

KARNATAKA NEERAVARI NIGAM LTD

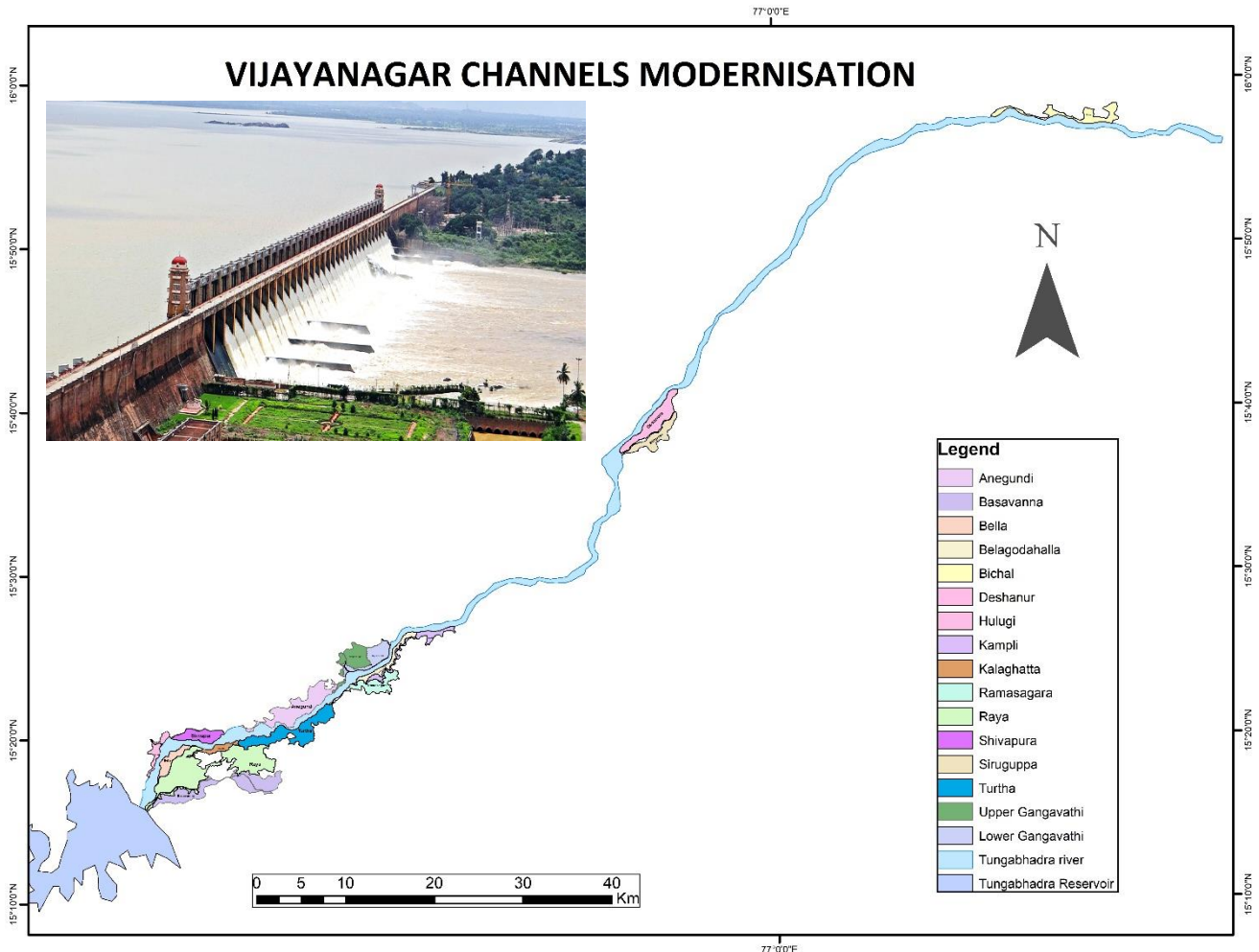


# Karnataka Integrated and Sustainable Water Resources Management Investment Program

ADB Loan No. 3836-IND

## Quarterly Progress Report

July – September 2022



Project Management Unit, KISWRMIP

Final version 30 November 2022



Project Support Consultant

Egis India Consulting Engineers Pvt. Ltd.

## PORT CONTROL FORM

Report Name	Quarterly Progress Report July-September 2022
Project Name:	Karnataka Integrated and Sustainable Water Resources Management Investment Program Tranche 2
Project Number:	5061164
Report for:	Karnataka Neeravari Nigam Ltd (KNNL)

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1	8 November 2022	Doraiswamy R, Team Leader and Team	Mr.K.B.H.Shivashankar, EE, KNNL	Mr. Durugappa K, Chief Engineer and Mr. K.B.H.Shivashankar, EE, KNNL, Munirabad
2	30 November 2022	Doraiswamy R, Team Leader and Team	Mr.K.B.H.Shivashankar, EE, KNNL	Mr. Durugappa K, Chief Engineer and Mr. K.B.H.Shivashankar, EE, KNNL, Munirabad

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## EGIS COMPANY DETAILS

Manoj Nainani, Executive Director Infrastructure (Water, Ports, Urban & Energy)  
Plot No.80, Sector-32, Gurgaon, Haryana-122001, India

Tel:	+91 124 4249200
Fax:	+91 124 4249299
Email:	<a href="mailto:Vinay.r@egis-india.com">Vinay.r@egis-india.com</a> ; Website: <a href="http://www.egis-india.com">www.egis-india.com</a>

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## GLOSSARY

ADB	Asian Development Bank
AGM	Annual General Body Meeting
CADA	Command Area Development Authority
CCA	Culturable Command Area
COVID-19	Coronavirus Disease-2019
DMF	Design & Monitoring Framework
DPO	Direct Pipe Outlet
EARF	Environmental Assessment Review Framework
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FAM	Facility Administration Manual
FGD	Focus Group Discussion
FSR	Feasibility Study Report
GAP	Gender Action Plan
GoK	Government of Karnataka
GST	Goods and Services Tax
HWHAMA	Hampi World Heritage Management Authority
ICZ	Irrigation Central Zone
IEC	Information Education and Communication
IEE	Initial Environmental Evaluation
IP	Indigenous Peoples
IWRM	Integrated Water Resource Management
KFD	Karnataka Forest Department
KISWRMIP	Karnataka Integrated and Sustainable Water Resource Management Investment Program
KNNL	Karnataka Neeravari Nigam Limited
LBC	Left Bank Canal
MFF	Multi-Tranche Finance Facility
MIS	Management Information System
MoEFCC	Ministry of Environment, Forest and Climate Change
OCR	Otter Conservation Reserve
PIO	Project Implementation Office
PMIS	Program Monitoring Information System
PMMS	Program Monitoring Management System
PMU	Project Management Unit
PPMS	Program Performance Monitoring System
PPR	Preliminary Project Report
PRA	Participatory Rural Appraisal
PSA	Poverty and Social Assessment
PSC	Project Support Consultant
QPR	Quarterly Progress Report
RBC	Right Bank Canal
SC/ST	Scheduled Caste/ Scheduled Tribe
SMF	Social Management Framework
SMR	Safeguard Monitoring Report
SRI	System of Rice Intensification
TLBC	Tungabhadra Left Bank Canal
VNC	Vijayanagara Channels
WUCS	Water Users Cooperative Society

## KARNATAKA INTEGRATED AND SUSTAINABLE WATER RESOURCES MANAGEMENT INVESTMENT PROGRAM

### 1. INTRODUCTION

Karnataka is a water stressed State in India with ever increasing inter-sectoral water demands, agriculture being the major sector. To improve water availability in selected river basins by implementing integrated water resources management (IWRM) and improving irrigation services delivery in the State, Government of Karnataka (GoK) has launched the Karnataka Integrated and Sustainable Water Resources Management Investment Program (KISWRMIP) with the assistance of the Asian Development Bank (ADB). The program is expected to increase water use efficiency and provide economic opportunities to women, and improve rural incomes. The focus of the program for implementation of physical works is Krishna Basin, in specific, the Tungabhadra sub-basin. However, the IWRM activities will be implemented State-wide.

Karnataka Neeravari Nigam Limited (KNNL) and Advanced Centre for Integrated Water Resources Management (ACIWRM) are the Executing Agencies for the Tranche 2 VNC modernization project. ACIWRM is responsible for Output 1 whereas KNNL is responsible for Outputs 2 and 3. The Project Implementation Office (PIO) of KNNL is in Munirabad with CE, ICZ heading the PIO. The project is spread across four districts, namely, Bellary, Koppal, Raichur and Vijayanagara; the entire VNC system lies between latitude 14°30' to 16°34' N and longitude 75°40' to 77°35' E.

The three outputs comprising the Program are:

#### Output 1: State and Basin Institutions Strengthened for IWRM

This output strengthens the institutional capacities of the Water Resources Department (WRD) and the ACIWRM to implement IWRM in select river basins in Karnataka. This includes: (i) development and implementation of river basin plans to better manage water resources; (ii) capacity building and certification of WRD (including its associated agencies like KNNL in IWRM with 30% of trainees being women, and (iii) improved water resources information systems.

#### Output 2: Irrigation System Infrastructure and Management Modernized

This output includes: (i) modernization of irrigation infrastructure including installation of telemetry for canal flow measurement in three irrigation sub-projects within the Tungabhadra Sub-basin (Gondi project under Tranche 1, Vijayanagara Channels (VNC) under Tranche 2, and Tungabhadra Left Bank Canal (TLBC) as a separate project under a standalone loan); strengthening asset management and system operation and maintenance (O&M), and capacity building of Water Users Cooperative Societies (WUCS), with women representation, for improved operation, maintenance and water management within their respective command areas.

### Output 3: Program Management Systems operational

This output focuses on delivery of the above two program outputs on time and within budget. The multi-tranche financing facility (MFF) was approved by ADB on 25 September 2014 to be implemented over a period of 7 years. On 26 July 2019, the MFF availability period was extended by three years to close on 24 September 2024. The total cost of the investment program over the period 2014-2024 is expected to be \$225 million, with ADB financing amounting to \$150 million and the balance \$75 million by the GoK.

The KISWRMIP initially comprised two tranches which was subsequently split into three to cover Gondi under the Bhadra reservoir and Vijayanagara Channels (VNC) and the Tungabhadra Left Bank Canal (TLBC) under the TB dam reservoir. However, during the preparation of Tranche 2, ADB agreed with DEA and KNNL that modernization of the entire TLBC should be considered for possible financing under a new standalone loan component.

The Gondi modernization (rehabilitation) under Project 1 has begun in July 2015; the physical activities closed on 31 December 2019 and financial by September 2021. For Tranche 2, the periodic financing request was approved by ADB on 4 October 2019 for \$91 million from OCR and was signed on 18 November 2019. Its effectivity date is 24 January 2020. Tranche 2 physical completion date is 30 September 2023 and financial closing date is 23 March 2024.

Project 2 VNC modernization was split into two packages as there were delays in getting approvals for work in Otter Conservation Reserve (OCR) and Hampi World Heritage Area (HWA). One complete channel (Turtha) falls in the UNESCO designated HWA<sup>1</sup>. VNC Package 1 which includes modernization (rehabilitation) of 3 anicuts and 15 channels (excluding those falling under OCR and HWA), was tendered and work awarded to M/s RNS Infrastructure Limited (RNSIL) on 8 March 2019. However, works commenced only in the last week of May 2019 due to election code of conduct prevailing during Mar-May 2019. A small progress could be achieved during the Dec 2019-Jan 2020 canal closure period. During July 2020 ADB Mission, the shortage of quantities faced during execution of Package 1 was discussed along with extra financial implication (EFI). VNC Package 1 is supposed to complete by 10 September 2022 as per original contract, which now extended to 20 September 2023 to complete the balance work. As of reporting quarter end, under package 1, a total of 86.98 km of lining work completed (44.23%) out of 196.62 km and 369 out of 1089 structures (33.88%)<sup>2</sup>.

The estimates, schedule B and designs for VNC Package 2 (Modernization of Turtha channel and rehabilitation of 8 anicuts, except Shivapura<sup>3</sup>) have been completed by the design consultant. After ADB has cleared the bid document, KNNL invited tenders

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<sup>1</sup> Para 45, aide memoire of ADB Mid Term Review Mission 12-19 February 2018

<sup>2</sup> Source from EE office TR division Munirabad.

<sup>3</sup> Shivapura excluded due to technical reasons



on 8 November 2021. A pre-bid meeting was held on 24 November 2021. The technical bid was opened on 10 December 2021. The technical and financial bid evaluation is completed and submitted to PMU. After evaluation of bids, it will go to Technical Scrutiny Committee (TSC) of KNNL(PMU) for clearance. Wildlife clearance and bid processing are running parallelly so that work could be awarded soon after NBWL clearance in fourth quarter of 2022.

As for the Wildlife clearance of Package 2, the State Board for Wildlife (SBWL) sent the proposal with recommendations to Ministry of Environment, Forest and Climate Change (MoEFCC) for National Board for Wildlife (NBWL) clearance in March 2020. The MoEFCC sent the file back with a few observations. SBWL cleared and sent a report to MoEFCC for NBWL clearance. However, MoEFCC sent the file back with certain observations regarding the maps uploaded etc. KNNL has supplied all information to the Forest Department (FD) and FD is conducting inspection as of this reporting. Once this is cleared data will be uploaded online in the parivesh portal for MoEFCC to verify and recommend to NBWL for clearance certificate.

## 2. KISWRMIP-MODERNIZATION OF IRRIGATION PROJECTS

The KISWRMIP includes modernization of three irrigation projects: (a) Gondi Irrigation system, which is part of the Bhadra Irrigation System (Tranche 1), (b) Vijayanagara channels (VNC, Tranche 2) and modernization and automation of Tungabhadra Left Bank Canal (TLBC). Tranche 1 is completed on 31 December 2019; Tranche 2 VNC Package 1 is currently under implementation. TLBC is under consideration as a standalone project under a separate loan.

### 2.1 Tranche 2-Vijayanagara Channels Irrigation System

Vijayanagara Channel (VNC) System is a run-of-the-river irrigation channel system built during the Vijayanagara Empire more than 600 to 900 years ago. Originally consisting of 19 channels, one channel (Rampura) caters to the irrigation needs of the neighbouring state, Andhra Pradesh. Among the rest 18 channels that serve the command area in Karnataka, Bennur Channel is in ruins, while Koregal Channel command receives water from the Tungabhadra Left Bank Main Canal. Hence, effectively the VNC system comprises only 16 channels and lies within the Tungabhadra basin in the reach starts at the Tungabhadra reservoir in Koppal District and ends at Bichal channel in Raichur district. Within the State, the VNC system is spread across 4 districts, namely, Ballary, Raichur, Koppal and the recently formed Vijayanagara.

VNC modernization aims at improving water use efficiency in the Culturable Command Area (CCA) of 11,154 ha. All the 16 channels of the VNC located within the Karnataka State are covered under modernization. Along with modernization (rehabilitation) works, command area development works, strengthening asset management and main system, Operation & Maintenance (O&M), and institutional strengthening and capacity building of WUCS, mainstreaming gender in irrigation management with focus to women empowerment, their involvement and participation in various project activities are proposed to be taken up.

Since the Initial Environmental Examination (IEE) revealed the presence of some areas falling in a notified OCR and UNESCO HWHA, the project was categorized as Category A project as per the ADB Safeguard Policy Statement (SPS) 2009. Hence, an *Environmental Impact Assessment* (EIA) and a *Rapid Biodiversity Assessment* (RBA) were conducted. Subsequently, upon ADB's suggestion a *Tree Survey* was also carried along the channels. In fact, the assessment revealed no significant adverse environmental impacts in the project areas other than those that generally occur during channel rehabilitation works. Major impacts are those that arise from establishment of camp sites, material sourcing, and works carried out at the construction sites and closure activities. Additionally, impacts arising from locations of the project areas within the notified OCR and HWHA have been considered and adequate measures have also been incorporated in the design of the modernization.

For all identified adverse impacts in the EIA, mitigation measures have been suggested and an Environmental Management Plan (EMP) has been prepared to be included in the contractor's agreement.

Post the COVID-19 pandemic, a section has also been appended to the contractor's EMP (CEMP) to include risk assessment and emergency plan due to COVID-19.

The scope of VNC modernization project includes, among others, rehabilitation of anicuts, canal sections and other appurtenant structures. As per the DPR, there are 12 anicuts and 215.31 km of main canals and 46.908 km of distributaries.

The institutional arrangement for implementation of KISWRMIP is given below:

### 2.1.1 Project Management

*Project Management Unit (PMU):* Karnataka Neeravari Nigam Limited (KNNL) and Advanced Centre for Integrated Water Resources Management (ACIWRM) are the Executing Agencies for implementation of Tranche 2 VNC modernization project. The Project Management Unit (PMU) is headed by the Program Director (who is also Managing Director of KNNL), KNNL with its headquarters at Bengaluru. Project Implementation Office (PIO) is headed by Chief Engineer of Irrigation Central Zone, Munirabad for Project 2 and TLBC. An updated list of the PMU staff is given in

*Table 1.*

*Project Implementation Office (PIO)* for Output 2, Modernization of VNC, has been established in the ICZ office at Munirabad on 16 February 2016 for Tranche 2 subproject preparatory and further project implementation activities. The PMU working with the PIO and the Project Support Consultants (PSC) monitors the overall program execution and is responsible for monitoring and reporting<sup>4</sup>.

*Project Support Consultant (PSC):* PSC of Tranche 1, M/s SMEC tenure ended on 31<sup>st</sup> December 2021. The process for selecting PSC2 has been initiated by KNNL; EoI was floated on 17 April 2020; shortlisting of agencies has been completed, and letters of RFP issued in December 2020; evaluation of shortlisted agencies completed by October 2021; the EGIS India Consulting Engineers Pvt Ltd ranked top in technical and financial evaluation; the clearance from ADB, issuing of work order and contract signing between KNNL and EGIS India Consulting Engineers Pvt Ltd as PSC2 Part B was completed on 30 June 2022 and mobilized in the month of July 2022.

#### Program Implementation Arrangement

The Program implementation arrangement is in place and as shown in *Figure 1*.

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<sup>4</sup> EE, ICZ, KNNL letter No 1502 dated 20.11.2020

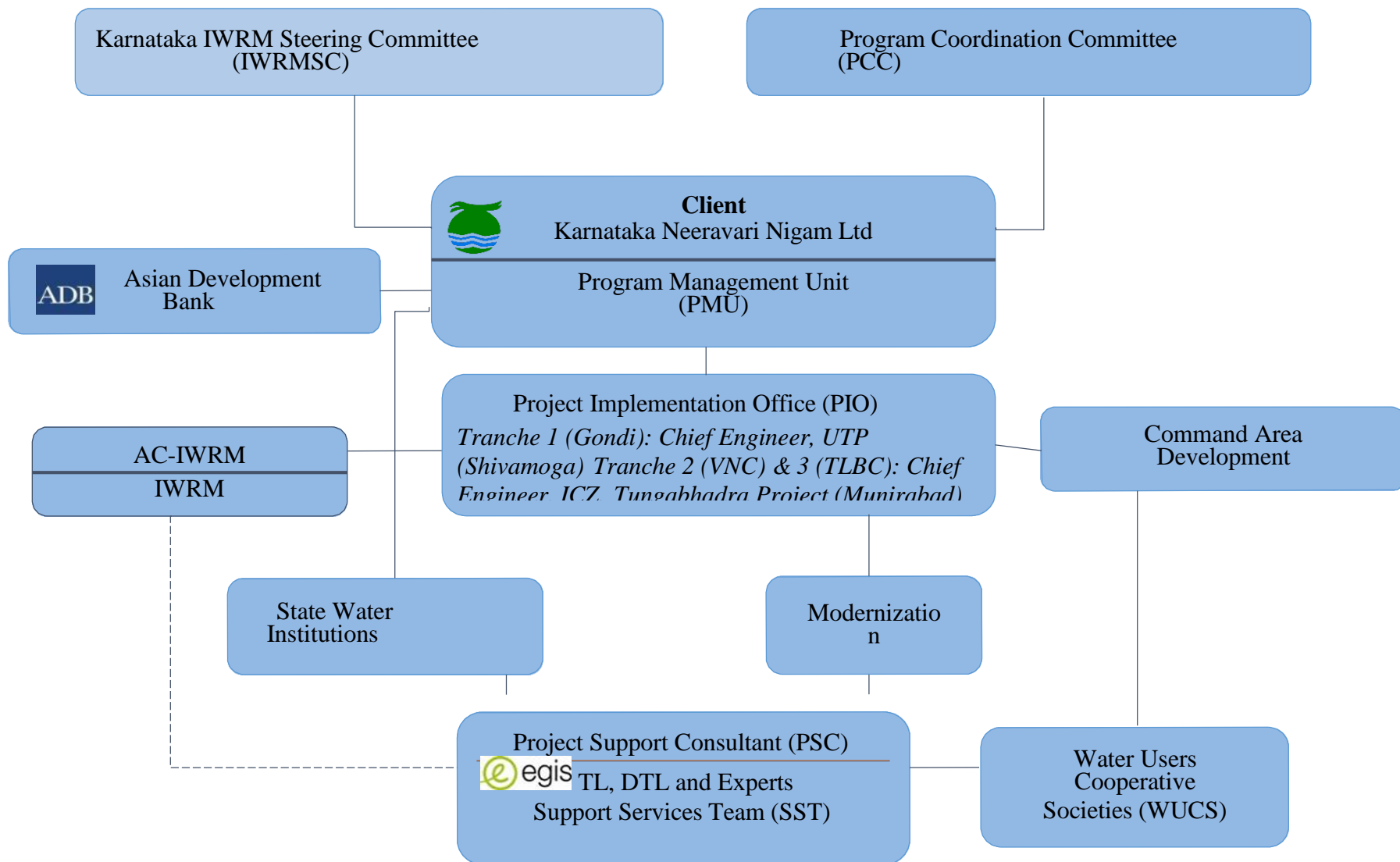


Figure 1: Implementation arrangement for KISWRMI

The PMU staff position as of end of September 2022 is given in *Table 1*.

