ....

Đại diện Ban quản lý dự án tỉnh: ....

1. Họ và tên: .... Chức vụ: ....
2. Họ và tên: .... Chức vụ: ....

Đại diện đơn vị tư vấn:

Họ và tên: .... Chức vụ: ....

Chức vụ: ....

Người dân trong xã tham gia:

Tổng số người tham gia: …./…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam: 13 người, chiếm [illegible]%

Nữ: [illegible] người, chiếm [illegible]%

Dân tộc thiểu số: [illegible]% (nếu có)

Đã tiến hành tham vấn về tiểu dự án: Nâng cấp xây dựng hệ thống tưới phục vụ tưới cho cây trồng [illegible]

Chủ toạ cuộc họp: ……………………………………………

Chức vụ: ……………………………………………………………………………………

Nơi công tác: ………………………………………………………………………………

Nội dung làm việc:

Ý kiến:

1. Tạ Văn Tuấn

Trên địa bàn xã gồm 23 hồ đập, hầu hết các hồ đều xuống cấp, rất khó khăn phục vụ SXNN

– Nâng cấp hồ Ea Kang thì nước [illegible] hơn, cần nghiên cứu nâng cấp để tăng năng lực tưới cho vùng [illegible]

– Thống nhất góp ý [illegible] dự án, dự án được triển khai sẽ là tốt phục vụ cho sản nghiệp trên địa bàn

2. H'Y – Niê [illegible]

Hồ đã được bàn giao cho huyện quản lý, đề nghị [illegible] huyện quản lý vì đã là thuộc [illegible] xã [illegible] quyền quản lý

3. Hà Minh Tâm

– Dây quá nhiều nhánh chảy tích trữ nước → lãng phí nguồn đầu thì [illegible] như [illegible] gây [illegible] tự tiến,

– Vùng trồng hầu như chỉ tưới được một đợt, vì vậy cần đầu tư để người dân đây được hưởng lợi, [illegible] phát triển được…

4. H'Sinh Nhia

Thay mặt hội phụ nữ tôi thấy dự án này rất khả thi, ý dân

…vậy sẽ đỡ hưởng lợi nhiều. Họ sẽ có buổi họp và lấy ý kiến mọi người.
…Hồ này có nhiều [illegible] tưới thoải cho vụ khác, nước
…lấy phí sẽ không giá đương do cây trồng xung cấp, đồng
…phụ nữ đỡ khổ vì có nước tưới……………………………………

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Cuộc họp kết thúc vào lúc:…..giờ…. ngày….tháng……năm…2014.

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã ……Ea Yông……	**Đ/D: Cơ quan tư vấn**
CHỦ TỊCH Y Niêo Byă	Nguyễn Thị Hải Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ...Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: .....Xã Ea Yông, huyện Krông Pắk, tỉnh Đắk Lắk.....

Thời gian: ..... giờ....., ngày 8 tháng 8 năm 2018.

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
01	H' Smit Niê	25	Ê đê		x	
2	Hà Minh Tâm	55	Tày	x		
3	Đặng Thanh Tuấn	35	Kinh	x		
4	Y. Nức Byă	38	Ê đê		x	
5	Ta Văn Chăm	33	Kinh	x		
6	Bế Thị Thoại	32	Nùng		x	
7	Hứa Văn Hải	32	Nùng	x		
8	Lương Văn Tỷ	41	Nùng	x		
9	Nông Văn Hiền	43	Tày	x		
10	Nguyễn Hồng Phi	31	Kinh	x		
11	Lê Văn Nên	58	Kinh	x		
12	Hoàng Thúc Thuỷ	40	Kinh		x	
13	Nguyễn Thanh Quang	32	Kinh	x		
14	Phan Thị Mai	36	Kinh	x		
15	Lê Quí Văn	35	Kinh	x		
16	Hồ Thị Hằng	48	Kinh		x	
17	Lê Thị Kiều	35	Kinh		x	
18	Hoàng Văn Linh	62	Nùng	x		

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án:...Nâng...cấp...xây...dựng...hệ...thống...kênh...phục...vụ...tưới...cho...cây...trồng...trên cạn

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Hôm nay là ngày 4..tháng...8...năm ...2018

Cuộc họp được tiến hành tại: xã Krông Búk, huyện Krông Pắk, tỉnh...Đắk Lắk.....

Tổ chức họp dân về vấn đề: ....Tham...vấn...ý...kiến...của...người...

Tiểu dự án: ..Nâng...cấp,...xây...dựng....hệ....thống...kênh...phục...vụ...tưới...cho...cây...trồng...trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên:.....Mai...kim...Huê.....Chức vụ: ..Bí...Thư...Chi...Bích
2. Họ và tên.....Trần...Thái...Tiếp.....Chức vụ: ...PCT.....

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên.....Y...Yon...Niê.....Chức vụ: .....

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên:...Đào...Loan.....Chức vụ: .....

3. Đại diện Hội nông dân xã :

Họ và tên:...Trần...Thái...Tiếp.....Chức vụ: .....

4. Đại diện hội cựu chiến binh xã :

Họ và tên:.....Chức vụ: .....

5. Đại diện Đoàn thanh niên xã :

Họ và tên:.....Chức vụ: .....

Đại diện hỗ trợ kỹ thuật huyện.....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện Ban quản lý dự án tỉnh: .....

1. Họ và tên:.....Chức vụ:.....
2. Họ và tên:.....Chức vụ:.....

Đại diện đơn vị tư vấn:

Họ và tên:.....Chức vụ: .....

Chức vụ: .....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:………..người, chiếm…..%

Nữ:…….......người, chiếm…..%

Dân tộc thiểu số:…………..........% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:……………………………………………………………

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Chủ toạ cuộc họp:……………………………………………

Chức vụ:………………………………………………………………………………………

Nơi công tác:…………………………………………………………………………………

Nội dung làm việc:

Thoả thuận với sự việc dự án nâng cấp nước tưới tiêu cây trồng cho người dân.

Đồng thời ý kiến của lãnh đạo của người dân:

Nếu được thực hiện dự án sẽ giải quyết được thiếu về lượng nước dùng sản xuất.

– Dự án sẽ giúp cho phát triển kinh tế và cải thiện đời sống của người dân.

Về cơ bản được ủng hộ từ người dân.

– Dự án giúp cho người dân tạo thêm công ăn việc làm điển hình là phụ nữ và người dân tộc thiểu số.

– Bồi thường hỗ trợ cho người dân giải phóng mặt bằng.

– Dự án góp phần nâng cao đời sống, chất lượng của nhân dân.

– Góp phần phát triển kinh tế, ổn định xã hội tốt.

=> Dự án được triển khai có thể mang lại hiệu quả cho người dân.

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Cuộc họp kết thúc vào lúc:…..giờ…. ngày….tháng……năm………

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã ………Krông Búk	**Đ/D: Cơ quan tư vấn**
CHỦ TỊCH	
Mai Kim Huệ	Nguyễn Thị Hằng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ..Nâng..cấp....xây..dựng..hệ...thống..kênh...phục..vụ....tưới...cho..cây..trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ....UBND.....xã....Krông....Buk.........Krông....Pắc......Đắk..Lắk...

Thời gian: ...... giờ......, ngày 4..tháng ..8..năm ..2014..

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Trần Phúc Hợp	47	Kinh	x		[signature]
2	Trần Văn Hải	45	Ede	x		[signature]
3	Ma Kola	51	Ede	x		[signature]
4	Y Son Niê	50	Ede	x		[signature]
5	Mai Văn Trúc	41	Kinh	x		[signature]
6	Mai Kim Huệ	48	Kinh		x	[signature]
7	Ma Kcha	30	Ede		x	Kcha
8	Bùi Khánh Linh	20	Kinh		x	Linh
10	Lê Thị Mai	45	Kinh		x	[signature]
11	Nông Văn Hiền	30	"	x		[signature]
12	Bùi Thị Hoa	32	"		x	[signature]
13	Nguyễn Thị Tuyết	50	"		x	[signature]
14	Triệu Thị Hải	60	"		x	Hải
15	Lai Thị Sen	31	"		x	Sen

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án:....Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Hôm nay là ngày 4 tháng 8 ...năm 2016

Cuộc họp được tiến hành tại: xã..Quảng Tiến., huyện..Cư M'gar.., tỉnh...Đắk Lắk......

Tổ chức họp dân về vấn đề: .....Tham...vấn...kết quả....báo cáo...ĐGMTXH..........

Tiểu dự án: ..Nâng...cấp...xây dựng...hệ..thống...tưới...phục vụ....tưới cho cây trồng trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên:....Phạm...Trung....Kiên............Chức vụ: ....Chủ...tịch.........
2. Họ và tên:....Nguyễn Thị Thanh Vân............Chức vụ: ..PCT xã Quảng Tiến.