*Table 1: PMU Staff position as of 30 September 2022*

S. No.	Name	Designation
1	Mallikarjun B Gunge	Program Director
2	V Govind Raju	Technical Director
Budget/ Administration Cell		
3	Vishnu Varman	General Manager (Finance)
4	Jayaramu M R	Deputy General Manager (Finance)
5	Sindhu	Finance Assistant
6	Bhimaraj	Finance Assistant
Monitoring Management Cell		
7	Shilpa Holala	Program Officer
8	<i>Vacant</i>	MIS & GIS Communication Expert
Irrigation Management Cell		
9	Venkatesh Prasad	Executive Engineer (Project Branch)
10	Shilpa Holala	Technical Assistant
11	C B Niranjana	Assistant Engineer
12	Sakib Qadri	External Environment Monitoring Expert (intermittent)
13	CB Niranjana	Gender Focal Person at PMU

This is the Third Quarterly Progress Report (QPR) for the period July-September 2022.

### 2.1.2 KISWRMIP Project Basic Data

The KISWRMIP project basic data is given in *Table 2*.

*Table 2: Project Basic Data*

Project Basic Data		
1	Name of the Program	Karnataka Integrated and Sustainable Water Resources Management Investment Program (KISWRMIP) Tranche-2
2	Project Number	MFF 0085: Loan 3836 IND
3	Sector	Agriculture & Natural Resources
4	Financial Plan for MFF 2014-2024	ADB \$150 million, GoK \$75 million; Total \$225 million
5	Tranche 2: 2019-2024	ADB \$91 million, GoK \$39 million; Total \$130 million
(i)	Loan Signed on	18 November 2019
(ii)	Loan effective from	Loan is effective from 24 Jan 2020
(iii)	Loan Closing Date	Loan closing by 31 March 2024 and closing of investment program by 24 September 2024
(iv)	Executing Agencies	Water Resources Department of Karnataka through (i) Karnataka Neeravari Nigam Limited (ii) Advanced Centre for Integrated Water Resources Management

6	Goals & Objectives	The Project aims to manage and sustain the increasingly scarce water resources in the selected river basins in Karnataka.
7	Activities involved	(i) State and basin institutions strengthened for IWRM (by ACIWRM) (Strengthening the relevant institutions, specifically the Advanced Centre for IWRM (ACIWRM) for advancing policy review, river basin management, water resources information systems establishment).  (ii) Irrigation system infrastructure and management modernized (by KNNL). <ul style="list-style-type: none"> <li>a. Modernization of irrigation system infrastructure including strengthening of Water Users Cooperative Societies (WUCS), installation of telemetry for canal flow measurement of three irrigation projects within the Tungabhadra sub-basin (Gondi Project under Tranche 1, Vijayanagara Channels (VNC) Project under Tranche 2 and Tungabhadra Left Bank Canal (TLBC);</li> <li>b. Strengthening asset management and main system operation and maintenance (O&amp;M), and</li> <li>c. Capacity building of inclusive WUCS with women representation, for improved operation, maintenance and water management within their respective command areas.</li> </ul> (iii) Project and management systems operational (KNNL & ACIWRM).
8	Outcomes of the project	Improved water resources management in the Tungabhadra sub-basin in Karnataka (Institutional Strengthening, International Best Practices, sub-basin Planning, Decision Support systems, etc.).
9	Status of Physical Progress of Procurements	
(i)	Modernization of Vijayanagara Channels- Main Canal and Distributaries	Package-1 of Civil works contract is awarded on 8 Mar 2019 to RNSIL; works are under progress. Contract Value: INR. 3,710,961,732.00 Package-2 civil works tendered on 8 Nov 2021 and opened on 10 Dec 2021. Technical evaluation is completed and financial bid evaluation is in progress.  For VNC Package 2 works, SBWL has given clearance on 14 May 2020 and forwarded to NBWL. Currently, Department of Forests, Environment and Ecology (DFEE) of Karnataka and KNNL is pursuing the approval from NBWL.
(iii)	Project Support Consultants	The agency namely, EGIS India Consulting Engineers Pvt Ltd ranked top in technical and financial evaluation; the clearance from ADB, issuing of work order and contract signing between KNNL and EGIS as PSC2 Part B was completed on 30 June 2022
10 Contract awards & disbursement projections for 2022 (in \$ millions) (1 \$ million ~ INR7.6 crores)		
Progress during the year 2022-23		Budget Outlay: In Crores

		Q1	Q2	Q3	Q4	Total (Cr.)
Expenditure	Target*	1.27	57.14	57.14	57.14	172.70
	Achievement	2.09	3.63			5.72
	Balance	-0.82	53.51	57.14	57.14	166.98
Reimbursement	Target	2.33	40.00	40.00	40.00	122.33
	Achievement	6.76				6.76
	Balance	-4.43	40.00	40.00	40.00	115.57
Procurement (Value of Contract Awarded)	Target	35.97	149.66	1.28	6.94	193.85
	Achievement	38.49				38.49
	Balance	-2.52	149.66	1.28	6.94	155.36
<b>#Note: The budget outlay of INR 172.70 Cr. includes BE of Rs.150.00 Cr. and OB of INR 22.70 Cr.</b>						
<b>Project Review meetings</b>						
11	Tripartite Review Meetings	a) 18-19 June 2020, e-TPRM b) 30 September-1 October 2020, e-TPRM c) 13-14 January 2021, e-TPRM d) 4-5 August 2021, e-TPRM e) 29-30 November 2021, e-TPRM f) 16 February 2022, e-TPRM g) 27 July 2022, e-TPRM				
12	ADB Missions	a) Special Project Administration Mission – 27-28 July 2015 b) Loan Inception Mission – 6-10 November 2015 c) Loan Review Mission - 26 April to 5 May 2016 d) Loan Review Mission – 17-25 November 2016 e) Loan Review Mission – 2-12 May 2017 f) Loan Review Mission – 12-19 February 2018 g) Loan Preparedness Review Mission Tranche 2, 28-29 June 2018 h) Fact Finding Mission Tranche 2, 28-29 June 2018 i) Tranche 1 Review Mission and Tranche 2 Consultation Mission, 30 Jan to 15 Feb 2019 j) Tranche 1 Review Mission and Tranche 2 Consultation Mission, 19-29 November 2019 k) Tranche 2 Inception Mission (Virtual), 20-29 July 2020 l) Tranche 2 Review Mission (Virtual), 19 April-31 May 2021 m) Tranche 2 Review Mission (Virtual), 26 October-9 November 2021 n) Tranche 2 Review Mission, 23 March to 1 April 2022				
13	Project Coordination Committee (PCC)	a) Constituted vide Govt. Order no. WRD 51 MBI 2015 (P1) dt. 27 November 2015				

### 2.1.3 Utilization of Funds

### 2.1.3.1 Contract Awards

The details of contracts awarded so far under Project 2 are given in *Table 3*. The contract award data is exclusive of ACIWRM part.

*Table 3: Details of Contract awards under Tranche 2*

Procurement Item	Contract Amount	Date of Award	ADB Financing
VNC Package-1 Civil Works 15 Main Canals and Distributaries, Earth work lining, structures, and 3 anicuts	INR. 3,710,961,732.00	8 Mar 2019	73%
VNC Package-2 Civil Works Turtha main Canal and Distributaries, Earth work lining, structures, and 8 anicuts	INR.1,383,840,260.11	NA	73%
PSC-2 Part A Project Support Consultants (including WUCS strengthening support, reimbursable and contingencies)	INR. 82,053,568.00	1 Jan 2020	68%
PSC-2 Part B Project Support Consultants (including WUCS strengthening support, reimbursable and contingencies)	INR. 33,94,08,387.00 and USD 6,200 including 18% GST	30 Jun 2022	68%
TPQA ( <i>state funding</i> ) Third party inspection and quality control for the civil works of VNC (Package 1)	INR. 26,191,896.08	6 Mar 2020	0%

### 2.1.3.2 Disbursements

The disbursements under Tranche 2 VNC Project as of end September 2022 are given in

*Table 4*

*Table 4 Details of Disbursement*

S. No.	Agency/ Contractor	Work	Expenditure (INR in Cr.)	Reimbursed Amount (INR in Cr.)
1	SMEC (India) Pvt Ltd	PSC-2 Part A	10.43	6.58
2	RNS Infrastructure Ltd.	VNC Civil Works (Package-1)	170.80	124.68
		Total	191.23	131.26

### 2.1.3.3 Statement of Receipts and Payments

*Table 5 Unaudited Report for the period QPR3 (Period 1 July to 30 Sep 2022)*

Statement of Receipts and Payments	For QPR 3 (Period 1 July to 30 Sep 2022) Amount INR – in '000'
Opening Balance as on 1 July 2022 (A)	60,286.52
Receipts	
Funds received from Government	-
ADB Loan	-



ADB – Grant		-
Co- Financer -1.		-
Co- Financer -2		-
Beneficiary Contributions (if any)		-
Other receipts such as interest, Sales from disposal of fixed assets etc.,		620.39
Amount utilized from KNNL for statutory remittances		
Fund received from Government of Karnataka by KNNL		4,555.00
	Total Receipt (B)	5,175.34
	Total (C= A+B)	65,461.91
Payments		
Investment Costs		
Civil Works		-
Mechanical an equipment's		-
Environment and Social Mitigation		-
Consultants		
a. Project Management		-
b. Capacity development		-
Others (Bank Charges, TDS on Interest)		28.14
	Subtotal (D)	28.14
Recurrent Cost		
Salaries		-
Accommodation		-
Equipment operation and Maintenance		-
Others		4,541.70
Total Payment	Subtotal (E)	4,541.70
Finance Charges During Implementation (F)		-
	Total Project Cost (G=D+E+F)	4,569.84
Closing Balance (C-G)		60,892.07

Note:

- The variance in the opening balance of 1 July 2022 against the 2<sup>nd</sup> quarter (1 April to 30 June 2022) closing balance by 104.63 which is provisional Flexi Deposits added to the current quarter as advised by the ADB mission FM Specialist.
- However, the Flexi Deposits has to be reconciled by mapping at CAO Regional office at Dharwad.
- This was also informed to the External Statutory auditors BP Rao Chartered Accountants Firm to obtain a confirmation of Bank Balance as at APFS (Audited Project Financial Statement by 31 March of each succeeding year.
- The Current Closing balance of QPR3 is inclusive of provisional Flexi Deposit bank account.

Table 6 Unaudited Report for the period QPR3 (Period 1 July to 30 Sep 2022)

Statement of Disbursement		For QPR3, (Period 1 July to 30 Sep 2022) Amount INR – in '000'
Reimbursement –		8,949.82
Imprest Fund		-
Direct Payment		-
Commitment Letter		-
	Subtotal (A)	8,949.82
Total Expenditure during the Period	(B)	-
Less:		
Expenditure not yet claimed	(C)	-13,491.52
Borrower's Share	(D)	4,541.70
Total Eligible Expenditure Claimed (B-C-D=E=A)		8,949.82

Note on (C): Expenditure not yet claimed is – (Minus) Negative INR (-13,491.52) was provisioned during financial accounting period (1 July to 30 Sep 2022) FY 21-22. This is due to bills for payment in pipeline during the previous quarter, the same to be cleared for reimbursement during the 4th quarter.

Table 7 Source of Fund-Method of Withdrawal for the period QPR3 (1 July to 30 Sep 2022)

ADB – Source of Fund – Method of Withdrawal		QPR – 3, (Period 1 July to 30 Sep 2022) Amount INR – in '000'
ADB – Loan		
By Reimbursement	6.1	8,949.82
By Imprest Accounts	6.2	-
By Direct	6.3	-
By Commitment Procedure	6.4	-
ADB Loan Total		8,949.82
ADB Loan and Grant Total.		8,949.82

Table 8 Statement of Fund Received from ADB through Reimbursement Method for QPR3 (1 July to 30 Sep 2022)

W/Application No	Amount Reimbursed INR – in '000'	Imprest Fund replenished / Liquidated	Total Disbursement using SOE procedure	Disbursement procedure
WA020	8,949.82	N. A	8,949.82	Statement of Expenditure
Total	8,949.82		8,949.82	

Table 9 Status of Budgetary Allocation and Expenditure for QPR3 (1 July to 30 Sep 2022)

Sl. No	Head of Accounts	Code No	OB as on 1 <sup>st</sup> July 2022	Budget Allocation to KNNL FY 2022-23	Grant Released to KNNL for Jul-Sep 2022	Total Funds available Including OB	Amount Spent (as per the Grant and Outlays for Jul-Sep 2022)	Total pending Bills up to Jul-Sep 2022
A	CAPITAL					INR – in '000'		
Item 6.	KISWRIMP – ADB	4701-80-800-0-10-059(P)	1,84,700.00	337,500.00	0.00	1,84,700.00	20700.00	3,16,800.00

### 2.1.4 Design and Monitoring Framework Indicators

The physical progress as per Design and Monitoring Framework (DMF) of KISWRMIP is given in Table 10

Table 10 Status of DMF

Item	Performance Targets and Indicators with Baselines	
Outputs	Targets	30 September 2022
VNC irrigation system infrastructure and management modernized	2a. 12 anicuts, intake structures, and 442 km of irrigation canals covering 11,150 ha upgraded (2019 baseline: n.a.)	As of 30 September 2022, under Package 1, a total of 86.98 km of lining work completed out of 196.62 km (44.23%), and completed 315 out of 1089 structures (28.92%). Estimates for Package 2 finalized; <ul style="list-style-type: none"> <li>➤ Work to be awarded after wildlife clearance from National Board of Wild Life (NBWL).</li> <li>➤ Clearance from State Board received; proposal submitted to NBWL.</li> <li>➤ ADB's No Objection for Technical Bid Evaluation is received on 26.09.2022. Financial bid opened on 28.09.2022 and submitted to PMU for approval.</li> <li>➤ L1-Shreeji infra space Private Limited</li> </ul> Overall Progress RBC Physical: Lining 46.06% and Structures

Item	Performance Targets and Indicators with Baselines	
Outputs	Targets	30 September 2022
		28.17% LBC Physical: Lining 40.91% and Structures 30.17% RBC Financial: 59.61% and LBC financial: 30.47%.
	2b. Asset management plan for the main VNC system infrastructure prepared (2019 baseline: n.a.)	Current: Preparation and implementation of the asset management plan is under the PSC-2 B contract. The PSC-2 B contract was awarded on 30 June 2022 and mobilized in the month of July 2022. Work on the AMP is being undertaken.
	2c. 30 WUCS established and trained on operation and maintenance of tertiary irrigation system and improved on-farm water application methods (with 30% women representation in management boards and 40% attendance in training) (2019 baseline: 0)	<p><i>Target: 29 WUCS</i> <i>Registered: 23 WUCS</i> <i>Under preparation: 6 WUCS</i> <i>(1 WUCS for registration submitted to CADA).</i></p> <ul style="list-style-type: none"> <li>• Achievement against target: <i>LBC: Registered: 11 WUCS</i> <i>RBC: Registered: 12 WUCS;</i></li> <li>• VNC project level Federation under process.</li> <li>• <i>Women sub-committees:</i> As of 30 September 2021, 51 women sub-committees formed with 812 members.</li> <li>• <i>Elections to 1 WUCS completed during the reporting quarter.</i></li> </ul>
	2d. At least 50% of all WUCS officers and members (with at least 60% men's participation) reported increased knowledge on the application of gender concepts and principles to water resource management. (2019 baseline: n.a.)	<p>As of 30 September 2022, the total number of registered WUCS office bearers and members for the 18 established WUCS amount to 9,100 of which 6,331 are men (69.57%) and 2,769 are women (30.42%). The target of total WUCS to be formed revised to 29 and 1 project level WUCS federation. The total farmers covered by 29 WUCS are 17,125 of which 12,663 (73.94%) are male and 4,522 (26.40%) are female.</p> <p>Trainings on Gender Empowerment and Social Inclusion (GESI) concept and mainstreaming women, women in irrigation management, and principles of water resource management have been conducted for 1837 WUCS members (5.62 %) of total farmers of 18 WUCS of which men comprised 686 (37%) and women comprised 1151 (37 %).</p> <p>At completion: likely achieved, but a significantly higher participation of men is required to exceed the minimum 60% threshold for men's participation.</p>
	2e. At least 50% of KNNL staff (including 30% women) reported increased knowledge on the application of gender concepts and principles to water resource management. (2019 baseline: n.a.)	<p>Not due. (Yr. 2-4)</p> <p>Current: As of 30 September 2022, Three workshops were held for KNNL staff on gender concepts, women mainstreaming and water resource management principles. A total of 36 staff have been trained of which 31 were men and 5 were women.</p> <p>The total number of sanctioned technical staff of</p>

Item	Performance Targets and Indicators with Baselines	
Outputs	Targets	30 September 2022
		KNNL at ICZ, Munirabad is 299, of which 210 are filled up positions. In this 163 are men and 37 are women. (Total: 36; M: 31; F: 5)
Program management systems operational	3a. Project outputs delivered on time and within budget (2019 baseline: n.a.)	Delivered on time, from time to time.
	3b. Project MIS expanded to include VNC activities with gender indicators (2019 baseline: n.a.)	Project MIS in place, and data updated from time to time. In addition, a user-friendly app to monitor the modernization (civil) works was developed and is under use by KNNL engineers.
	3c. Quarterly progress reports and safeguard monitoring reports submitted on time with sex-disaggregated data and analysis (2019 baseline: n.a.)-	Draft QPR 1 of Jan-Mar 2022 submitted on 05 Aug 2022 and Final version submitted on 16 Aug 2022 after incorporating suggestions by KNNL.  Draft version of QPR 2 for Apr-Jun 2022 submitted on 05 Sep 2022. Final version was submitted on 27 Sep 2022 after incorporating suggestions by KNNL.  SMR for Oct 2021-Mar 2022 submitted to KNNL on 1 June 2022. And final version submitted on 19 September 2022 with EEME comments.  APR for Jan-Dec 2021 submitted on 31 December 2021.  Sex-disaggregated data is being collected and compiled for all events and reported.
	3d. TLBC periodic financing request and associated due diligence documents prepared and advance procurement actions initiated. (2019 baseline: n.a.)	The updated PPR amounting to INR4,922.00 Crores is submitted PMU vide PIO letter No: 797 Dated: 2 June 2022. Further submitted to Secretary WRDO on dated: 9 June 2022, now forwarded to Finance Dept, GOK.

### 2.1.5 Agreed Action Points from Aide Memoire

The status of agreed action points from the 26 October-9 November 2021 aide memoire is given in *Table 11*

*Table 11 Agreed Action Points*

Activity	By whom	Due Date	Status
Confirmation of Aide Memoire to ADB	DEA/ACIWR M/KNNL	31 Dec 2021	Submitted.
Provide Outstanding information to Tranche 1 PCR	KNNL/ACIWRM	12 Nov 2021	Submitted.
Output 2: Irrigation system infrastructure and management modernized			

Activity	By whom	Due Date	Status
Submit VNC-1 contract variation to ADB	KNNL	30 Nov 2021	VNC-1 contract variation is being internally reviewed by KNNL. Formation of Empowered Committee is awaited.
Advertise VNC-2 bid	KNNL	15 Nov 2021	Advertised on 8 November 2021 at present technical bid evaluation is completed and financial bid opened and evaluation is under progress.
Information on approval of design/ drawings of 1089 structures	KNNL	30 Nov 2021	Submitted.
NBWL to receive proposal for working in TOCR and DBWS	KNNL	15 Feb 2022	Compliance to the observations of NBWL is submitted to State Forest Department in PARIVESH portal.
NBWL clearance for working in TOCR and DBWS	KNNL	30 Apr 2022	
Submit wildlife clearance process chart	KNNL	15 Dec 2021	Submitted.
Submit Safeguard Monitoring Report verified by external expert	KNNL	20 Dec 2021	Submitted.
Submit EIA addendum	KNNL	30 Dec 2021	Draft submitted. Observations received from ADB are being complied.
Submit updated SDDR for VNC-1 to ADB	KNNL	30 Nov 2021	Submitted.
Appoint a new safeguard focal staff	KNNL	31 Dec 2021	Appointed.
Output 3: Project and management systems operational			
Submit FYE 2021 APFS (Tranche 2)	KNNL	15 Nov 2021	Submitted.
Submit AEFS FYE 2021	KNNL	15 Nov 2021	Submitted.
Submit to ADB Submission 3 for PSC-2	KNNL	15 Nov 2021	PSC 2 B contract agreement signed with Egis India Consulting Engineers Pvt. Ltd on 30.06.2022 and team mobilized in the month of July 2022.
Meet 2021 quarterly contract award and disbursements target	ACIWRM/KNNL	Quarterly	Being complied.
Assessment of loan savings and submission of partial cancellation request to DEA	KNNL	Q1 2022	Awaiting award of VNC Package-2 and CAD packages to arrive at partial cancellation.
Preparation of TLBC			
Submit PPR to DEA	KNNL	Q1 2022	PPPR submitted to WRD, GoK on 06 June 2022

### 2.1.6 Project 2 Deliverables

Table 12 gives the status of deliverables by PSC under Project 2. The deliverables are generally submitted on time.