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên....Hà Văn Đáy...........................Chức vụ: ..CT. Mặt trận tổ quốc xã.

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên:..Chức vụ: ....

3. Đại diện Hội nông dân xã :

Họ và tên:..Chức vụ: ....

4. Đại diện hội cựu chiến binh xã :

Họ và tên:......Nguyễn...Quế........................Chức vụ: ...P.CT hội cựu chiến binh

5. Đại diện Đoàn thanh niên xã :

Họ và tên:....Nguyễn Thị...Minh Thư...........Chức vụ: ...Bí thư đoàn........

Đại diện hỗ trợ kỹ thuật huyện..........................

1. Họ và tên:..Chức vụ:...........................
2. Họ và tên:..Chức vụ:...........................

Đại diện Ban quản lý dự án tỉnh: ....

1. Họ và tên:..Chức vụ:...........................
2. Họ và tên:..Chức vụ:...........................

Đại diện đơn vị tư vấn:

Họ và tên:..Chức vụ: ....

Chức vụ: ....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:………..người, chiếm…..%

Nữ:………..người, chiếm…..%

Dân tộc thiểu số:………...........% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:……………………………………………………………

……

Chủ toạ cuộc họp:…………………………………………..

Chức vụ:…………………………………………………………………………………………

Nơi công tác:……………………………………………………………………………………

Nội dung làm việc:

1. Đồng chí Sơn .... lược về tiểu dự án, giới thiệu qua đoàn tư vấn dự án.

2.

+, Nếu đc thực hiện dự án sẽ giải quyết đc vấn đề thiếu nước chủ động để người xã cho cây trồng mùa khô. Nên lưu ý đất trong hồ chứa nước.

Cần có hành lang tuyến ống để thường xuyên kiểm tra, bảo dưỡng.

Vùng đầu tư này để giải toả đền bù,

Lượng nước tưới dự tính tăng nhiều, vì mùa khô chủ yếu sử dụng theo nước ngầm.

Môi trường gần như không ảnh hưởng nhiều, đào ao không nhiều.

3. Nguyễn Thị Thanh Vân

cơ cấu về Nữ của xã đạt từ 35 ÷ 40%; vai trò phụ nữ được nâng cao, ngày càng làm tốt vai trò p.t k.tế địa phương

4.

dự án triển khai tạo điều kiện rất tốt để pt kinh tế cho vùng

Về cơ bản sẽ được sự đồng thuận ủng hộ từ các hộ dân, trong vùng dự án cần có sự đầu tư của đồng vốn phải

nuôi hơn nữa ....

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng......năm.........

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã ....Quảng Tiến....	**Đ/D: Cơ quan tư vấn**
U.B.N.D XÃ QUẢNG TIẾN H. CƯ M'GAR T. ĐẮK LẮK	
CHỦ TỊCH	
Phạm Trung Kiên	Nguyễn Thị Hằng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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U.B.N.D XÃ QUẢNG TIẾN H. CƯ M'GAR T. ĐẮK LẮK

DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ..nâng cấp...xây..dựng...hệ....thống...nước..phục...vụ..tưới..cho..cây..trồng trên cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: ......UBND....xã.....Quảng....tiến.......,...Cư..M'Gar...,....Đắk..Lắk......

Thời gian: ...... giờ......, ngày 4..tháng ..8...năm ...2021.

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Nguyễn Quế	48	Kinh	x		[illegible]
2	Nguyễn thị Minh Thư	46	Kinh		x	[illegible]
3	Hồ Văn Đồng	51	Kinh	x		[illegible]
4	Đặng Phú Quyền	47	Kinh	x		[illegible]
5	Nguyễn thị Thanh Vân	48	Kinh		x	[illegible]
6	Phạm Trung Kiên	49	Kinh	x		[illegible]
7	Lê Thị Hạnh	42	Kinh		x	[illegible]
8	Lâm Chí Hải	30	Kinh	x		[illegible]
9	Nguyễn Thị Ngọc	45	Kinh		x	[illegible]
10	Bùi Thị Thoan	52	Kinh		x	[illegible]
11	Nông Thị Sim	30	"		x	[illegible]
12	Bùi Thế Cường	32	"	x		[illegible]
13	Trần Đình Trọng	52	"	x		[illegible]
14	Lê Đại Linh	31	"	x		[illegible]
15	Lê Nam Anh	40	"	x		[illegible]

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án:...Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng cạn

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Hôm nay là ngày 6 tháng 8 năm 2011

Cuộc họp được tiến hành tại: xã [illegible], huyện Ea Kar, tỉnh Đắk Lắk

Tổ chức họp dân về vấn đề: ...Tham vấn lần 1 ... báo cáo ĐGMT...

Tiểu dự án: ...Nâng cấp xây dựng hệ thống tưới cho cây trồng cạn...

thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án:
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên: Ông Nguyễn [illegible] .... Chức vụ: Phó chủ tịch
2. Họ và tên .... Chức vụ: ....

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên .... Chức vụ: ....

2. Đại diện Hội liên hiệp phụ nữ xã :

Họ và tên: Phạm Thị [illegible] .... Chức vụ: Chủ tịch

3. Đại diện Hội nông dân xã :

Họ và tên: [illegible] .... Chức vụ: Phó chủ tịch

4. Đại diện hội cựu chiến binh xã ;

Họ và tên: Đoàn [illegible] .... Chức vụ: Chủ tịch

5. Đại diện Đoàn thanh niên xã :

Họ và tên: .... Chức vụ: ....

Đại diện hỗ trợ kỹ thuật huyện..........................

1. Họ và tên: .... Chức vụ: ....
2. Họ và tên: .... Chức vụ: ....

Đại diện Ban quản lý dự án tỉnh: ....

1. Họ và tên: .... Chức vụ: ....
2. Họ và tên: .... Chức vụ: ....

Đại diện đơn vị tư vấn:

Họ và tên: .... Chức vụ: ....

Chức vụ: ....

Người dân trong xã tham gia:

Tổng số người tham gia: .... /........ chiếm ..... % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:...........người, chiếm.....%

Nữ:............người, chiếm.....%

Dân tộc thiểu số:......................% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:..

....

Chủ toạ cuộc họp:..

Chức vụ:...

Nơi công tác:..

Nội dung làm việc:

[illegible]

Cuộc họp kết thúc vào lúc:…..giờ…. ngày….tháng……năm……..

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã ……

PHÓ CHỦ TỊCH

Nguyễn Kim Ánh

Đ/D: Cơ quan tư vấn

Nguyễn Thị Hồng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây công nghiệp

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Địa điểm: .....TT. Ea Drăng..... Đắk Lắk.....

Thời gian: ..... giờ....., ngày 2 tháng 8 năm 2016...

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
01	Lưu - Thị - Sửu	53	Kinh		x	
02	Trần Hữu Linh	59	Kinh	x		
03	Trần văn Thắng	40	Kinh	x		
04	Phan Thị Mai	50	Kinh		x	
05	Nguyễn Kim Anh	42	Kinh	x		
06	Tạ Mạnh Thanh	30	Kinh	x		
07	Trần Thị Hoa	40	Kinh		x	
08	Nguyễn Mai Hương	35	Kinh		x	

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG

Tiểu dự án:..Nâng...cấp...xây..dựng..hệ...thống..tưới...phục vụ..tưới..cho...cây..trồng..trên cạn

Thuộc dự án: "*Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)*"

Hôm nay là ngày.4..tháng...8...năm ...2011

Cuộc họp được tiến hành tại: xã.Xuân.Phú., huyện....Ea Kar...., tỉnh.....Đắk..Lắk.......

Tổ chức họp dân về vấn đề: ....Tham...vấn...bộ 1.....Báo cáo...EMP/EDD..,.............

Tiểu dự án: ..Nâng...cấp.,.xây..dựng...hệ...thống..tưới...phục...vụ....tưới..cho.cây.trồng trên cạn thuộc dự án "Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)".

Nội dung làm việc:

- Phổ biến thông tin của dự án;
- Các vấn đề về môi trường và biện pháp giảm thiểu tác động môi trường;

Thành phần tham dự:

Đại diện UBND xã:

1. Họ và tên:...Nguyễn.....Văn...Hải..........Chức vụ: ...chủ...tịch..xã...
2. Họ và tên...Chức vụ: ....

Đại diện các tổ chức chính trị xã hội

1.Mặt trận tổ quốc xã:

Họ và tên.....Nguyễn..Quang...Nở.........Chức vụ: ..chủ..tịch..........

2. Đại diện Hội liên hiệp phụ nữ xã:

Họ và tên:.....Hoàng..Thị...Thu...Trang........Chức vụ: ...chủ....tịch.......