Table 12 Important deliverables for Project 2 activities

S. No.	Report	Deadline	Status
1	Quarterly Progress Reports	Within 30 days of the end of each quarter	Draft QPR 1 of Jan-Mar 2022 submitted on 05 Aug 2022 and Final version submitted on 16 Aug 2022 after incorporating suggestions by KNNL.  Draft version of QPR 2 for Apr-Jun 2022 submitted on 05 Sep 2022. Final version was submitted on 27 Sep 2022 after incorporating suggestions by KNNL.
2	Safeguard Monitoring Report (SMR)	Within 30 days of every biannual duration	SMR for Oct 2021-Mar 2022 submitted to KNNL on 1 June 2022. And final version submitted on 19 September 2022 after complying to the suggestions and comments from EEME.

## 2.2 Tranche 2 VNC Modernization Project

Execution of modernization works of VNC Package 1 has started in May 2019, and is in progress. The COVID-19 situation and its restrictions have adversely affected the pace of execution. In this quarter civil works taken up in 7 channels, namely, Huligi, Shivapura, Anegundi, Upper and Lower Gangavathi, Ramasagara and Kampli.

The estimate of VNC Package 1 was revised to include some modifications to work in the town limits of Hosapete, additional silt removal quantity to account for the increased quantities due to greater depths encountered during execution, inclusion of some structures left out in the original design etc.-all part of the EFI in principle agreed by ADB. PSC has submitted a Social Due Diligence Monitoring for this part after canal-wise consultations of all the 15 canals of Package 1 with the farmers close to the proposed structures.

The tender notice for VNC Package 2 works has been floated by KNNL; as of reporting Technical bid evaluation is completed. Financial bid is opened and evaluation is under progress. However, as per ADB requirement, modernization works will be awarded after clearance from concerned authorities, which is awaited.

### 2.2.1 Modernization Works: VNC Package 1

Specific works in VNC Package 1 include:

- Repairs to three anicuts and repair/reconstruction of channel head works;
- Main canal (without distributaries) concrete lining of 196.62km length along 15 Channels;
- Reconstruction of 1089 appurtenant structures like bridges and crossings, drainage inlets, relieving weirs, pipe outlets;
- Upgradation of channel access roads;
- Provision of new structures such as cross regulators, cattle ramps, and

washing ghats;

- Modification of current on-line storage tanks, where feasible, to prepare actively managed off-line storage and enhancement of existing off-line tanks;
- Remodeling of the drainage inflow and relieving weir arrangement to avoid water (and associated sediment) entering the main channels unless required, and
- CAD works comprising lined Field Irrigation Channels (FICs).

The total length of main channels in Package 1 is 196.62 km. with 1089 structures to be reconstructed. Out of this, as of end September 2022, 86.98 km of channel lining work is done and 369 structures completed. Work on two out of three anicuts (Deshanur and Bichal) has started and continuing. Lining work on Siruguppa channel is 86% completed. Citing this example of the Siruguppa farmers, similar exercise of farmer's participation and consultation on volunteer crop holiday is being carried out in various VNC channels.

### 2.2.1.1. Physical Progress

Major activities completed as of reporting period include:

- Workers camp sites have been setup by RNSIL at Anegundi, Siruguppa and Bichal, out of these 3, one is functional at Kampli during this reporting period.
- The TPQA consultant-M/s.Niketan Consultants, is continuing the quality assurance tests both on site and in the laboratory; details are covered in the safeguard monitoring report;
- Canal lining work and construction of structures has started and progressing in Fourteen channels (Raya, Basavanna, Bella, Kalaghatta, Ramasagara, Kampli, Huligi, Shivapura, Anegundi, Upper and Lower Gangavathi, Siruguppa, Deshanuru and Bichal canals) and in Belagodahal construction works yet to start;
- Modernization of main canals and construction of appurtenant structures was carried out in Huligi, Shivapura, Anegundi, Upper Gangavathi, Lower Gangavathi, Ramasagara and Kampli channels where work is in progress in this quarter.

Canal-wise physical and financial progress of lining and structures is presented in *Tables 13 to 14*, for RBC and LBC separately. *Figures 2 to 9* represent progress graphically, for both RBC and LBC. Canals where work has not begun are not included in the table or graph. As of this reporting, a total of 86.98 km of lining work has been completed on the 14 canals.

*Table 13 VNC Package 1-Physical progress of RBC works as of 30 September 2022*

S. No	Channel Name	Lining(km)		Achieved %	Structures(no.)		Achieved %
		Estimated	Achieved		Estimated	Achieved	
RBC							
1	Raya	27.74	9.20	33.17	120	34	28.33
2	Basavanna	16.50	11.04	66.91	74	33	44.59

S. No	Channel Name	Lining(km)		Achieved %	Structures(no.)		Achieved %
		Estimated	Achieved		Estimated	Achieved	
3	Bella	5.50	3.20	58.18	57	34	59.65
4	Kalaghatta	7.02	4.10	58.40	49	14	28.57
5	Ramasagara	15.50	8.44	54.45	62	45	72.58
6	Kampli	23.55	7.20	30.57	148	41	27.70
7	Belagodhal	11.22			119		0.00
8	Deshanuru	9.03	5.98	66.22	31	13	41.94
9	Siruguppa	10.85	9.30	85.71	18	18	100.00
	Total	126.91	58.46	46.06	678	232	34.22

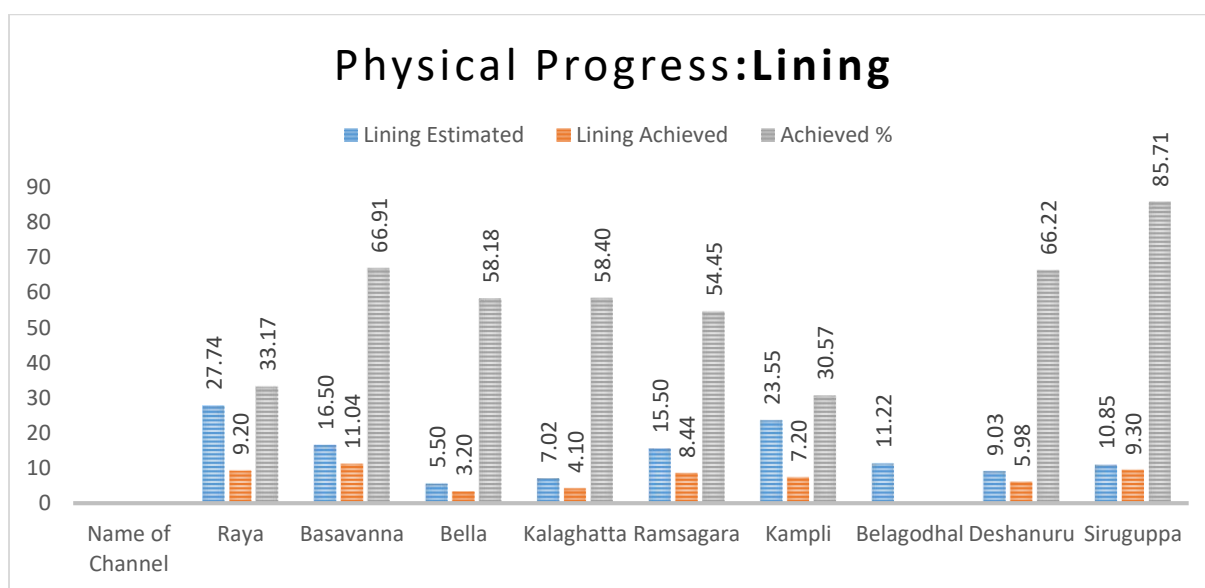


Figure 2: Physical progress of RBC Lining

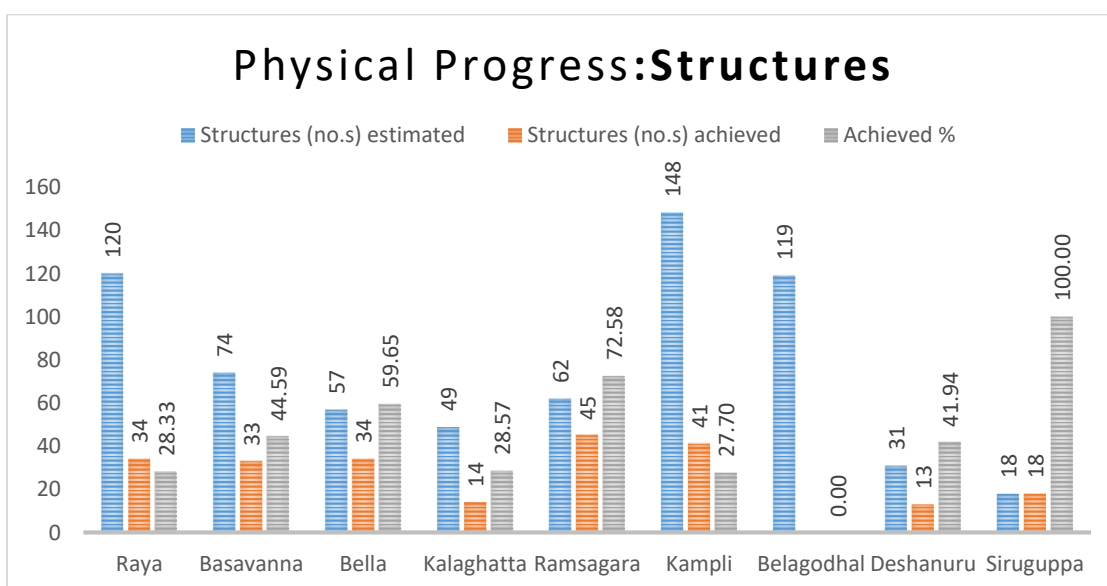


Figure 3: Physical progress of RBC Structures



Table 14 VNC Package 1-Physical progress of LBC works as of 30 September 2022

S. No	Name of Channel	Lining(km)		Achieved %	Structures(no.)		Achieved %
		Estimated	Achieved		Estimated	Achieved	
<b>LBC</b>							
1	Huligi	10.69	8.30	77.64	84	36	42.86
2	Shivapura	6.54	6.30	96.33	42	28	66.67
3	Anegundi	19.44	6.10	31.38	119	42	35.29
4	Upper Gangavathi	9.00	2.00	22.22	74	9	12.16
5	Lower Gangavathi	9.54	2.40	25.16	62	15	24.19
6	Bichal	14.50	3.42	23.59	30	7	23.33
	<b>Total</b>	<b>69.71</b>	<b>28.52</b>	<b>40.91</b>	<b>411</b>	<b>137</b>	<b>33.33</b>

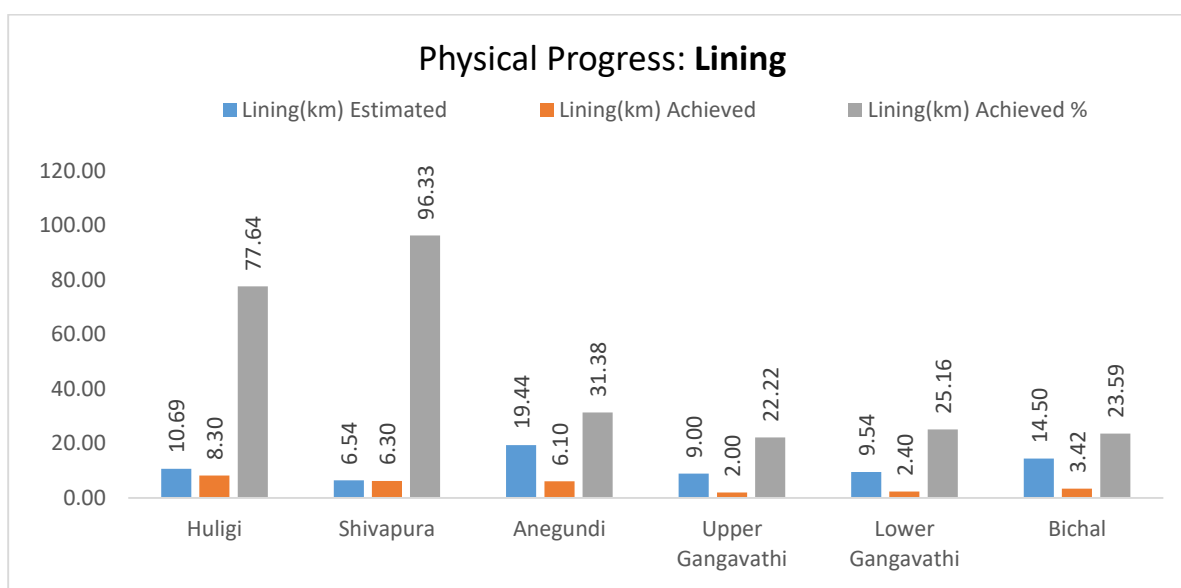


Figure 4: Physical progress of LBC Lining

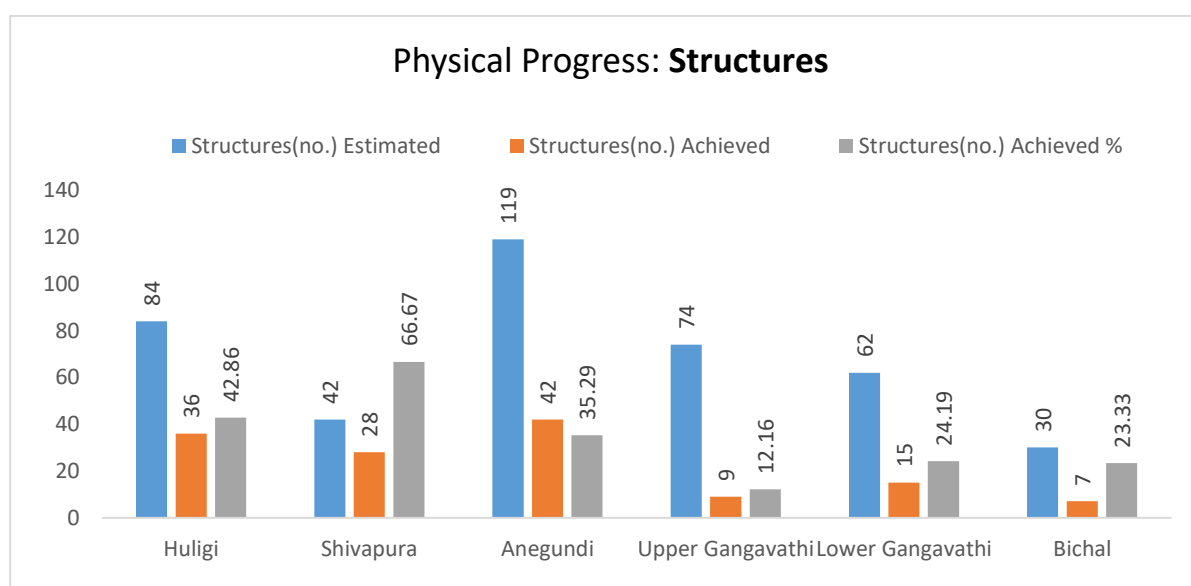


Figure 5: Physical progress of LBC Structures

Photos of Civil Works



During the reporting period, civil works lining and structures started on Seven channels, namely, Huligi, Shivapura, Anegundi, Upper Gangavathi, Lower Gangavathi, Ramasagara and Kampli lining and structures.

## 2.2.1.2 Financial Progress

Table 15 VNC Package 1-Physical progress of LBC works as of 30 September 2022

*INR, in crores*

S. No.	Channel Name	Lining		Achieved (%)
		Estimated	Achieved	
RBC				
1	Raya	55.58	28.76	51.75
2	Basavanna	23.21	24.89	107.24
3	Bella	11.90	7.87	66.13
4	Kalaghatta	13.07	7.61	58.22
5	Ramasagara	31.68	18.22	57.51
6	Kampli	31.41	12.47	39.70
7	Belagodhal	13.62		
8	Deshanur	16.43	15.54	94.58
9	Siruguppa	16.84	12.05	71.56
	Total	213.74	127.41	59.61

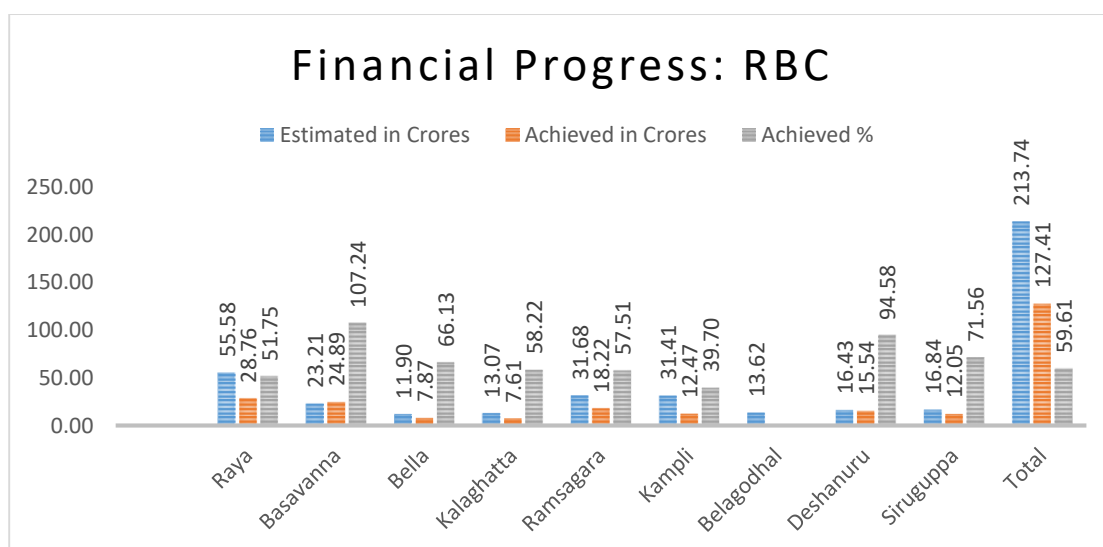


Figure 6: Financial progress of RBC Lining

Table 16 VNC Package 1-Financial progress of LBC works as of 30 September 2022

*INR, in crores*

S. No	Name of Channel	Estimated in Crores	Achieved in Crores	Achieved %
LBC				
1	Huligi	14.99	10.06	67.11
2	Shivapura	10.98	8.93	81.33
3	Anegundi	40.86	10.82	26.48
4	Upper Gangavathi	34.46	4.02	11.67
5	Lower Gangavathi	32.54	3.75	11.52
6	Bichal	18.44	8.82	47.83
	Environment	5.10	2.72	53.33
	Total	157.37	49.12	31.21

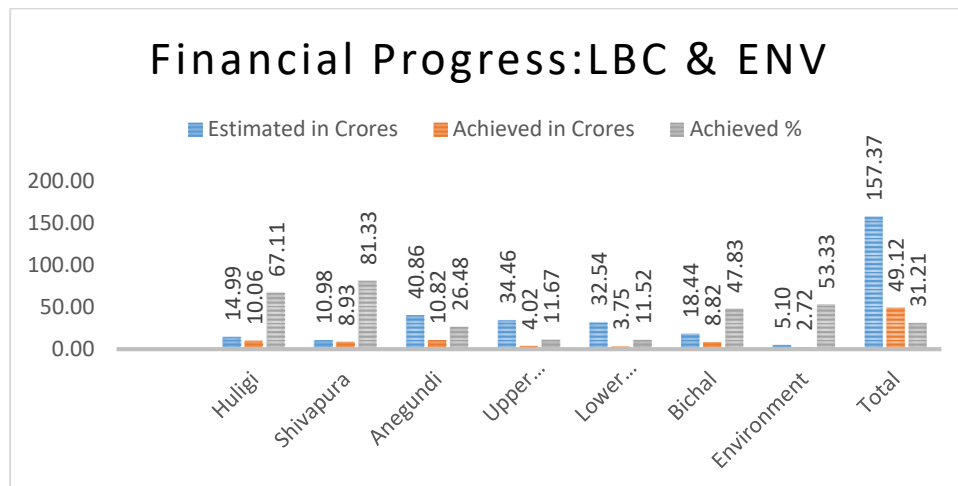


Figure 7 Financial progress of LBC Lining

The financial progress of RBC works is about 59.61% for lining. The corresponding figures for the LBC are 30.47% respectively.

### 2.2.1.3 S Curves

S Curves shown in Figures 8 and 9 depict the status as of 30 September 2021. As of 30 September 2021, the physical progress achieved is 27% and financial progress achieved is 27% as per the original plan of the Contractor, M/s. RNSL. The contract was extended up to September 2023. Accordingly, the S curve shown in Figures 10 and 11 has been prepared for the extended period from September 2021 to September 2023, spreading the remaining budget in the extended time period. As of 30 September 2022, the physical progress achieved is 18% and financial progress achieved is 16%, against newly set out program targets as per extended plan.

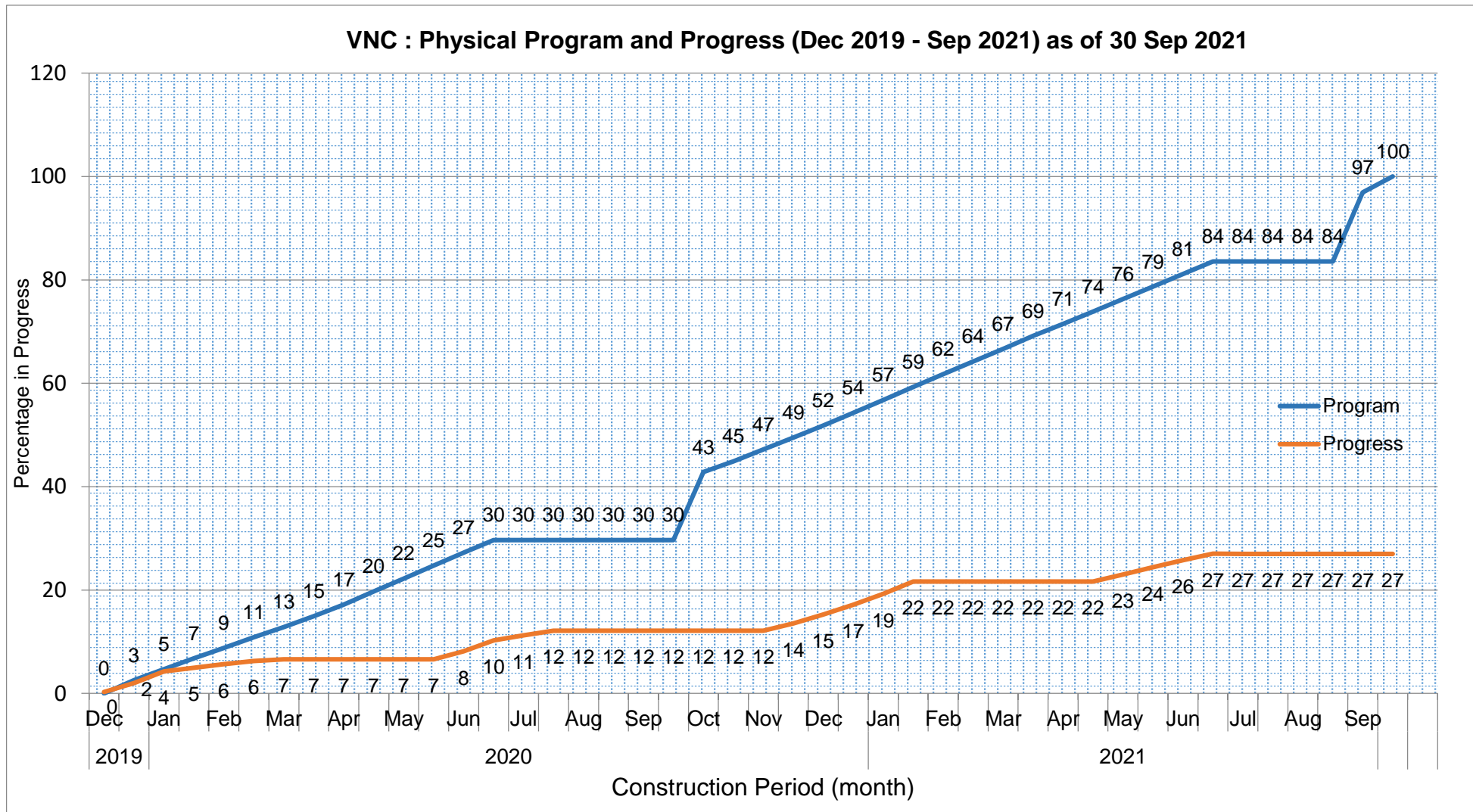


Figure 8 S Curve: Physical Progress as per original plan

Source: KNNL ICZ Munirabad

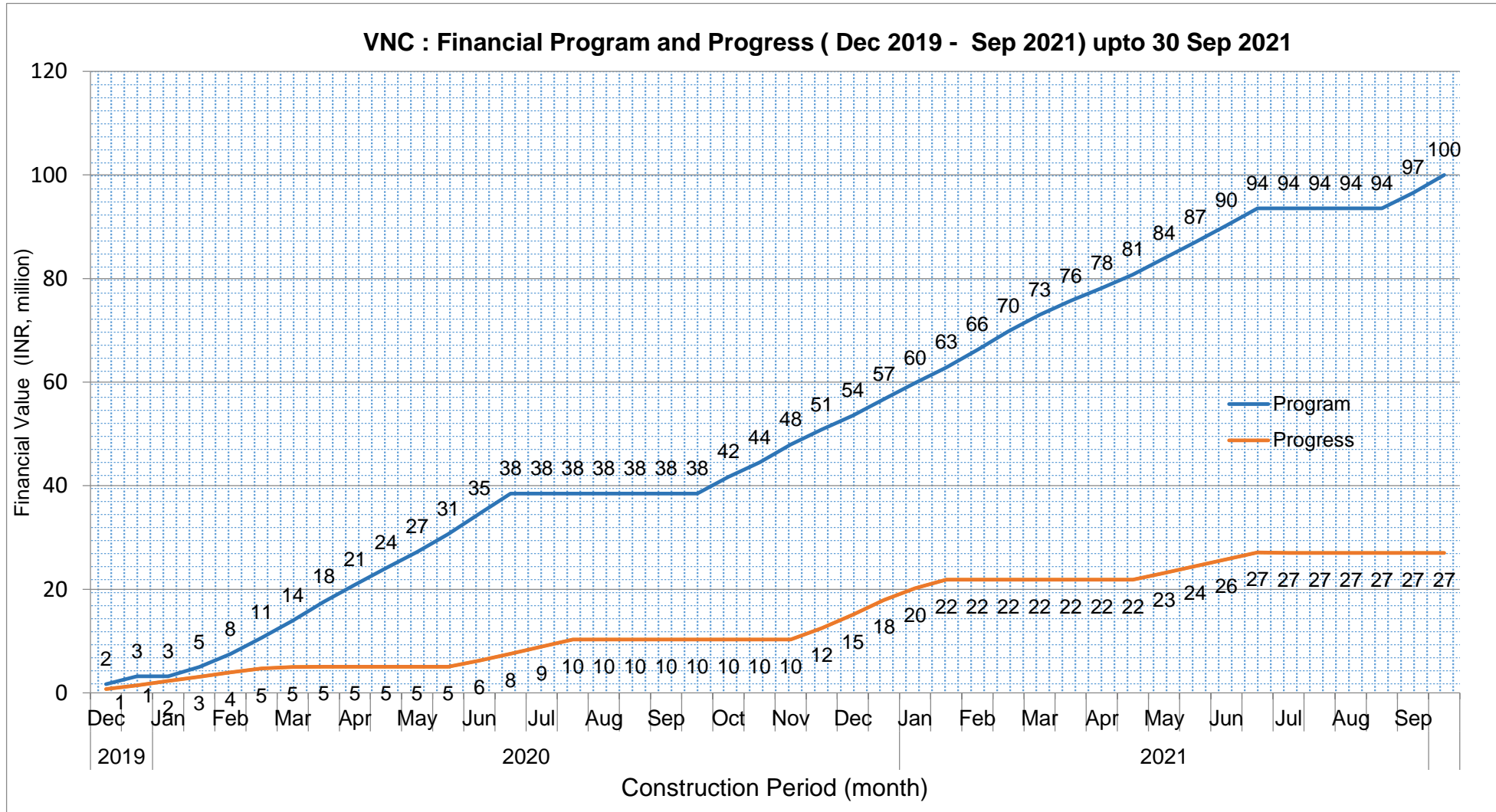


Figure 9 S Curve: Financial Progress as per original plan

Source: KNNL ICZ Munirabad

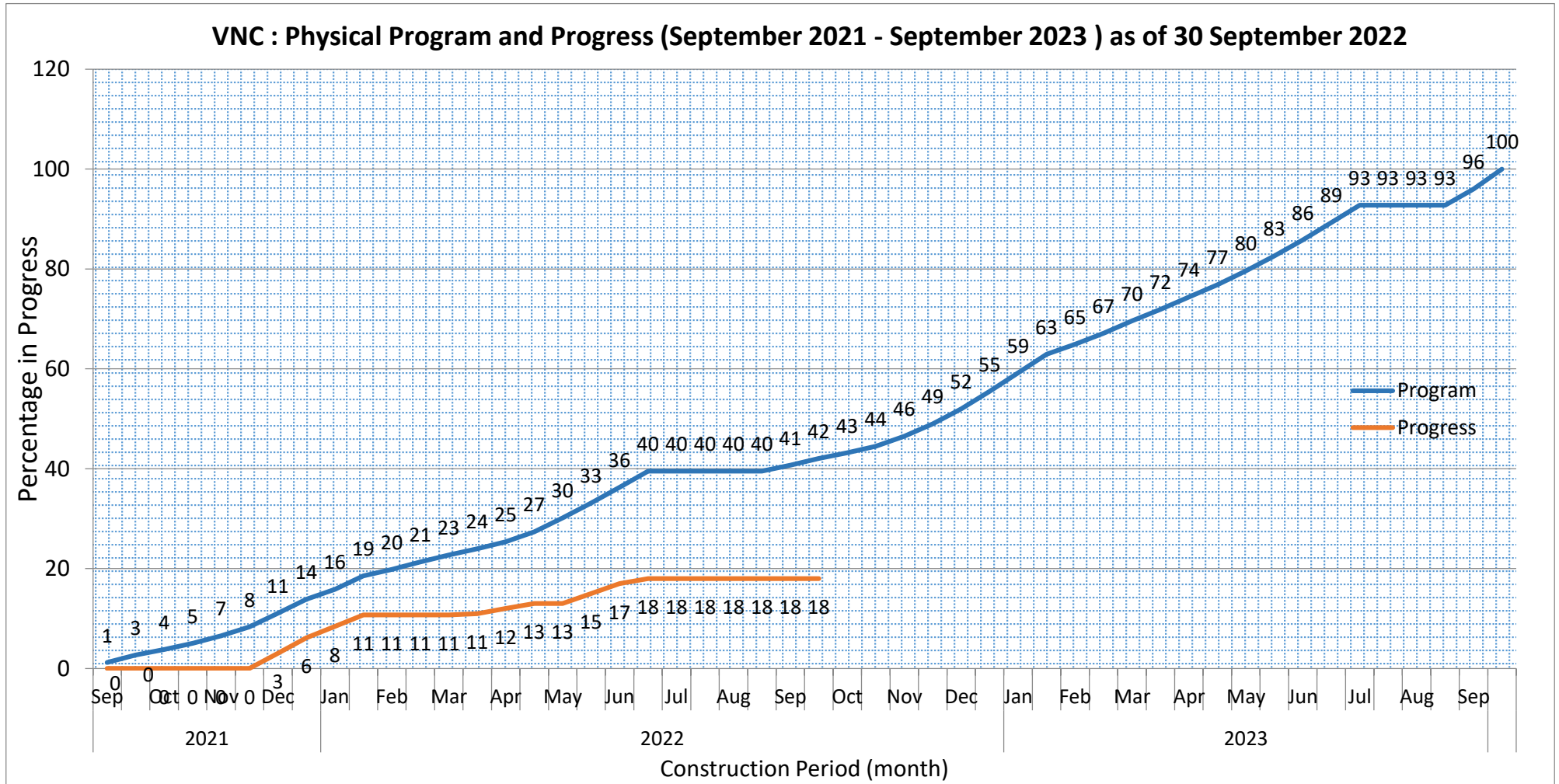


Figure 10: S Curve: Physical Progress as per extended plan

Source: KNNL ICZ Munirabad

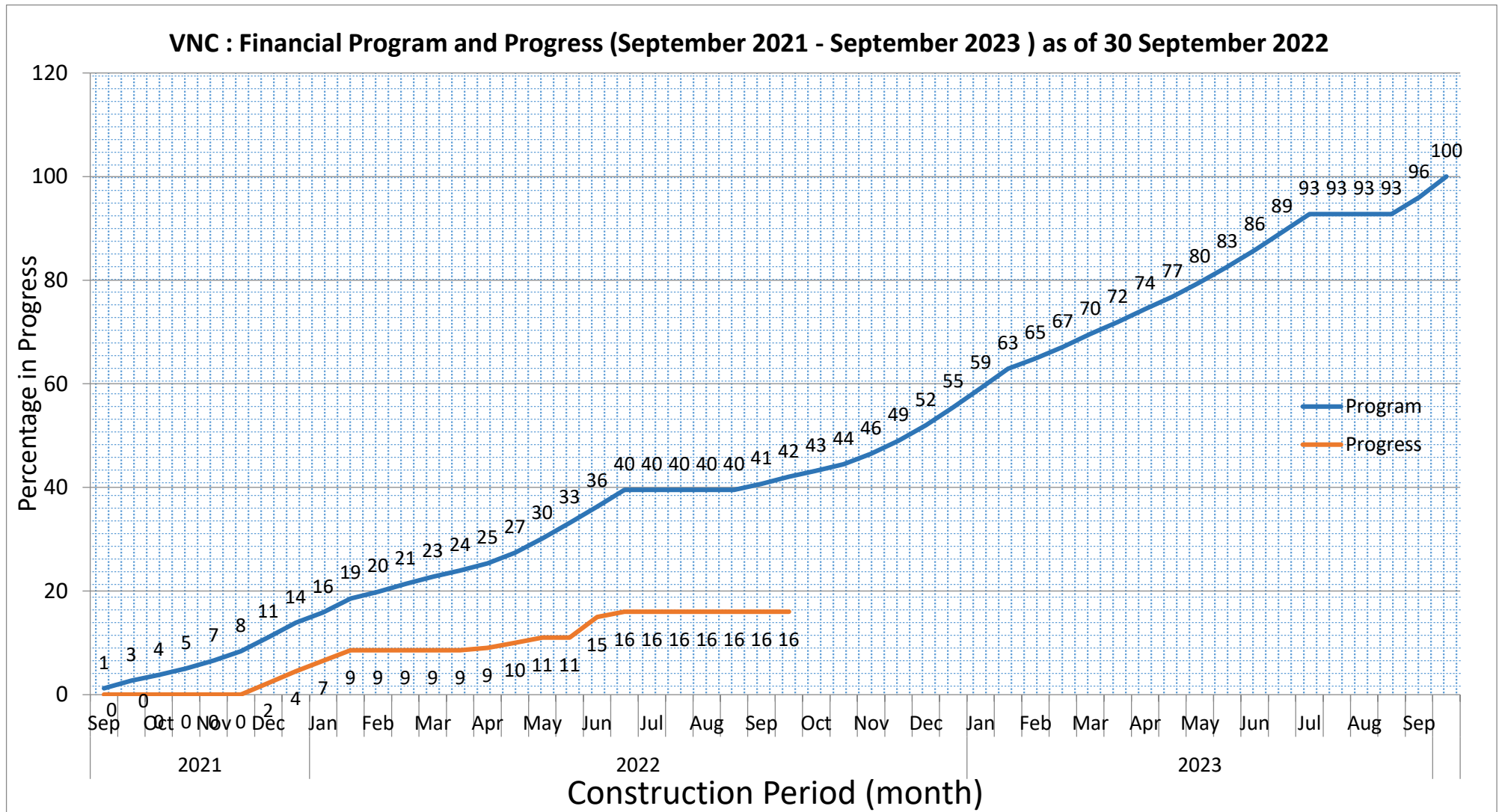


Figure 11 S Curve: Financial Progress as per extended plan

Source: KNNL ICZ Munirabad



## 2.2.2 Coordination of PSC 2 in Civil works

The PSC 2 Part B team undertook several field visits to the construction sites and the camp site during the reporting quarter. The observations were discussed with the contractors, PIO, Quality Assurance Consultants and ensure suggestions provided are implemented on site. The observations and suggestions were also shared during the review meetings held in PIO, Munirabad.

Site visits were carried out during the reporting quarter on Ramasagara Canal, Kampli Canal, Siruguppa, Deshanuru and Bichal Channel, Ramasagara Channel Works /Kamplimatti Camp Site & Basavanna Channel Works/Camp Site.

### 2.2.2.1 Various items covered during the site visit are:

- i. Progress of the work (lining and structures)
- ii. Possible ways and means to expedite the progress of the civil works
- iii. Community cooperation for expediting the works
- iv. Mix Specification and Materials for Construction
- v. Testing of Construction materials at Lab
- vi. Desilting and Silt Management
- vii. Silt analysis test reports
- viii. Pollution
- ix. Procurement and Storage of Materials
- x. Environment and Social Safeguards
- xi. Labour Welfare

### 2.2.2.2 Status of Channel wise work details

Name of Work: Modernization of Vijayanagara Channels (Package-I) Progress Barchart (Right bank Canals)

Name of the Canal	Description	Estimated	Achieved															
Basavanna	Length (Km)	16.50	11.01	Gap CH: 0+000 to 0+400	CH: 0+400 to 3+000 = 2.6 Km	Ch: 3+000 to 3+200 = 200 m	CH: 3+470 to 6+240 = 2.770 Km cut and cover	CH: 6+240 to 7+990 = 850m	CH: 7+090 to 11+710 = 4.62 Km	Ch: 11-710 to 12+080 = 370m	Ch: 12+080 to 15+680 = 3.60 Km	Ch: 15+680 to 16+500 = 820m						
	Reason			City water Supply		Storage	Cut & Cover	City lining		Deepen								Local Obstruction (To be completed Dec-22 & Jan-23)
	Structure (Nos)	74.00	36		14 Nos Completed	3 Nos Completed			7 Nos Completed			12 Nos Completed						
	Financial (Crore)	23.21	24.89		6.21 Cr	0.07 Cr			10.11 Cr			8.14 Cr						
Raya	Length (Km)	27.74	9.63	Ch: 0+000 to 0+620 = 620 m	CH: 0+620 to 7+450 = 6.83 Km	Ch: 7+450 to 7+680 = 230 m	Ch: 7-680 to 8+010 = 0.330 km	Ch: 8+010 to 8+280 = 270m	Ch: 8-280 to 8-760 = 30 m	Ch: 8+760 to 8+960 = 200m	Ch: 8+960 to 12+250 = 3,290 Km	Ch: 12+250 to 14+640 = 2,390 Km	Ch: 14-640 to 17+630 = 2,990 Km	Ch: 17-630 to 27+740 = 10.11 Km				
	Reason			City water Supply		Household		Strengthening		To be complete 4 Dec-22 & Jan-23	To be completed Dec-22 & Jan-23		To be completed Dec-22 & Jan-23	To be completed Dec-23 & Jan-24				
	Structure (Nos)	120	35		31 Nos Completed				1 Nos Completed			3 Nos Completed						
	Financial (Crore)	55.58	28.76		20.40 Cr		0.98 Cr		0.24 Cr			7.14 Cr						



### 2.2.2.3 Capacity Building

1. Identification of in-situ trainers for TOT
2. Organizing Training & Visit programmes for command area farmer
3. Conducting in-situ workshops
4. Organizing Farmer's Fair for Channel command area farmers
5. Best Farmer Awards distribution to Encourage the command area farmers
6. Promoting command area farmers to develop appropriate literatures

### 2.2.3 VNC Modernization Package 2

Package 2 of VNC comprises of modernization of Turtha channel and rehabilitation of 8 anicuts, except Shivapura<sup>5</sup> falling within the OCR area and HWHA. The project obtained clearance from the State Board for Wild Life (SBWL) in March 2020 and the clearance from the National Board for Wildlife (NBWL) is awaited.

In the meanwhile, the design consultant has revised schedule B and estimates to incorporate re-construction of damaged structures such as the aqueducts after field verification. The bid document prepared by PSC based on these redesigns has been cleared by ADB and KNNL has floated an e-tender on 8 November 2021. As of this reporting quarter the technical bid evaluation is completed and the financial bid evaluation is in progress. Simultaneously, the consultant appointed by KNNL for VNC program is pursuing the matter with State Forest Department and NBWL for necessary clearance. The VNC package 2 works will be awarded with the due clearance from concerned authorities.

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<sup>5</sup> Shivapura excluded due to technical reasons

### 3. Safeguard Monitoring

Although the civil works of VNC started in May 2019, the PSC of Tranche 1 was given a one- year extension starting 1 January 2020 through 31 December 2020, as Tranche 2 PSC 2 Part A, on 31 December 2019. After getting on board, the PSC so far submitted 4 safeguard monitoring reports-for the period Mar 2019 to Mar 2020, Apr to Sep 2020, Oct 2020 to Mar 2021, Apr to Sep 2021 and Oct 2021 to March 2022. Since the appointment of PSC 2 Part B was getting delayed, the PSC 2 Part A term was extended from Jan to Jun 2021, then from Jul to Oct 2021 and finally up to 31 December 2021. Now, the appointment of a new PSC 2 Part B was completed on 30 June 2022. PSC 2 B mobilized in July 2022 and is working on safeguard monitoring issues by visiting the VNC channels and camps and interacting with the contractor (RNSIL), labourers, quality assurance consultants, farmers and KNNL engineers to effectively help them understand the safeguards monitoring aspects and implement both social and environmental safeguards.