3. Đại diện Hội nông dân xã :

Họ và tên:.....Nguyễn....Văn....Hùng............Chức vụ: .....chủ...tịch.......

4. Đại diện hội cựu chiến binh xã :

Họ và tên:.....Vũ..Đức...Thịnh.......................Chức vụ: ....chủ....tịch......

5. Đại diện Đoàn thanh niên xã :

Họ và tên:.....Bùi...Văn....Tuấn..................Chức vụ: ...Phó..Bí..thư

Đại diện hỗ trợ kỹ thuật huyện..........................

1. Họ và tên:...Chức vụ:..........................
2. Họ và tên:...Chức vụ:..........................

Đại diện Ban quản lý dự án tỉnh: ....

1. Họ và tên:...Chức vụ:..........................
2. Họ và tên:...Chức vụ:..........................

Đại diện đơn vị tư vấn:

Họ và tên:...Chức vụ: ....

Chức vụ: ....

Người dân trong xã tham gia:

Tổng số người tham gia: …. /…….. chiếm ….. % trong tổng số người ảnh hưởng của xã

Trong đó: Nam:..14.....người, chiếm 82..%

Nữ:.....3.....người, chiếm 18.%

Dân tộc thiểu số:.....[illegible].........% (nếu có)

Đã tiến hành tham vấn về tiểu dự án:....Nâng...cấp....xây...dựng...hệ....thống...tưới ...phục....vụ...tưới...cho...cây trồng....trên...cạn...

Chủ toạ cuộc họp:…………………………………………..

Chức vụ:……………………………………………………………………………………..

Nơi công tác:………………………………………………………………………………..

Nội dung làm việc:

.....Đại diện đoàn tư vấn giới thiệu về các thông tin của dự án cũng như việc sau khi kết thúc hiện các biện pháp giảm thiểu tác động đến môi trường.

– Việc thực hiện các dự án giúp cho đời sống KT của người dân địa phương sẽ được cải thiện

– Nguồn nước tưới tiêu tiết kiệm chi phí cũng như tăng giảm cho người dân

– Góp phần cải thiện bộ mặt cho người dân địa phương

– Bổ sung việc làm cho phụ nữ và người dân tộc thiểu số

– Phát triển kinh tế đồng thời phát triển xã hội giúp cho đời sống nhân dân được nâng cao, chất lượng hơn

=> Dự án được triển khai mang lại hiệu quả

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Cuộc họp kết thúc vào lúc:.....giờ.... ngày....tháng.....năm.....

CÁC BÊN THỐNG NHẤT KÝ TÊN

Đ/D: UBND xã .....Xuân Thủy....

CHỦ TỊCH

Nguyễn Văn Hải

Đ/D: Cơ quan tư vấn

Nguyễn Thị Hằng Nga

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

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DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP THAM VẤN CỘNG ĐỒNG

Tiểu dự án: ...Nâng cấp, xây dựng hệ thống tưới phục vụ tưới cho cây trồng cạn...

Thuộc dự án: *"Nâng cao hiệu quả sử dụng nước cho các tỉnh bị ảnh hưởng bởi hạn hán (WEIDAP)"*

Địa điểm: .....UBND xã Krông Nô, Ea kar, Đắk Lắk.....

Thời gian: ..... giờ....., ngày ..4..tháng ..X..năm ...2018.

TT	Họ và tên	Tuổi	Dân tộc	Giới tính		Chữ ký
				Nam	Nữ	
1	Hoàng Thị Thuỷ	48	Thái		x	
2	Nguyễn Văn Hà	52	Kinh	x		
3	Vũ Đức Thanh	46	Kinh	x		
4	Nguyễn Quang Khải	48	Tày	x		
5	Bùi Văn Diễn	50	Kinh	x		
6	Nguyễn Văn Hường	32	Nùng	x		
7	Hoàng Thị Thu Hương	47	Nùng			
8	Nông Hiền Bộ	44	Tày	x		Bộ
9	Thân Mỹ Vũ	33	Hoa		x	Vũ
10	Thân Văn Huynh	48	Tày			
11	Nông Văn Quảng	37	Tày	x		
12	Hà Văn Lương	45	Tày	x		
13	Vi Văn Minh	58	Nùng	x		
14	Ma Thị Phúc	52	Kinh		x	Phúc
15	Trần Văn Thanh	26	Kinh	x		
16	Vương Văn Ba	39	Tày	x		
17	Phạm Phú Dũng	30	Kinh	x		