Review of Project Documents: Project Documents pertaining to Environment Safeguards as well as TOR has been reviewed in depth to ensure the compliances of the project safeguards and mainstreaming the environmental enhancement activities in accordance with National Regulatory and ADB SPS, 2009 requirements. The key environmental safeguard concern under *Loan Agreement (Ordinary Operations) Schedule 4 for Investment Program Project 2 highlights*

The check list for implementation of EMP given to the contractor is reviewed by PSC 2 Part B and WhatsApp groups are being used for the VNC modernization project involving the KNNL and CADA engineers, contractors, key staff, and key WUCS representatives (as in Tranche 1) all are effectively put to use to enable share information among stakeholders as also redress grievances quickly during the execution phase of the project.

Preparation of Monitoring Checklist: The monitoring checklist being prepared for field visits to ensure the provisions of EMP & EMoP.

PSC 2 Part B of VNC coordinated with the EEME and made field visits along with him on the VNC channels and camps. The Safeguard Monitoring Report for the period Oct 21 to March 2022 was finalized with due wetting from EEME and submitted to PIO on 19<sup>th</sup> September 2022.

- 1) Initial Environmental Examination (IEE) revealed the presence of some areas falling in a notified Otter Conservation Reserve (OCR) and UNESCO Hampi World Heritage Area (WHA), hence the project was categorized as Category A project as per the ADB Safeguard Policy Statement (SPS) 2009 and an Environmental Impact Assessment (EIA) and a Rapid Biodiversity Assessment (RBA) were conducted. Subsequently, upon ADB's suggestion a Tree Survey was also carried along the canals.
- 2) The EIA assessment revealed no significant adverse environmental impacts in the project areas other than those that generally occur during canal rehabilitation works. Major impacts are those that arise from establishment of campsites, material sourcing, and works carried out at the construction sites and closure activities. Additionally, impacts arising from locations of the project areas within the notified

Otter Conservation Reserve and Hampi World Heritage Area (HWA) have been considered and adequate measures have also been incorporated in the design of the modernization.

- 3) For all identified adverse impacts in the EIA, mitigation measures have been suggested and an Environmental Management Plan (EMP) has been prepared to be included in the contractor's agreement.
- 4) Because a portion of the project is located within the notified OCR, the VNC project requires recommendation of the National Board for Wildlife (NBWL), Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India through State Board for Wildlife (SBWL) under Wildlife (Protection) Act, 1972.
- 5) A portion of the project is located within the UNESCO Hampi WHA. This includes 12 protected monuments located along the lengths of three canals which include 2 nos. along Anegundi, one along Raya and 9 along Turtha Canal. A total of 19.3 km of the canal sections lies in core zone, 14.04 km in buffer zone and 24.33 km in peripheral zone of the of the Hampi WHA as given in Table-17.

Table 17 Canal Sections of VNC System lies in Hampi WHA

Name of Channel	Total Length (Km)	Core Zone (Km)	Buffer Zone (Km)	Peripheral Zone (Km)	Total (Km) in HWA	%age Length in HWA
Anegundi	19.44	8.95	3.43	0.63	13.01	67
Raya	27.74	1.23	8.70	5.59	15.52	56
Basavanna	16.50	0	0	8.44	8.44	51
Kalaghatta	7.02	0.55	0.44	2.70	3.69	53
Turtha	18.69	8.57	1.47	6.97	17.01	91
Total length (km)	89.39	19.30	14.04	24.33	57.67	64.51

Source: FSR-EIA Report - p28 para 42.

- 6) The works requires permission from the Hampi World Heritage Area Management Authority (HWHAMA).
- 7) Another notified area in the VNC System is Daroji Bear Sanctuary. The sanctuary is far away from the Anegundi, Basavanna, Raya, Bella and Kalaghatta channels. However, the sanctuary boundary to Turtha and Ramasagara Channels is less than 1 km. And the initial 2.3 km of the Ramasagara Channel, and the last 2.5 km of Turtha Channel are passing through the proposed Eco Sensitive Zone (ESZ) of the Daroji Sanctuary.

### 3.1 Implementation Status of the Environmental Management Plan

- 8) In view of OCR permission, VNC works has been split in two packages. This report focuses on the compliance's of EMP of Package 1 works awarded to RNSIL and is underway which includes modernization of 15 channels and repair/rehabilitation of 3 anicuts and all the appurtenant structures.
- 9) The civil works of VNC was started in May 2019 and the PSC of Tranche 1 was earlier given extension to monitor safeguard's implementation, as Tranche 2 PSC Part A, till PSC 2 B on board.

10) PSC 2 B is on board since July 2022 and is working on Safeguard Monitoring

11) The following key EMP aspects are specifically discussed and agreed with the contractor's team:

- a) Requisite permissions in compliance of the regulatory requirement like Labour License, CAR Policy, WC Policy, Use of Ground Water Permits, HSD Permits, Quarry Permissions, Borrow Area Permissions, CFO for material sourcing, etc.
- b) Baseline data collection and analysis of all environment parameters like ambient air quality, noise monitoring, sediment analysis of channels, surface water and ground water samples analysis to be carried out during and after construction phase covering all channels, labour camps, borrow pit and crusher for M-Sand production;
- c) Water sprinkling measures to be taken up to check dust generation at the campsite, haul roads leading to construction site, borrow pit and crusher for M-sand production;
- d) Facilities provided at campsite with a centralized kitchen, mess, dormitory of workers/drivers and toilets/bathing areas;
- e) Sanitation facilities for the labour;
- f) First aid/emergency facilities for the labourers;
- g) Occupational health and safety awareness measures to be put in place;
- h) Ensure material procurement from agencies approved by Karnataka State pollution control board;
- i) Compensatory tree plantation to be carried out on 1:3 ratio as per the Karnataka State Forest Act guidelines;
- j) Desilting of channels, silt analysis and distribution plan to farmers for application in agriculture lands as per guidelines in EIA;
- k) Borrow area pit closure and restoration plan to be executed as per revised CEMP;
- l) Grievance Redressal Mechanism to be operated;
- m) Regular health check-ups, camps and awareness sessions to all labour on site; and
- n) Implementation of Health and Safety COVID-19 plan as per guidelines/protocols that are aligned with national requirements.

12) **Status of Requisite Clearances**

HWHAMA has issued permission *vide letter no. HWHAMA/103/2017-18/29 dated 6 April 2018* to carry out works within the Hampi WHA along with following terms and conditions related to maintenance of the heritage architecture.

- i. No damage will be caused to the sculptures/inscriptions located immediately on either side of the channel;
- ii. Any new evidences of architecture/sculptures while clearing the embankment for repairs found should be reported to the local officers of Archaeological Survey of India stationed at Kamalapura;
- iii. The already existing Vijayanagara period pitching to be restored as per the

- original and reset to the required alignment in lime mortar and concrete;
- iv. The flooring of the channel found not interfering with the work should be retained as such, documented and supported to the local office;
  - v. Fresh veneering of the exposed embankment should be carried out on the lines of the Vijayanagara period pitching in lime mortar for arresting the seepage of the channel;
  - vi. The usage of cement concrete flooring may be allowed with a rider that the flooring of the Vijayanagara times is not disturbed, and
  - vii. The entire work in these channels running through the core zone should be carried out in presence of local officers and under their guidance.
  - viii. For any further clarifications Site manager, Archaeological Survey of India can be approached
- 13) MoEFCC Clearance for TOCR and DBWS is pending with NBWL due to EDS. KNNL to ensure that all applicable regulatory clearances are obtained prior to commencing works for areas falling within the Daroji Sloth Bear Sanctuary.
- 14) **CEMP Approval:** The revised CEMP incorporating COVID-19 mitigation measures approved by the chief engineer and submitted to ADB (December 2020) is in place.
- 15) **Status of Statutory Compliance:** The details of statutory compliance are given in Table-18

Table 18 Statutory Compliance Status

S. No.	Requisite Permits	Status	Remarks
1.	Labour license	Obtained	Valid till 20 May 2023
2.	Migratory Labour License	-	This is to be taken for the out state labourers
3.	Employees Compensation Insurance	Obtained	Valid till 9 Jan 2023
4.	Contractor All Risk Policy	Obtained	Valid till 29 April 2023
5.	Borrow Area Permission	Obtained	Restored
6.	Ground Water Permission	NA	No bore well opened
7.	Diesel Storage Permission	NA	Diesel being purchased from the local authorized vendor
8.	M-Sand Permission	Obtained	
9.	CFO for Batching Plant	NA	There is no establishment or use of Batching Plants
10.	CFO for RMC Plant		There is no establishment or use of RMC Plants Self-loading machine is in use.
11.	CFO Stone Crusher	Obtained	Valid till 30 September 2030
12.	DG Set Permission	NA	-

- 16) **Borrow Areas:** To restore the channel cross section, access track and gravel surfacing of channel roads the Contactor has borrowed about 47,849 cum from The Department of Mines approved quarry/borrow area located in the reservoir

site of Bhoruka and also from the TB Reservoir site. The details of borrowed gravel are given in *Table-19*.

*Table 19 Details of Borrow Areas as of 30 September 2022*

S. No.	Borrow area location	Source of gravel	Quantity (Cum)	Area (acres)
1	Bhoruka reservoir	Reservoir	10,000	2
2	Tungabhadra reservoir	Reservoir	25,000	2
3	Gangavathi	Farmers land Survey no.	6,000	2
4	Mallapura, Gangavathi	Farmers land Survey no. 60	1,500	1
5	Basavanadurga,	Farmers land Survey no. 32	3,000	0.5
6	Amaravathi	Govt. Land	47,849	-
	Total		93,349	

17) **Construction Material Sourcing:** Concrete lining being carried out using mechanized paving equipment or hand placed concrete depending on site situation. Self-loading machine is being used for concrete. Materials are being sourced from the valid licensed quarries/mines and CFO for material sources is depicted above.

18) **Removal of Silt:** Entire silt was taken away by farmers of lands adjacent to the canal portions and laid evenly after mixing with the pre-existing soil. The farmers are aware of the fertility of the silt. The contractor has also conducted necessary tests to ensure that the silt is not contaminated. The details of silt generation and disposal are given in *Table-20*.

*Table 20 Silt Generation and Its Disposal Status as of 30 September, 2022*

Sr. No.	Channel	Quantity of Silt (Cum)	Disposal Status
1.	Deshanur	5399	This entire silt was taken away by farmers of adjacent lands and laid evenly after mixing. The farmers are fully aware of the importance of the silt.
2.	Upper Gangavathi	4385	
3.	Lower Gangavathi	4259	
4.	Huligi	6598	
5.	Shivapura	3779	
6.	Anegundi	8018	
	Total		

#### 19) Site Specific Measures

- The logistics associated with the construction work include extensive movement of trucks carrying soil, gravel for roads, sand or raw materials for concrete. Covered vehicles being used partially;
- The Contractor is taking measures such as sprinkling of water to check dust pollution;
- PUC certified vehicles being used
- Sign boards along road path being placed.

- Partial use of PPEs being done
- No blasting reported so far
- Required corrective measures are mentioned later on

20) **Tree Cutting and Plantation Status:** The Contractor has cut a total of 18 Trees in this quarter, 2022 as given in *Table-21*. These trees comprising coconut and Neem trees belong to exempt variety as per KTP Act 1976-exempted list species. These trees have been compensated by planting 560 saplings till last reporting period as given in *Table 22*.

*Table 21 Channel-wise Details of Trees Cut by Contractor*

S. No.	Species Name	Ramasagara Channel	Kampli Channel	Lower Gangavathi Channel	Total
1.	Coconut	7	9	2	18
	Total	7	9	2	18

*Table 22 Channel-wise Species of Saplings Planted by Contractor*

S. No.	Species Planted (Botanical Name)	Channel-wise no. of Sapling Planted				Total
		Anegundi	Bella	Kalaghatta	Raya	
1.	Ala ( <i>Ficus bangalensis</i> )	1		25		26
2.	Arali ( <i>Ficus religiosa</i> )	26		25		51
3.	Badami ( <i>Prunus dulcis</i> )	15		16		31
4.	BettadaNelli ( <i>Phyllanthu semblica</i> )	10				10
5.	Bevu ( <i>Azadiracta indica</i> )	42	63	14		119
6.	Chiruchi ( <i>Leptadenia pyrotechnica</i> )	6		9	15	30
7.	Hunase ( <i>Tamarindus indica</i> )	3	31	10	3	47
8.	Mavu ( <i>Magnifera indica</i> )	15	6	7		28
9.	Nerale ( <i>Syzygium cumini</i> )	52	60	5	21	138
10.	Nimbe ( <i>Citrus limon</i> )	6		3		9
11.	Nugge ( <i>Moringa oleifera</i> )	6				6
12.	Seethaphala ( <i>Simarouba glauca</i> )	8		37		45
13.	Thale ( <i>Borassus flabellifer</i> )	20				20
	Total	210	160	151	39	560

## 21) Camp Facilities

- Workers camp sites have been setup at Huligi, Anegundi, Siruguppa, Bichal and Kamplimatti. Out of these, Huligi has been restored as a School and Anegundi, Siruguppa, Bichal are closed and only Kampli camp is currently functional.
- The Contractor ensured that labour and workers campsites have access to water supply, sanitation services, and LPG cylinders for cooking purposes. Firewood to be discouraged.
- Facilities provided at campsite with tin shed rooms, safe drinking water, centralized kitchen, mess, dormitory of workers/drivers and toilets;
- Sanitation facilities for the labour are in place;
- Fire protection measures are in place



- Occupational health and safety awareness measures being put in place;



- The corrective measures required are given later on

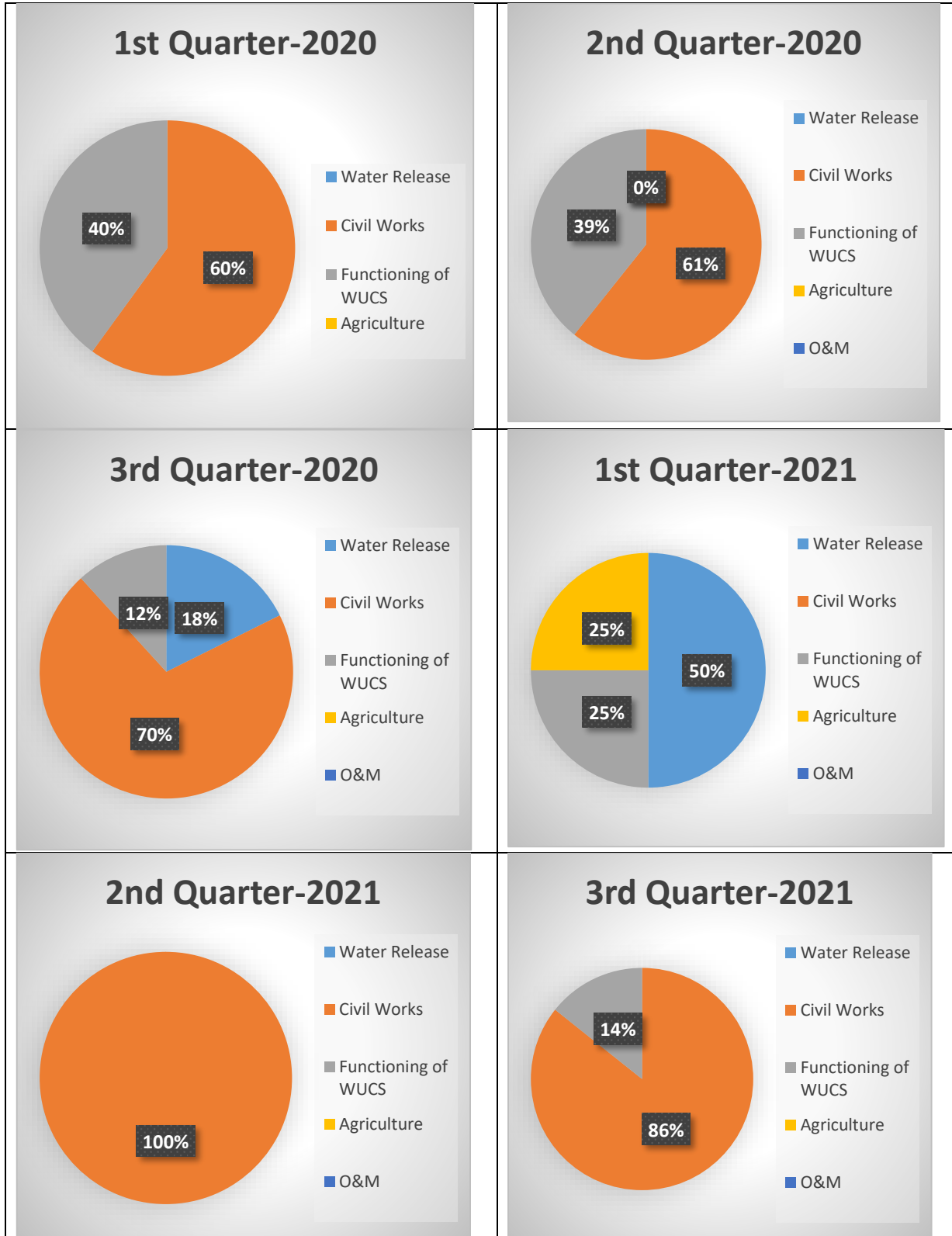
## 22) Grievance Redressal:

- WhatsApp Groups:** To ensure effective communication, PSC has formed WhatsApp groups of WUCS Channel wise, and one project level group "VNC Aadhuneeekarana Yojane" (VNC Modernization Project). All concerned engineers of KNNL and CADA,
- Complaints Received & Resolved:** All of the 73 grievances till September, 2022 have been satisfactorily redressed. Details are given in Table 23. The grievances are categorized into five types as described below:
  - Water Release:** Queries/grievances related to period of release, time of release, quantity of water reaching the farmlands etc.
  - Civil Works:** Grievances related to start of civil works, quality of works, drain water contamination with canal water, sediment disposal etc.
  - Functioning of WUCS:** Grievances related to WUCS formation, MoU with KNNL, water tax collection, meetings, trainings, functions of the society, etc.
  - Agriculture:** The grievances under this category related to pest management of crops, crop management, etc.

Table 23 Grievances registered as of 30 September 2022

Period	Water Release	Civil Works	Functioning of WUCS	Agriculture	O&M	Total
1 <sup>st</sup> Quarter-2020	0	3	2	0	0	5
2 <sup>nd</sup> Quarter-2020	0	17	11	0	0	28
3 <sup>rd</sup> Quarter-2020	3	12	2	0	0	17
4 <sup>th</sup> Quarter-2020	0	0	0	0	0	0
Total for 2020	3	32	15	0	0	50
1 <sup>st</sup> Quarter-2021	2	0	1	1	0	4
2 <sup>nd</sup> Quarter-2021	0	4	0	0	0	4
3 <sup>rd</sup> Quarter-2021	0	6	1	0	0	7
4 <sup>th</sup> Quarter-2021	0	2	0	0	0	2
Total for 2021	2	12	2	1	0	17

Period	Water Release	Civil Works	Functioning of WUCS	Agriculture	O&M	Total
1 <sup>st</sup> Quarter -2022	0	0	0	0	0	0
2 <sup>nd</sup> Quarter-2022	0	2	0	0	0	2
3 <sup>rd</sup> Quarter-2022	0	4	0	0	0	4
Grand total as of 30 September, 2022	5	50	17	1	0	73





### 3.2 Field Visits and Corrective Measures:

Corrective Action Report based on site visit during August & September, 2022 has been prepared and shared to the KNNL. The PSC had handhold the contractor's representatives through a series of meetings and interactions during the quarter explaining each and every aspect of the CEMP that needed to be adhered to-

#### 3.2.1 Observations pertaining to the Construction Sites:

- a) It is suggested to paint Chainage on the lining itself for accurate location identification.
- b) KNNL needs to provide the permission copy from Karnataka Forest Department (KFD) for any tree removal at site. Approved afforestation plan need to be shared with the Contractor
- c) KNNL needs to instruct the Contractor to
  - Erect Project Boards at construction fronts to display project information and GRM contact details at each site.
  - Have all requisite permission like valid copies of labour registration/labour insurances/migrant labour; Water purchase slip;

Waste disposal permissions; Valid lease documents or farmers consent of the Campsites etc. at site for the compliance of its conditions and shall be part of the Contractor MPR.

- Need to maintain labour records with names in the register.
- Testing of Drinking water at camps.
- Disposed-off unusable silt/boulders in pre-identified and approved locations with a vegetative cover (Native species) over.
- Not transport wet desilted material to avoid dripping from site to the disposal site and vehicle should be covered while transportation of desilted material or solid waste to minimize of and flying of matter.
- Maintain vehicles and equipment regularly and keep update records of all vehicles, equipment and machinery used for construction at Campsite.
- Kept Pollution Under Control (PUC) Certificate of all the vehicles being used at site
- Continue water sprinkling on haul roads as & when required.
- Ensure that the Construction materials are being sourced from government approved sites and the Contractor has acquired the permission (CTOs) from the licensed vendors for the construction material.
- Ensure that the Contractor has restored borrow areas during decommissioning
- Enforce the workers for using personal protective equipment (PPEs).
- For providing *Basic provisions* such as warning boards, mobile toilets, rest shelters for labours, first-aid box, display of emergency contact numbers, covid-19 preventive guidelines, etc. at site as currently all are lacking at all the work sites.
- Dispose-off silts lying at many places along the channels at pre-identified, sites.
- Remove the construction material lying at the sites where the work is already completed
- For fencing the incomplete structures and placing Cautionary signage's.

### 3.2.2 Observations pertaining to the Facility Management

- a) Kamplimatti Camp Site is active and the rest are currently idle. Contractor was asked to provide a list of camps and material storage sites for the forthcoming works.
- b) The premises of the labour camp conditions are in pathetic condition like dirty toilets, open drainage for utensil washing area, cloth covered women bathing areas, no cots in labours room etc .
- c) Layout plan of camp sites are not available. Layout plan to be approved by the PIO
- d) Community consent must be available to avoid conflict with the local community for resource use like roads, firewood, drinking water and other basic requirements.
- e) Entire Campsite area needs to be properly fenced to avoid movement of local community and animals.
- f) Toilets/Bathrooms to be segregated for Men/Women and need to paint it on wall/door. Regular cleaning is mandatory. Adequate, clean and hygienic sanitation (toilets and washing areas) facilities to be provided at both the workers' campsites and construction sites.

- g) Drinking water tests to be ensured for each lot of water being procured and reports to be maintained
- h) Use of fire wood shall be discouraged and gas stove to be provided
- i) The discarded fuel and lubricants will be stored in drums and sold to recyclers authorized by KSPCB. MOU with recycler shall be in place.
- j) First aid box must be with sufficient bandage/cotton/medicines. All medicines must be highlighted with expiry date. 2-3 persons at campsite must be trained for First Aid by a medical staff and only trained personal shall provide medicines. Further Trained personnel's names & phone numbers to be displayed in Local /English languages at prominent places like near labour camp or working site. Records to be maintained for dangerous occurrences and incidents and work related fatalities
- k) Emergency numbers in local/English to be displayed at prominent locations
- l) Crèche Facility to be provided by the Contractor and a teacher need to be appointed for them. Some toys etc. also need to be provided.
- m) Awareness programme's on HIV/AIDs/GBV/Pollution/Fire Extinguisher's /Covid-19 etc. to be conducted and records to be maintained. Further Health monitoring from professional doctors to be carried out at every six months, so please do the campaign at the earliest
- n) Occupational Health and Safety orientation/training like basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster etc. to all workers/staff to be ensured. Provide a training plan for 6 months
- o) Documentation: Documentation part is poor, need strengthening

### 3.3 Environmental Monitoring

Environmental testing of air, water, noise, soil & sediments to be conducted by the Contractor in accordance with Environmental Monitoring Plan given in CEMP. Baseline data of ambient air quality, noise levels, water quality was conducted during April 2018 along channels except Upper Gangavathi, Lower Gangavathi, Deshanur and Bichal channels. Before the start of construction work, the contractor has collected sediment samples from all the channels and furnished the analysis report. During construction testing is being conducted by Shri Krishna Aqua Engineering Works as per CEMP during April 2022. The results are well within limit.



### 3.4 Safeguard Training/Workshop:

PSC2 A organized 15 training programmes for WUCS on safeguard monitoring up to December 2021 wherein 551 farmers covered; among them 476 are male (86%) and 55 are female (14%). The details are given in Table 24. The PSC2 B will be intensifying the safeguards monitoring trainings not only to WUCS but also to PIO engineers to sensitize them on the ADB policies on safeguards requirements.

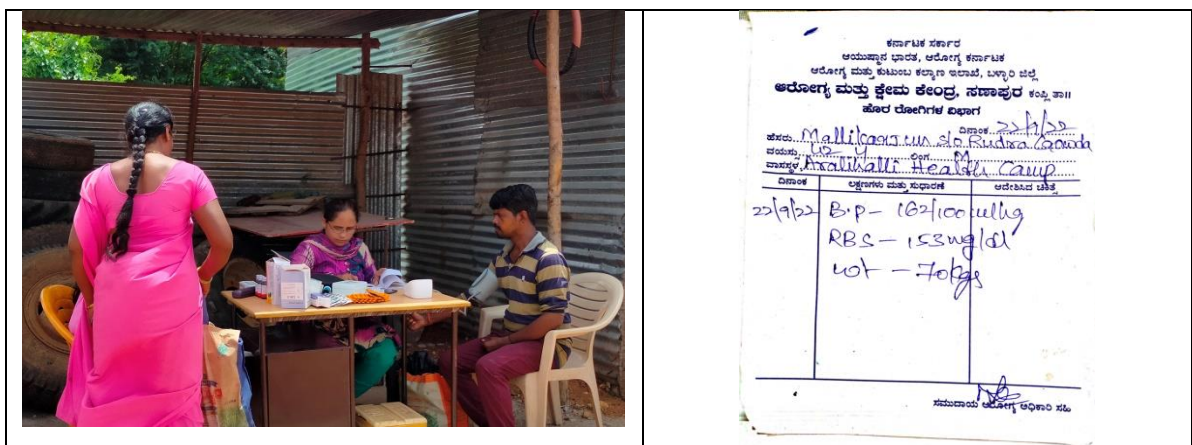
Table 24 Trainings on Safeguard Monitoring as of 30 September 2022

S. No.	Date	Channel	Trainee	Activity	Venue	Male	Female	Total
1	26 May 2020 (Forenoon)	Gangavathi Upper	Farmers, Villagers and WUCS members of Hirejantakal village	Awareness on VNC Project construction management, Quality assurance and safeguards monitoring.	Sri Virupaksheswara Temple, Hirejantakal	25	0	25
2	26 May 2020 (Afternoon)	Gangavathi Upper	Farmers, Villagers and WUCS members of Hosahalli	Awareness on VNC Project, construction management, Quality assurance and safeguards monitoring.	Community Hall, Hosahalli	52	0	52
3	27 May 2020	Gangavathi Lower	Farmers, Villagers and WUCS members of Danapura-2	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Community Hall, Hosa Ayodhya	12	0	12
4	28 May 2020 (Forenoon)	Anegundi	Farmers, Villagers and WUCS members of Sangapura	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Sri Rama Temple, Sangapura	31	0	31
5	28 May 2020 (Afternoon)	Bella	Farmers, Villagers and WUCS members of Narasapura	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Near Huligemma Temple, Narasapura	28	17	45
6	29 May 2020 (Forenoon)	Gangavathi Lower	Farmers, Villagers and WUCS members of Chikkajanthakal	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Village Goddess Temple Premises, Chikkajanthakal	52	0	52
7	29 May 2020 (Afternoon)	Anegundi	Farmers, Villagers and WUCS members of Anegundi	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Government High School, Anegundi	25	0	25
8	3 Jun 2020 (Forenoon)	Huligi	Farmers, Villagers and WUCS members of Shivapura	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Sri Rama Temple, Shivapura	40	0	40
9	4 Jun 2020	Deshanur	Farmers, Villagers and WUCS members of Deshanur	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Grama Panchayath Hall, Deshanur	45	0	45
10	5 Jun 2020	Bichal	Farmers, Villagers and WUCS members of Bichchali	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Grama Panchayath Hall, Bichchali	30	0	30
11	29 Aug	Bichal	Farmers,	Awareness on VNC Project, Construction	Timmappa Thatha	25	0	25

S. No.	Date	Channel	Trainee	Activity	Venue	Male	Female	Total
	2020		Villagers and WUCS members of Rajolli	management, Quality assurance and safeguards monitoring.	Temple			
12	29 Aug 2020	Bichal	Farmers, Villagers and WUCS members of N Hanumapura	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	In front of Radhamma House	36	6	42
13	30 Aug 2020	Bichal	Farmers, Villagers and WUCS members of Bichchali	Awareness on VNC Project, Construction management, Quality assurance and safeguards monitoring.	Common Platform under a tree	18	0	18
14	6 Jan 2021	Raya & Bella	Farmers, Villagers and WUCS members of Hosuru	Awareness on VNC Project Construction Management, Quality assurance, Safeguards monitoring and GRM.	Garadimane , Hosuru	32	2	34
15	18 Jan 2021	Ramasagara	Farmers, Villagers and WUCS members of Ramasagara channel	Awareness on VNC Project Construction Management, Quality assurance, Safeguards monitoring and GRM.	Function Hall, Ramasagara	25	30	55
TOTAL						476	55	531

### 3.5 Implementation of COVID-19 and Health Management Plan

The Contractor is following the guidelines issued by the State and Central Governments from time to time. In order to ensure good health and the well-being of the nearby communities RNSIL conducted periodic consultations with the surrounding inhabitants for taking additional measures. Health Camps being organized regularly. Recently A health camp was organized on 22 Sept 2022 wherein Ms.M.Lakshmi Layani, HWC, Sanapura CHO under Devasamudra PHC participated wherein 30 labourers participated. The male labourers and female labourers are 22 and 8, respectively.



### 3.6 Identification and Mitigation of Social Safeguard Issues by Contractor

The PPTA has discussed social safeguard issues concerning resettlement and indigenous people that require Contractor to be aware of and redress if found

necessary. It may be noted that the SDDR found that resettlement or indigenous people issues are not applicable to this project. Other social safeguard issues concerning Health and HIV AIDS and Gender and Social dimensions identified by PSC are discussed in *Table 25*.

*Table 25 Monitoring of Social Safeguards Implementation*

Social Safeguard Issues	Observations and Status	Remarks
Resettlement	<ul style="list-style-type: none"> <li>The system rehabilitation/modernization is unlikely to involve any need for land acquisition or resettlement and rehabilitation as concluded by the SDDR study.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor has reported that there are no resettlement issues that came to his notice. PSC has confirmed this.</li> <li>In the rare event if this is needed, the Contractor has been instructed to inform KNNL and decision taken in consultation with the authorities.</li> </ul>
Indigenous Population	<ul style="list-style-type: none"> <li>The system rehabilitation/modernization is unlikely to adversely impact the indigenous population.</li> </ul>	<ul style="list-style-type: none"> <li>There are no indigenous people in the VNC command area.</li> </ul>
Health and HIV/AIDS	<ul style="list-style-type: none"> <li>Apart from regular health check up to labourers and workers.</li> <li>The Contractor has been instructed to periodically conduct awareness workshops on HIV/AIDS using the services of a Local Medical Officer who shall explain the risk of sexually transmitted diseases on periodic basis.</li> <li>The Contractor has been instructed to periodically conduct awareness workshops on Human Trafficking issues so as to ensure safety of the labourers and workers' families.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor has been advised to maintain records of all awareness workshops and health camps that have been conducted for the labourers' and workers.</li> <li>Medical health reports need to be maintained for periodical checking</li> </ul>

### 3.7 Conclusion & Follow-up for the Next Quarter



- The contractor should comply with all EMP provisions in timely manner.
- The contractor should submit MPR regularly considering the compliance of the corrective measures provided by the PSC.
- The contractor should submit all requisite permits in time including the renewal of the Labour license for maximum labourers planned & insurance as per Labourers numbers and migratory labour license for interstate labourers, if engaged;
- The contractor should provide information on the identified quarries and borrow pits in advance along with requisite permissions;
- The contractor should follow the prevailing guidelines of the forest department for tree cut;
- The contractor should provide update information on approvals obtained for locating the labour campsite, establishing the Ready-Mix-Concrete, utilizing the village roads for truck travel and for disposal of excavated silt on willing farmers' lands.

Photos of Safeguard Monitoring

	
<p><i>PSC Discussion with Bandiharlapura farmers</i></p>	<p><i>Discussion with Lower Gangavathi AE</i></p>
	
<p><i>Huligi Contractor Camp is converted in School</i></p>	<p><i>Huligi Contractor Camp Toilet being used by School</i></p>
	
<p><i>Health Camp at Kamplimatti Contractor Camp</i></p>	<p><i>Kamplimatti Contractor Camp Labours Rooms</i></p>

**3.8 Third Party Quality Assurance**

M/s. Niketan Consultants, Bengaluru, was appointed as third-party consultant for inspection and quality assurance for both VNC Package 1 and 2 works on 6 March 2020 for 30 months. The agency is mandated to inspect and conduct quality control tests during execution of works as per QC schedule issued by Engineer in charge of KNNL, No. 1 TR Division, Munirabad. Consultant is required to submit reports covering physical progress along with quality test reports/defects, corrections and remedies

suggested, if any, and to certify such rectifications. Their services would also be utilized for conducting necessary tests wherever extra financial implications arise during execution of works.

### 3.8.1 Scope of work of TPQA consultant as per ToR

- (i) Consultants shall perform all duties of quality assurance of works and carry out comprehensive technical supervision of the works to ensure conformity with approved designs, line & level as per approved drawings, specifications for materials and workmanship, adopt Quality Assurance /Quality Control procedure, testing & acceptance as per applicable relevant standards and codes and sound engineering practices.
- (ii) Consultants shall note deficiencies in the contractor work, cause corrections to be made, and check the remedial work and facilitate to rectify the deficiencies as per approved methods/ BIS provisions.
- (iii) Consultants shall establish, at their own cost, a testing laboratory at the site of construction work equipped with prescribed men, machinery, tools, plants and equipment as per the tender document including mobile testing facility.
- (iv) Consultants shall ensure that all project activities comply with the latest applicable IS codes and other relevant statutes.
- (v) Consultants shall deploy, for the entire period of contract, the following minimum competent, qualified and experienced technical staff with relevant field experience on similar projects: Project Leader (1), Deputy Project Leader (1) and Quality Engineers (10) with qualification and experience as indicated in Bid Document.

The consultant has established a laboratory at Anegundi campsite premises of the civil works contractor, M/s.RNSIL, near Anegundi village. The laboratory is equipped to perform all the necessary tests on soils, cement, steel and aggregates (sand and jelly). A mobile laboratory is also deployed on all working channels for in situ measurements.

The PSC 2 B undertook monitoring of the TPQA work being undertaken by the designated Consultant. During the reporting quarter 2022, 1,106 different tests were carried out and cumulatively 3,654 tests were conducted by the TPQA agency. The details are given in the Table 26.

Table 26 Quality Tests by TPQA for the month ending September 2022

Sl. No.	Test Particulars	Upto 30 June 2022	During Jul-Sept 2022	Cumulative (Nos.)
1	Proctor Compaction (Light)	7	7	14
2	Soil Mechanics (Sieve Test)	7	7	14
3	Atterberg Limits	7	7	14
4	Specific Gravity	7	7	14
5	Soil Core	138	224	362
6	Fine Aggregates - Sieve Analysis	120	102	222

Sl. No.	Test Particulars	Upto 30 June 2022	During Jul-Sept 2022	Cumulative (Nos.)
7	Coarse Aggregates - Sieve Analysis	107	90	197
8	Cement	50	61	111
9	C.C cubes M15	663	1,562	2,225
10	C.C cubes M20	-	314	314
11	Slump test	-	167	167
	<b>Total</b>	<b>1,106</b>	<b>2,548</b>	<b>3,654</b>

During the reporting quarter of 2022, civil works are taken up in seven channels such as Huligi, Anegundi, Shivapura, Upper Gangavathi and Lower Gangavathi (in left bank), Ramasagara and Kampli (in right bank) channels for which the TPQA consultant reportedly conducted a total of 1,106 tests includes soil tests, tests on fine aggregates (sand), tests on coarse aggregates (jelly and crushed stone) and tests on cement and cubes. The channel wise details of number of tests conducted are given in Table 27.

Table 27 Channel wise details of Quality Tests during reporting quarter ending 31 Sept. 2022

S. No.	Test Particulars	LB Channels					RB Channels		Total
		Huligi	Shivapura	Anegundi	Upper Gangavathi	Lower Gangavathi	Ramasagara	Kampali	
1	Proctor Compaction (Light)	2	2	2	2	2	2	2	14
2	Soil Mechanics (Sieve Test)	2	2	2	2	2	2	2	14
3	Atterberg Limits	2	2	2	2	2	2	2	14
4	Specific Gravity	2	2	2	2	2	2	2	14
5	Soil Core	52	58	26	26	28	75	97	362
6	Fine Aggregates - Sieve Analysis	25	32	23	26	20	48	48	222
7	Coarse Aggregates - Sieve Analysis	20	29	19	22	17	45	45	197
8	Cement	10	18	10	12	9	27	25	111
9	C C cubes 20M15	186	339	195	230	176	556	543	2,225
10	C C cubes 20M20	14	48	46	14	44	68	80	314
11	Slump Test	16	20	13	13	16	42	47	167
	<b>Total</b>	<b>331</b>	<b>552</b>	<b>340</b>	<b>351</b>	<b>318</b>	<b>869</b>	<b>893</b>	<b>3,654</b>

## 4. Water Users Cooperative Societies

The role of Water Users Cooperative Societies is critical to the success of a Participatory Irrigation Management project. The three core functions of WUCS are: (i) ensuring rationale distribution of water to farmers; (ii) Operation & Maintenance of Channel system, and (iii) collection of irrigation water charges.

It is proposed to form and strengthen 29 WUCS and a Project level federation under the VNC. The formation and strengthening of WUCS are at different stages and there is a wide variation among the WUCS in terms of their status and capacities; elections to the Board, signing of MoU with KNNL, their involvement in water charge collection and planning and implementation of CAD packages (identification of sites for office building, etc.).

Further, PSC 2 Part B reviewed the current status of WUCS through conducting 3 baseline survey of one each for QPR1, QPR2 and QPR3 of 2022. The analysis of WUCS, it was found that there is variation in the level of progress of WUCS: for instance, there are WUCS that reached stage of entering MOU while there are WUCS yet to be notified for the formation. The progress of WUCS formation as facilitated by the PSC2 B during the reporting quarter is presented herewith.

### 4.1 Progress of WUCS Activities

#### 4.1.1 Notifications for WUCS Formation

The analysis of WUCS status data showed that there were four WUCS area that were yet to be notified for the formation of WUCS. These include Hosuru and Narasapura of Bella channel and Kaddirapura and Bukkasagara of Turtha channel. PSC2 B undertook task of preparation for getting the notification issued by Turtha and Bella channels. The activities are preparation of pipe outlet-wise list of farmers, command area map, area demarcation, PO wise survey numbers with the help of different colouring pattern using RS map, on site CBA, etc. The task also includes facilitating the fulfillment of administrative procedure at KNNL and CADA for the issuance of notification. As a result, during the reporting period 4 WUCS were notified for formation of WUCS, thus notification of total targeted 29 WUCS is completed.



#### 4.1.2 Registration of WUCS

Four WUCS is registered during the reporting quarter with the social mobilization and facilitation by the PSC2 B. Those are 88 Mudlapura, Bukkasagara, Sanapura & Kamalapura.

### 4.1.3 MOU between KNNL and WUCS

The preparation of four WUCS namely (10 Muddapur, Kalghatta, Malapanagudi and Belgodhal) to enter into MOU with KNNL for water management, O&M, water charges collection was carried out. The preparation includes orientation over the MOU and explained the importance of the MOU to the WUCS members for engaging in water management, obtaining the right to collect water bills, participating in CAD package activities, and finally submitting the MOU printed on the Stamp Paper to the EE office of the 1 TR Division Munirabad with the required documents via the AEE Kamalapura sub division of KNNL. As a result, during the reporting quarter the above mentioned WUCS entered into MoU with KNNL.

### 4.1.4 Selection of Promoters and Opening of Bank Account

As a prerequisite for the formation of WUCS under Karnataka Cooperative Societies Act 1959, after the notification for the WUCS the promoters and chief promoters from the WUCS command area need to be selected for carrying out necessary activities for registration. Thus, CBA were conducted for explaining the role of WUCS and how farmers could participate in the work of modernization of Channel through WUCS. The farmers agreed for formation of WUCS in four cases, and selected the promoters and chief promoters for taking the responsibility for collecting share capital and liaising with CADA for obtaining the permission for opening of bank account.

### 4.1.5 Formation of New WUCS

The CBA at the village level over the formation, benefits and VNC modernization were conducted at the convenience of farmers. As a result, the farmers of Bukkasagara and Hosuru WUCS involved in collection of membership. After fulfilling the collection of membership for registration, i.e. 51% from among farmers in the command area approached CADA for registration. The membership fee in other words the share capital collected is deposited in the bank. The PSC 2 B team prepared the shareholders' list along with the necessary documentation such as the shareholders' list, byelaw copy and share capital & closing balance statement and submitted them to the ARCS CADA Munirabad through AEE KNNL Kamalapura sub division. The status of share capital collection by six of the WUCS which come under four VNC channels is given in Table 28.

Further, three WUCS, namely Kamalapura, 88 Mudalapura and Sanapura, which were notified, submitted the application for registration along with necessary documents to ARCS, TB CADA through AEE KNNL sub division. It is expected that the CADA will certify the registration at the earliest.

Table 28 The Status of Share Capital Collection by the WUCS

Channel Name	Name of WUCS	Notification Area(HA)	Area covered in membership(HA)	Percentage (%)	Amount
Raya	1.Chittavadigi	561.82	0	0	0
	2.Nagenahalli	454.99	103.72	22	28340
Bella	1.Narasapuraa	202.14	52.48	25.96	4485
	2. Hosur	335.76	179.85	53.56	24035
Turtha	1.Kaddirampuraa	418.95	19.14	4.56	1265
Kampli	1.Kampli	296.66	0	0	0

#### 4.1.6 Annual Audit, Annual General Meeting and Elections

The PSC2 B team conducted meetings with 18 WUCS that are with Board functional and persuaded them to conduct the Annual General Body meeting (AGM) before the 25<sup>th</sup> September of every year as per the rules under the Cooperative Act, and to conduct the AGMs regularly. The WUCS of Huligi, Anegundi, Bichal, Amaravathi, Ramasagara and 10 Muddapura conducted AGM wherein the annual income and expenditure for financial year 2021-22 were presented and approval accorded. The other WUCS submitted the request letter for the audit to the Deputy Director of Cooperative Audit in respective jurisdiction at the district level.

In the AGMs, the PSC2 B staff explained the importance of the following: i) water management; ii) signing MOU with KNNL for collection of water charges and for taking up the CAD works in their respective command areas; iii) achieving 100% membership; iv) involving the farmers in the survey of FIC; and v) identifying the site for construction of WUCS office building.

#### 4.1.7 Preparing WUCS for CAD packages

PSC2 B has facilitated the WUCS to prepare themselves for taking up CAD packages and the status of preparedness is presented in the Table 29.

Table 29 Target and Achievement of WUCS Preparedness in VNC command area for CAD packages

Indicators	Total Target	Tasks Completed			Under Progress
		RBC	LBC	Total	
Notification for WUCS formation	29	18	11	29	0
Registered	29	12	11	23	6
Board Functional	29	8	10	18	11
MoU signed	29	8	10	18	11
Water Rate Collection	29	-	3	3	26
WUCS obtained site for WUCS building under CAD civil works	29	3	6	9	20
Walkthrough survey- identification and measurement of FICs and structures	29	-	5	5	24
Target – 29 WUCS <sup>6</sup>					

PSC2 B under took the task of preparing the first document of CAD civil works as also complying to the observations made by ADB. In the process the members of Sangapura WUCS of Anegundi channel, and PIO were involved which build the capacity on CAD packages. The brief of the exercise of preparing CAD packages is given below;

- (i) Preparation of the WUCS profile to take up the CAD package estimates along with WUCS registration copy, MOU copy, audit copy, consent letter of

<sup>6</sup> Entire area of Turtha channel divided in to 2 WUCS within its jurisdiction against initial target of 3, hence the total target reduced from 30 to 29.

approval of CAD estimates, and bank account details.

- (ii) Involving in FIC Survey: Organized the WUCS members of Anegundi and Sangapura to involve in the survey of 4 FIC's CAD package along with concerned KNNL and Engineers and PSC 2.

The details of the CAD packages like preparation, status and CBA are given in exclusive section below.

#### 4.1.8 Convergence with Gram Panchayath:

As part of CBA the convergence with line departments and other institutions is the central element. With respect to Gram Panchayath (GP) Deshanur, Huligi, and Malapanagudi Gram Panchayath were approach for convergence by sanctioning office sites. The GP president and PDO were provided a brief on VNC modernization, the role of WUCS, and requested for allotting space for WUCS office building. After detailed orientation these three WUCS have got allotment of site from the respective GPs.

#### 4.1.9 Assessment of WUCS Status

PSC 2 Part B continues to carry out Assessment of WUCS status which is used as a means to monitor change in the performance of WUCS against select 29 parameters, which revised to 35 parameters. PSC 2 Part B carried out three baseline assessment of WUCS i.e., for QPR1 (end of March), QPR2 (end of June) and QPR3 (end of Sept) of 2022 during the reporting period. The later one becomes the 11<sup>th</sup> baseline assessment carried out in the left bank and 4<sup>th</sup> baseline assessment in the right bank for the quarterly progress reporting as shown in Annexure 1.

During the reporting quarter, it is observed that there is a wide variation and lack uniformity in WUCS development. Few WUCS were past signing MOU stage and few yet to be notified for the formation of WUCS. Egis, with its past experience of working on evolving an effective method of bringing uniform development of WUCS and preparing WUCS to take up CAD civil works is working on effective strategy with clear approach and method.

Based on the findings of the assessment, PSC2 B evolved appropriate result fetching methodology on the various training modules related sustainable PIM to prepare WUCS for (i) Understand the importance of participatory irrigation management principles; (ii) execute/implement CAD package works; (iii) take ownership of irrigation assets and maintain them; (iv) plan for irrigation scheduling and water management post irrigation water management transfer to WUCS from CADA; and (v) perform O&M of all their irrigation assets. Some of the parameters are dynamic since these activities are to be carried out at certain times of the year. Hence, PSC 2 Part B considers these parameters while carrying out strengthening the WUCS through training programs, exposure visits and other events.



#### 4.1.10 WUCS Membership Drive

Membership size is very important for WUCS to enhance the legitimacy of the WUCS. As per the Irrigation Act 2000 (Karnataka Act 16 of 1965) each proposed WUCS must collect membership fee either from farmers of 51% of its command area or 60% of farmers as per the khatedars list.

Most of the WUCS were registered by meeting criteria of minimum 51% area farmers to obtain the membership in the WUCS. However, all farmers as per khatedars list to obtain the membership to reach 100%. While examining the progress following achievements are reported;

Over the past three months, there is an addition of 210 members in the WUCS of the LBC and the increase is 8.16% as compared to previous quarter status. Overall achievement in membership drive is 40%. The WUCS wise analysis on the membership drive shows that Shivapura (59%), Chikkajanthakal (73%), Hirejanthakal (68%) and Hosalli (61%).

As regards the RBC, the increase in membership over the quarter is 1,283 and the percentage increase is 44.36 compared to previous quarter. Overall achievement of RBC WUCS in membership is 28.43%. LBC and RBC WUCS together the total khatedars farmers are 17,125 and among them 4,342 have obtained membership in WUCS during the reporting period and cumulatively 5,675 have obtained membership in WUCS. The total achievement of membership in 29 WUCS in percentage is 33.13%.

Table 30 : Details of farmers and shareholders in LBC WUCS as of 30 September 2022

WUCS Name	Farmers/ khatedars			Shareholders strength 30 June 2022			Shareholders as of as of 30 Sept 2022			% age Achieved
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Huligi	954	78	1032	74	8	82	74	08	82	7.9
Kampasagara	650	99	749	268	42	310	268	42	310	41.4
Shivapura	618	65	683	347	57	404	347	57	404	59.2
Bandiharlapura	462	161	623	144	36	180	170	30	200	32.1
Anegundi	451	137	588	100	22	122	100	22	122	20.7
Sangapura	352	138	490	117	21	138	117	21	138	28.2
Chikkajanthakal	526	167	693	423	83	506	423	83	506	73.0
Danapura2	285	123	408	151	23	174	151	23	174	42.6
Hirejanthakal	346	156	502	130	50	180	270	73	343	68.3
Hosahalli	320	91	411	171	78	249	171	78	249	60.6
Bichal	700	74	774	187	41	228	205	50	255	32.9
Total	5664	1289	6,953	2112	461	2573	2,296	487	2,783	40.0

Table 31 Details of farmers and shareholders in RBC WUCS as of 30 September 2022

WUCS Name	Farmers/ khatedars			Shareholders as of 30 June 2022			Shareholders as of 30 September 2022			% age Achieved
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Deshanuru	607	228	835	224	106	330	224	106	330	39.5
Siruguppa	246	66	312	246	66	312	246	66	312	100.0
Belagodahal	229	124	353	95	53	148	95	53	148	41.9
Sanapura	240	118	358	25	12	37	87	38	125	34.9
Kampli	454	165	619	00	00	00	00	00	00	0.0
10Muddapura	304	161	465	96	42	138	96	44	140	30.1
Ramasagara	410	180	590	170	10	180	145	39	184	31.2
Bukkasagara	285	186	411	00	00	00	153	56	209	50.9
Kaddirapura	305	185	490	00	00	00	55	06	61	12.4
K-Nagenahalli	250	150	400	20	8	28	68	44	112	28.0
Kamalapura	455	178	633	31	9	40	158	39	197	31.1
R-Nagenahalli	371	180	551	1	10	00	84	39	123	22.3
88Mudalapura	673	257	930	13	06	19	164	111	275	29.6
Chittavadigi	720	328	1048	00	00	00	20	05	25	2.4
Malapanagudi	406	170	576	171	83	254	171	83	254	44.1
Narasapura	230	140	370	00	00	00	35	29	64	17.3
Hosur	557	320	877	00	00	00	154	56	210	23.9
Amaravathi	257	97	354	91	32	123	91	32	123	34.7
Total	6,999	3,233	10,172	1,183	437	1,609	2,046	846	2,892	28.43

#### 4.1.11 Elections to WUCS and Board formation

Election of Board members and functioning of WUCS Board is an important stage wherein the WUCS roles and responsibilities are delivered by the Board members along with CEO. As per the WUCS bye-laws there is provision for 13 board members wherein 12 are elected from among the members 6 general categories (1 must be from tail end among general category), 2 women, 2 SC/ST and 2 OBC). The below tables shows that among 29 WUCS which are having how many board members under different category.

Handholding support was provided to the members of two WUCS (Malappanagudi and Kalaghatta) to follow the election procedure, selection of category wise members and arranging officers to conduct the elections. Thus, the total WUCS board established and functioning as of reporting period is 18 WUCS out of total target of 29 and board composition is given in Table 32

Table 32 Strength of women Directors on WUCS Boards as of 30 September 2022

S. No.	Name of WUCS	General	OBC	SC	ST	Women	Total
	Left Bank Channels						
1	Shivapura	6	2	1	1	2	12
2	Bandiharlapura	6	2	1	1	2	12
3	Anegundi	6	2	1	1	2	12
4	Sangapura	5	2	1	1	3	12
5	Chikkajanthakal	6	2	1	-	3	12
6	Danapura 2	6	2	1	1	1	11
7	Hirejanthakal	6	2	1	1	2	12
8	Hosahalli	6	2	-	-	3	11
9	Bichal	5	2	1	1	3	12
10	Huligi	6	2	1	1	2	12
	Right Bank Channels						
1	Siruguppa	6	2	1	1	2	12
2	Deshnuru	5	2	1	1	3	12
3	10 Muddapura	4	2	1	1	4	12
4	Belgodhal	3	2	1	1	5	12
5	Amaravathi	6	2	1	1	2	12
6	Malpanagudi	4	2	1	1	4	12
7	Ramasagara	6	2	1	1	2	12
8	K-Nagenahalli	5	2	1	1	3	12
	Total	97	36	17	16	48	219

PSC 2 Part B is of the understanding that the Karnataka Cooperative Societies Act of 1960 prescribe for minimum 2 women in Board of Directors and do not limit to 2 women. Hence, appropriate strategy is being worked out to promote more than 2 women in WUCS board of directors. As shown in the above table there are 18 WUCS wherein Board is formed having a total of 219 board members. Among them 44% are general category, 16.44% are OBC, 15% are SC/ST and 22% are women. As envisaged under the project there should be a minimum of 30% women in WUCS Board.

With the experience in Tranche 1 Gondi, the PSC2 Part A formed several women subcommittees and motivated them to be involved in all the activities of the project. Gender sensitizing was also done to all the leaders. The result is seen in as many as 8 WUCS Boards having 3 or 4 or even 5 women Directors. However, there is need for the new PSC to interact with the WUCS for increasing the women in Board by inviting the women members under 'D' category as per their by-law so as to ensure the women participation at 30% level.

#### 4.1.12 One-time Functional Grant and its management

Government has made provision for supporting the WUCS by meeting their administrative expenses under one-time functional grant. As of reporting period the one-time functional grant is INR1,200 per ha (farmers contribution 10%, central government share 45% and state government share 45%) which is deposited as fixed deposit in the bank and the interest accrued is used for WUCS expenses. PSC 2 B is carrying out OJB at WUCS level to avail this benefit.

#### 4.1.13 Water Charge Collection

Every registered WUCS after signing the MoU with KNNL is empowered to collect water charges as per the volumetric supply and crop area basis. The WUCS to remit water charge collected to KNNL after retaining their share. PSC2 B carried out intensive motivation program to induce WUCS to engage in water charges collection. The water charges collection constitutes center stage in the development of WUCS and operation and maintenance of irrigation asset (damages from deferred maintenance) at WUCS level. PSC 2 Part B is carrying out total analysis of water bill issued based on the volumetric supply of water and the rate stipulated by the Government. The attempts are being made to obtain the data from various WUCs and KNNL on the water bill given the crop water requirement with the backdrop of lack of measuring gauge. Further, based on the outcome of the analysis, capacity building will be carried out to KNNL, CADA and WUCS to arrive at scientific water bill. The benefits will become an incentive for WUCS and self-motivation to engage in water charges collection.

With regard to water charges collection an attempt is made to prepare water bill based on volumetric supply under presumed crop pattern for 17 WUCS, which is discussed in detail in O&M section in this report. As an impact of capacity building activities some of the WUCS are expressing willingness to collect water charges. In addition, 8 WUCS discussed in their AGM and submitted a letter to respective subdivisions for volumetric bills. Anegundi WUCS in LBC of VNC has passed a resolution in their AGM to collect water charges over and above the government stipulated water charges. The stipulated water charge for paddy is INR100 and banana crop is INR60 per acre, whereas, the WUCS decided to collect INR300 for paddy and banana crop.

As part of capacity building activity the success story of water charges collection of Anegundi WUCS is documented and training material emphasizing the procedure and benefits of water charges collection is prepared. The findings of the analysis carried out for Hosalli WUCS comprising of 320.56 ha show that under mono-crop (used for assessing the workability of existing model of volumetric supply) about INR80,640 is the water bill generated on the basis INR12 per 1000 m<sup>3</sup> and after deductions (INR40/ha, 20% for administrative charges and 2% rebate for in-time remittance) the net payable to KNNL is INR38,868. The total water charges collected on the basis of stipulated water charges over cropped area is INR162,280. The net financial gain from water charges collection is INR123,413 (total collection minus remittance to KNNL).

**ಭತ್ತ ಬಾಳೆಗೆ 300, ಕಬ್ಬಿಗೆ 400 ತೆರಿಗೆ ನೀರು ಬಳಕೆಗೆ ತೆರಿಗೆ ವಿಧಿಸಲು ನಿರ್ಣಯ**



ಗಂಗಾವತಿ ತಾಲ್ಲೂಕಿನ ಆನೆಗೊಂದಿಯಲ್ಲಿ ಮಂಗಳವಾರ ನಡೆದ ನೀರು ಬಳಕೆದಾರರ ಸಂಘದ ಸಭೆ

**ಪ್ರಜಾಪರ್ವ ವಾರ್ತೆ**

**ಗಂಗಾವತಿ ಸೆ20:** ಕೃಷಿ ಚಟುವಟಿಕೆ ಕೈಗೊಳ್ಳಲು ಹಾಗೂ ತೋಟಗಾರಿಕಾ ಬೆಳೆ ಬೆಳೆದುಕೊಳ್ಳಲು ಉಪಯೋಗಿಸುವ ನೀರಿಗೆ ವಾರ್ಷಿಕವಾಗಿ ಪ್ರತಿ ಎಕರೆಗೆ ಭತ್ತ ಬಾಳೆಗೆ ತಲಾ ರೂ. 300 ಹಾಗೂ ಕಬ್ಬಿನ ಬೆಳೆಗೆ 400 ಪಾವತಿಸಲು ರೈತರು ಒಪ್ಪಿಕೊಂಡಿದ್ದಾರೆ. ತಾಲ್ಲೂಕಿನ ಆನೆಗೊಂದಿಯಲ್ಲಿ ಮಂಗಳವಾರ ಆನೆಗೊಂದಿ ನೀರು ಬಳಕೆದಾರರ ಸಂಘದ ಅಧ್ಯಕ್ಷ ಸುದರ್ಶನ ವರ್ಮಾ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ಸಂಘದ ಕಚೇರಿಯಲ್ಲಿ ನೀರು ಬಳಕೆದಾರರ 42ನೇ ವಾರ್ಷಿಕ ಮಹಾಸಭೆ ನಡೆಯಿತು. ಈ ಸಭೆಯಲ್ಲಿ ಪ್ರತಿ ಎಕರೆಗೆ

ಪರಿಷ್ಕರ ಧರ ಪ್ರಕಟಿಸಲಾಯಿತು. ಇದಕ್ಕೆ ರೈತರು ಒಪ್ಪಿಗೆ ಸೂಚಿಸಿದರು. ಸಂಗ್ರಹವಾಗುವ ತೆರಿಗೆ ಹಣವನ್ನು ರೈತರ ಅನುಕೂಲಕ್ಕೆ ಮರುಬಳಕೆ ಮಾಡುವ ಬಗ್ಗೆ ಸಭೆಯಲ್ಲಿ ಚರ್ಚೆ ಮಾಡಲಾಯಿತು. 2020-21ನೇ ಸಾಲಿನಿಂದಲೇ ಈ ತೆರಿಗೆ ಅನ್ವಯಿಸಲಿದ್ದು ಎಲ್ಲ ರೂ ಪಾವತಿಸುವಂತೆ ಮನವಿ ಮಾಡಲಾಯಿತು. ಬಹುತೇಕರ ರೈತರು ಹಿಂಗಾರು ಮತ್ತು ಮುಂಗಾರು ಬೆಳೆಗಳ ತೆರಿಗೆ ಪಾವತಿಗೆ ಒಪ್ಪಿಗೆ ಸೂಚಿಸಿದರು. 2021-21ನೇ ಸಾಲಿನ ವರದಿ ವಾಚನ ಮಾಡಲಾಯಿತು. ಸಂಘದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ರೈತರ ಗಡಿ ಭಾಗದ ಸಮಸ್ಯೆ ಎದುರಾದಲ್ಲಿ ಪರಸ್ಪರ ಒಪ್ಪಿಗೆ

ಆಧಾರದಲ್ಲಿ ಸಮಸ್ಯೆ ಇತ್ಯರ್ಥ ಪಡಿಸಿಕೊಳ್ಳುವ ಬಗ್ಗೆ ಆದ್ಯತೆ ನೀಡಲಾಯಿತು. ಸಂಘದಲ್ಲಿ ಮಹಿಳಾ ರೈತರ ಸಂಖ್ಯೆ ಹೆಚ್ಚಿಸಲು ಗುರಿ ನಿಗದಿ ಮಾಡಿಕೊಳ್ಳಲಾಯಿತು. ಈ ಸಂದರ್ಭದಲ್ಲಿ ಉಪಾಧ್ಯಕ್ಷ ಎಸ್.ವಿ. ರಾಮರಾವ್, ಕಾರ್ಯದರ್ಶಿ ಸಿದ್ದಯ್ಯ ಹಿರೇಮಠ, ಮಾಜಿ ಉಪಾಧ್ಯಕ್ಷ ಮಹಬೂಬ್ ಹುಸೇನ್, ಚಂದ್ರಶೇಖರ ಭತ್ತದ, ನಾಗೇಶ ಮೆಟ್ಟಿ, ಅಂಜನಪ್ಪ ಅಂಬಿಗೇರಿ, ಶ್ರೀನಿವಾಸ ಕೊರಮ್ಮ ಕ್ಯಾಂಪ್, ಕೋಟೇಶ ಆನೆಗೊಂದಿ, ರಮೇಶ ಕಲ್ಯಾಣಕರ, ನಾಗೇಶ ಮೆಟ್ಟಿ, ಈರಯ್ಯ ಶೆಟ್ಟಿ ಇಲ್ಲೂರು, ಗ್ರಾಮ ಪಂಚಾಯತಿ ಸದಸ್ಯ ಮಲ್ಲಿಕಾರ್ಜುನ ಹಿರೇ ಮಠ ಇದ್ದರು.

Three WUCS, namely, Bandiharlapura, Shivapura and Anegundi WUCS started collecting water charges from Kharif 2021 and 86 members paid INR25,250. The WUCS wise details of farmers paid water charges are detailed in *Table 33*.

Table 33 WUCS wise details of farmers paid water charges as of 30 September 2022

WUCS Name	No of Farmers/khatedars paid upto previous quarter				No of Farmers/khatedars paid upto during reporting quarter				No of Farmers/khatedars paid- Cumulative			
	Male	Female	Total	Amount (INR)	Male	Female	Total	Amount (INR)	Male	Female	Total	Amount (INR)
Left Bank												
Shivapura	02	00	2	750	00	00	00	00	2	0	2	750
Bandiharlapura	7	2	9	2,100	00	00	00	00	7	2	9	2,100
Anegundi	65	10	75	22,400	00	00	00	00	65	10	75	22,400
Total	74	12	86	25,250	00	00	00	00	74	12	86	25,250

**4.1.14 Annual Maintenance Grant**

Annual maintenance grants of INR1 lakh given by the government to functioning WUCS for

operation and maintenance of FICs. The details of WUCS received this grant in the left and right bank are given in the *Table 34*. As the table reveals in the year 2020-21 seven WUCS have received maintenance grant and in the year 2021-22 seven WUCS have received.

*Table 34 WUCS wise details of farmers paid water charges as of 30 September 2022*

WUCS Name	2020-21	Amount	2021-22	Amount
Left Bank				
Shivapura	Received	100,000	Received	100,000
Bandiharlapura	Received	100,000	Received	100,000
Anegundi	Received	100,000	Not Received	0
Sangapura	Received	100,000	Not Received	0
Hirejanthakal	Not Received	0	Received	100,000
Hosalli	Received	100,000	Not Received	0
Chikkajanthakal	Received	100,000	Not Received	0
Danapura-2	Not Received	0	Received	100,000
Bichali	Received	100,000	Received	100,000
Right Bank				
Ramasagar	Not Received	0	Received	100,000
Amaravathi	Not Received	0	Received	100,000
Total	7 WUCS	700,000	7 WUCS	700,000

## 4.2 WUCS strengthening activity

### 4.2.1 Strengthening the Institutional Capabilities of WUCS

The objective of the capacity building strategy is to ensure that the stakeholders are well equipped with the required knowledge and skills, and have positive attitude to discharge their roles and responsibilities in the attainment of project objectives. The component cuts across all thematic areas.

The comprehensive capacity building proposal comprises the following five key areas:

- a) *Institutional strengthening of WUCS*: This aspect also includes achieving at least 30% women participation in all activities such as WUCS meetings, WUCS board membership and in project level federation to be formed.
- b) *Enhancing skills of WUCS* in planning and execution of CAD works, and participatory irrigation management; role of women will be enhanced both in decision making and in execution.
- c) *Enhancing knowledge and awareness about environment and social safeguards for proper execution and management of modernization activities that the WUCS undertake.*
- d) *Farmers adopting sustainable agricultural practices and income generation activities to contribute towards water use efficiency and increase of agrarian income.*
- e) *Promoting/strengthening the Federation of WUCS at Vijayanagara Channels Irrigation*

*System level (project level) so that WUCS and Federation together continue to take care of the operation and management of Channels handed over to them.*

#### 4.2.2 Progress of WUCS capacity building activities

A review of capacity building activities encompassing CB need assessment, trainings/events conducted, training modules, training materials, method and approach to draw road map for effective CB program. PSC 2 Part B along with PIO started discussing the effective way of achieving uniform development of WUCS in VNC without compromising the quality of CB activities. Further, series of inhouse brainstorming sessions were held and evolved effective approach to achieve uniform and sustainable WUCS. A substantial amount of time was spent in understanding the past works under this portfolio, the need for the different modules proposed in TOR and how best the same can be organized and conducted to suit the current requirements in the given timeframe of 27 months. Following are the findings of the exercise:

1. Capacity building of farmer organizations (WUCS) and the irrigation agency (KNNL and CADA) being the cornerstone of the project, training and exposure activities were conducted by the PSC 2 Part A and many more are proposed vide the ToR for Tranche 2 B.
2. Capacity building activities under the KISWRMIP started during 2017 under Tranche 1 and with the experience over the years it has evolved various modules for the Tranche 2<sup>7</sup>.

In addition, an induction training programme for the newly-recruited SST staff were provided during the reporting quarter and shared three handbills (draft) and various project documents as reference materials.

Further, field visits and interactions with the WUCS, farmers and women were made and many gaps were identified in the area of capacity Building, and are summarized as follows:

- i. Need for increased number of On-job method of events in CBA
- ii. Develop tools like Work Book and WUCS Self-Assessment

PSC 2 Part B propose to adopt some of the effective tools like Work Book, WUCS performance self-assessment, mobile technology as interface for decision making at various levels of irrigation system, etc., along with the existing list of CB modules as given in PSC 2 Terms of Reference. Further, the GMIS will be developed to enable mobile technology for effective implementation and progress monitoring of CAD civil works.

#### 4.2.3 Work Books for WUCS

Work book refers to the formats that contain the process steps, the sequence of activities and the formats for preparation of action plans for the WUCS. These Work Books are

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<sup>7</sup> Tr2 VNC APR Jan-Dec 2021

developed and circulated for the WUCS for guiding them in management of irrigation projects.

The activities that are covered in the Work Book are:

- ✚ Water indenting as per crop plan
- ✚ Area irrigated assessment
- ✚ Volumetric supply, water rates and water charges collection and balance.
- ✚ Remittance and utilisation
- ✚ Operation & Maintenance Action Plan
- ✚ Social Auditing of O&M works

The training of the WUCS will be carried out using these Work Books in which representatives of WUCS are trained in actual filling up the formats and prepare seasonal plan at primary and project level.

#### 4.2.4 WUCS Self-Assessment Tool

The tool is to monitor the status of the WUCS by WUCS members themselves on four main parameters covering 15 indicators. These four include Participation & Dialogue, Performance, Self-Management and Innovation and Technology adoption. In addition, Rating Format for Assessing WUCS performance and analysis of the same will be carried out by PSC2 and present with the help of maps.

WALMI will be roped in Work Book exercise and the same could be adopted for CBA of WUCS and federations at State level.

It is proposed to form and strengthen 29 WUCS and a Project level federation under the VNC. The formation and strengthening of WUCS are at different stages and there is a wide variation among the WUCS in terms of their status and capacities; elections to the Board, signing of MoU with KNNL, their involvement in water charge collection and planning and implementation of CAD packages (identification of sites for office building, etc.).

The delivery of quality capacity building activities requires lots of preparation in terms of training materials and also assessing the existing infrastructure facilities available across the command area of 16 VNC channels. Some of the preparations accomplished during reporting quarter are as follows;

- i. A set of formats (format 1 to 9) for WUCS strengthening has been developed which will be used as base formats for collecting and compiling WUCS level progress data and the same will be useful for the WUCS to reflect their progress back and also these formats will be used as feed in preparing progress reports – monthly and quarterly. (Annexure 2)
- ii. A *Jatha (Procession)* is planned all along the Bella channel for creating project awareness including farmers participation in CAD works, operation and maintenance, etc., which is ready to take up anytime.
- iii. A draft schedule is prepared for an exposure visit to Gondi project by VNC WUCS farmers to see the CAD works and all other activities implemented and its impacts under the Tranche 1 at Gondi Irrigation systems command area.



- iv. A draft list of resource persons for classroom training on various themes/contents/ subjects is prepared, which may require updating from time to time (Annexure 7)
- v. A draft list of resource persons (model farmers and micro-entrepreneurs with positive experience) for various exposure visits on PIM, sustainable agriculture practices, etc. was prepared for the exposure visit within the project area, outside the project area but within the state and also outside the state.
- vi. Training materials and draft schedule is prepared for modules under community level project awareness; under module for the Line Departments on project awareness, GAP, convergence and dovetailing of government schemes.

## 5. Command Area Development Works

### 5.1 CAD Package Works

Modernization of main Channels and the distributaries work is awarded by KNNL to a civil contractor through a bidding process. However, to make WUCS a long-term partner in the management of Channels and ensure sustainable maintenance of the irrigation assets created under the VNC project, the KISWRMIP has made a provision to award 'CAD package works' directly to WUCS comprising lining of the field irrigation channels and construction of appurtenant minor structures, WUCS office building, procuring furniture and O&M tool kit. There is an allocation of US\$ 17.61 that amounts to INR134.29 Cr considering the exchange rate of INR 76 per US\$ for CAD package works.

PSC 2 Part B is building on the current status of CAD civil works. It is reported that between January and September 2021 PSC tried to coordinate with Tungabhadra Command Area Development Authority (TB CADA) and KNNL to initiate the CAD works but not much was possible as TB CADA do not have adequate engineering staff to estimate, design and supervise the civil works under CAD packages. Finally, KNNL convinced the WRD ministry, GoK to consider the above fact and issue government order to carry out FIC works by Nigam Engineers. Considering the difficulties in CAD to carry out the FIC works, the WRD ministry approved the same on 20 September 2021 to implement the CAD works across the State.

In the meanwhile, PSC motivated the WUCS to possess land in the name of the WUCS for the construction of WUCS office building. As given in *Table 35* six of the left bank WUCS and three of the right bank WUCS have obtained land in the name of the WUCS.

*Table 35 List of WUCS possessed sites for office building as of 30 September 2022*

S. No.	Name of WUCS	Status	Size (feet)
1.	Bichal	Approved by concerned GP	40x50
2.	Hosalli	Approved by Gram Panchayat	16x75
3.	Chikkajanthakal	Approved by Gram Panchayat	24x30
4.	Sangapura	Approved by Gram Panchayat	39x36
5.	Bandiharlapura	Approved by Gram Panchayat	70x70
6.	Malappanagudi	Approved by Gram Panchayat	45x55
7.	10 Muddapura	Approved by KNNL	15x30
8.	Huligi	Approved by Gram Panchayat	63x94
9.	Deshanur	Approved by Gram Panchayat	30x40
10.	Anegundi	Approval pending in GP	-
11.	Danapur-2	Approval pending in GP	-
12.	Hirejantkal	Approval pending in GP	-
13.	Belagodahal	Approval pending in GP	-

### 5.1.1 ADB Observations on First Document

To facilitate the speedy execution of CAD packages PSC 2 Part A finalized the building plan, design and estimate of Sangapura WUCS as a model and got it approved by KNNL and the same was sent to ADB for approval so that all six buildings could be taken up after ADB approval. In this regard, ADB made observations in their email dated 10 February 2022 as follows:

1. The approved procurement plan (PP) dated 2 August 2021 provisions procurement of works through community participation (CPP) packages for command area development works (minimum 10 packages per WUCS) for at least 10 contracts each for 30 water user groups with individual contract costing no more than \$30000. Accordingly, it is suggested to keep the contract size within the provisions under the PP.
2. Please note as per procurement plan CPP packages are under Post review (Sampling). Therefore, we would suggest you share all relevant documents such as design specifications, site plans, BOQs, schedule of construction etc. for a sample review of the first document.
3. We note that the submitted draft document is a contract between the two parties 'Chief Engineer, PIO ICZ Munirabad' and 'Sangapura WUCS, Gangavathi Taluk, Koppal District. Please clarify whether it is MOU or a contract. It envisages advance payment of 15% of the contract price for mobilization. If it is a contract, whether any security deposit is envisaged while releasing the advance payment.
4. Please clarify on the hand-holding support from the PIU on the implementation activities, role of the PSC-2 and ADB guidelines on social safeguards and enforcement labour laws.
5. If WUCS equated as contractor, please clarify on the asset ownership and the role of PIU after the works are complete, especially for the operation and maintenance of the asset.

The PSC 2 Part B prepared a first document for taking up CAD packages in Sangapura WUCS, which is submitted on 5 August to ADB through PIO and PMU for approval. The CAD package works will be taken up after obtaining approval from ADB over the detailed design estimates, contractual arrangements with WUCS, etc. in line with the observations made by ADB dated 10 February 2022, enlisted above.

The PSC 2 B undertook the task of preparing the first document over CAD civil works afresh which include compliance to the observations made by the ADB. The exercise was carried out in Sangapura WUCS in Anegundi Channel in Left Bank.

### 5.1.2 Salient Features of CAD package

- i. WUCS office building
- ii. FIC and appurtenant structures
- iii. Walkthrough survey for identification of works by WUCS, PIO and PSC 2

- iv. Preparation of estimation
- v. WUCS CBA over CDA packages
- vi. Direct contracting through MOU
- vii. Each package cap of US \$ 30,000
- viii. At least 10 package each for 30 WUCS and there could be more than 10 packages for each WUCS

## 5.2 Model First Document

A village level orientation program was held with the representatives of WUCS, farmers and PIO covering topics such as CAD civil works, roles and responsibilities of WUCS and others, various activities to be carried out and the methodology to be followed for the same.

A survey work for WUCS office building and FIC for PO-54, PO-55, PO-56 and PO-57 under CAD work at Sangapura was carried out through walkthrough survey in which WUCS representatives and farmers of Sangapura, PIO and PSC 2 B participated. During the survey, farmers walked along with the team and identified the structures required on the FICs.

Field Visit to survey work for building (Package-1) and FIC for PO-54, PO-55, PO-56 and PO-57 under CAD work at Sangapura. Meeting with WUCS representatives and farmers of Sangapura for discussing their issues regarding CAD work under PSC 2 Part B.

PSC 2 Part B along with PIO prepared the following documents (as sample documents) for initiating CAD related civil works to get approval from PMU and ADB;

1. Model Memorandum of Understanding between KNNL and WUCS to carry out CAD civil works (Building and FIC and appurtenant structures)
2. General and special technical specifications
3. Bills of Quantity detailing all the components of the works and all items of equipment supplies and installation
4. Drawings as necessary
5. Safeguard measures
6. Handholding by PIO and PSC 2
7. Asset Management, post completion of civil works

An exclusive workshop/event was organized by PSC 2 Part B for the WUCS and PIO officers to stress upon CAD civil works. The eligibility criteria to undertake the CAD civil works were best explained to the representatives of the WUCS. As a result, some of the WUCS representatives have identified the place for WUCS building and started the work to fulfill the eligibility criteria. The proceedings of the workshop is given in Annexure 9.

## 5.3 Walk through Survey

PSC 2 B undertook the assessment of WUCS wise Direct Pipe Outlet (DPOs) and the findings show that there are 920 DPOs in entire VNC area. The survey of field irrigation canals and appurtenant structures carried out through walkthrough survey during the reporting period is presented in the Table 36.

Table 36 Status of Walkthrough Survey conducted as on 30 September 2022

S. No	Channel Name	WUCS Name	Total PO/DPO	Survey completed	Balance
1	Anegundi	Vijayanagar	63	20	43
		Sangapur	22	22	00
2	Bichal	Bichal	60	60	00
3	Huligi	Huligi	33	3	30
4	Shivapur	Bandiharlapura	22	22	00
Total			200	127	73



### 5.3.1 Estimation

A detailed estimation based on the schedule of rates (SoR) of Government of Karnataka was carried out by the PIO and PSC 2 B in line with the provisions of the ADB guidelines including the limitations of the size of the package i.e., not more than US\$ 30,000 per package. The detailed project report for CAD civil works for building and FICs and appurtenant structures include design drawings of WUCS building, Site Plan and BoQs for WUCS building, schedule of construction and total cost estimates.

### 5.3.2 MOU for Works

A thorough review of all forms of contractual arrangements possible to entrust the task of executing the CAD civil works to WUCSs was carried out considering various factors notably the WUCS as Community Per Se, financial background of WUCS, simplified yet enforceable agreement, to expedite the execution in the available time frame.

PSC 2 B was of the view that Memorandum of Understanding is best suited which smoothens the process of execution. Hence, it drafted the MOU with clear description of the work, clearly defined roles and responsibilities, technical features, payment schedule and other terms and conditions, as applicable, for executing the works. The same was shared with the PIO and finalized and sent to the PMU and subsequently submitted to ADB.

### 5.3.3 Documents for CAD Package

The Executive Engineer, PIO and WUCS with the assistance of PSC 2 B shall ensure that

each CAD package contain the list of documents namely,

- Covering Letter signed by the President of WUCS
- Original MOU Document for CAD package
- Channel alignment Map
- Copy of Design drawings
- Site Plan, BOQs, Cost estimates and Schedule of Construction
- Copy of Possession Certificate of the site for WUCS building issued by the Gram Panchayat or any other agency or individual,
- Valid MOU for Water Management and O&M, Audit Report and
- Resolution passed by the WUCS.

#### 5.3.4 WUCS eligibility

The MOU for execution of CAD packages shall be entered with WUCS in VNC jurisdiction that fulfill eligibility criteria. Prior to signing the MOU, the Executive Engineer shall ensure documents from the WUCS namely

- Copy of the Registration Certificate
- MOU signed with KNNL over water management and O&M
- Previous year's Audit Report
- Dedicated Bank account in a Nationalised Bank for CAD packages
- Appointed CEO
- The details of the general body meetings held
- PAN card, GST Number, TAN CARD, etc.

#### 5.3.5 Procurement Manual

As desired by ADB, PSC 2 B prepared brief Procurement Manual encompassing Procurement Plan and Post Review for approval of CAD Package program as given in Annexure 12. The same was discussed with the PIO and PMU and it is learnt that the draft version is submitted to ADB.

#### 5.3.6 Readiness for CAD Packages

PSC 2 B decided the readiness for executing CAD packages as follows

- Thorough 'Walkthrough Survey' with WUCS and PIO
- Geo tag of the locations of survey conducted for WUCS building and FICs and structures
- CB Activities for CAD packages (Workshop at Project Level, WUCS Level and Gram Panchayat)
- Convergence with the Gram Panchayat and other line departments over CAD packages
- Facilitate WUCS to obtain sites from GP and other agencies
- Preparation of Estimation of the same
- Facilitate WUCS to fulfil satisfy the eligibility criteria like Registration, Constitution of Board, MOU for Water Management and O&M signed.

#### 5.4 Preparedness of WUCS for Implementing CAD Packages

The capacity building under institutional strengthening is required for formation and

strengthening of WUCS that are prepared for participation in the project, especially for the planning and implementation of CAD packages, operation and maintenance of Channel irrigation system in their respective command areas with the principles of efficient use of water and self-sustained method of operation and maintenance. The preparedness of WUCS for taking up CAD package itself has to undergo several processes under different stages as detailed below.

1. Notification: WUCS boundary fixing, preparation of WUCS command area map and list of *khatedars* (land title holders).
2. Registration: Notification completed by SE, KNNL, SE, KNNL inform to LDO-Cooperative/ARCS, TB CADA and in turn LDO-Cooperative/ARCS CADA inform the command area farmers to form Promoters Committee, open a bank account (suspense account) in DCC Bank and collection of membership/shares from (51% of the area or 60% of the khatedars) farmers within the jurisdiction of WUCS, open remit the share amount in the Bank account and request the TB CADA to register the WUCS
3. Board Functional – WUCS must be registered by the concerned ARCS and inform the WUCS Board election authority to conduct election for the WUCS board including office bearers such as President and Vice-President, Cooperative election authority conduct the election and declare forming the WUCS board.
4. MoU signed – Board must be functional, Board must appoint a CEO, change the suspense account to operative account in the bank, WUCS submit the application to AEE for signing MoU with all required document and MoU signed between concerned EE and WUCS of the jurisdiction.
5. Revival of Defunct WUCS – WUCS members conduct *Grama Sabha* and submit a letter to ARCS with an intention to revival, ARCS inform WUCS members to appoint a CEO, who gets the WUCS accounts audited by the Coop Audit Department and inform ARCS after completion of Audit with a copy of Audited report, ARCS writes to KCEA at district level to conduct election for constitution of WUCS Board, KCEA appoint an election /returning officer, returning officer conducts election and declare the constitution of WUCS Board, which become functional.

The WUCS are at various stages of institutionalizing—starting from notification of WUCS formation to registration to finally obtaining a site for WUCS building. Table 37 shows the current status with regard to various progress involved in the formalization of the WUCS. The WUCS to participate in the CAD packages should have completed all the steps up to signing of the MoU. Further, it also shows the progress made under on site walkthrough survey for planning of CAD packages.

As of reporting quarter 43 capacity building activities are organized with the participation of 667 male (96%) and 28 female (4%), totaling 695 participants

Table 37 Progress of Capacity Building Activities as of 30 September 2022

Module No.	Item	Trainings/ events as per ToR (Nos/days)	Progress Jul-Sept 2022			
			Trainings/ Events	Male	Female	Total
1.0	<i>Training Programs on: Institutional Strengthening (WUCS)</i>					
1.1	Village level orientation programs: a) project awareness, components/activities b) importance of farmers' participation; c) women's empowerment & participation; d) federative approach of institution building; e) modernization works, social and environmental safeguards.	60	22	295	5	300
1.2	Acts (PIM & Cooperation), Administration, Byelaws, Roles and responsibilities of WUCS	22	0	0	0	0
1.3	Accounts & Book-keeping, statutory requirements and documentation including hands-on-training at WUCS level	10	0	0	0	0
1.4	Work Book, Water Audit and crop planning, volumetric supply and revenue generation and Warabandi (Rotational Water Supply) for 3 seasons.	0	0	0	0	0
1.5	WUCS Self-Assessment: tool, performance analysis and participatory Action Plan preparation and Implementation for 3 seasons in 28 WUCS	0	0	0	0	0
1.6	Livelihood Activities: Convergence & dovetailing with Govt. Schemes (Agriculture, Horticulture, Universities, Rural Sanitation, KVK, Women and Child Welfare, Social Justice, etc.)	56	0	0	0	0
	<i>Total of 1.0 Institutional Strengthening</i>	148	22	295	5	300
2.0	<i>Thematic: Irrigation, water management and safeguards</i>					
2.1	IWRM and Participatory Irrigation Management and Participatory Irrigation Management	40	0	0	0	0
2.2	Quality Assurance in Civil Works and CAD packages	00	0	0	0	0
2.3	Improve the knowledge of relevant government departments on GAP approaches in agriculture, irrigation, and water resource management	00	1	7	0	7
2.4	Construction Management of Main Channels and Canal Pollution: Awareness and mitigation aspects including safeguards monitoring (Mitigation measures including role of different stakeholders-the module may converge under Swachha Bharath at the village/school level)	00	0	0	0	0
2.5	CAD civil works (concept, technical and safeguards components of Building, FICs and appurtenant structures and	32	17	231	12	243



	Furnitures')					
2.6	Gender Mainstreaming (Gender Action Plan, Women Subcommittees, WUCS gender orientation, Women in Irrigation Water management, Women role and participation in Federation, training on leadership and empowerment for Women office bearers, women's equal rights, etc.)	50	0	0	0	0
2.7	Social and Environment safeguard aspects, Sensitization on Safeguards requirements in construction in Heritage area and Otter Conservation area	23	0	0	0	0
2.8	1. Project Information Management through MIS – training for use of updated version (PMIS, PPMS and Mobile Apps and WhatsApp group management); 2. Asset management through GIS app	12	0	0	0	0
2.9	Improving Water Use Efficiency and Water Productivity, and Agricultural Water Management	0	0	0	0	0
2.10	Irrigation Water Management (irrigation water scheduling to meet crop water requirement, deficit irrigation, use of efficient irrigation technologies and other methods for on farm water management, improving conveyance efficiency, etc.).	54	0	0	0	0
2.11	Operation and Maintenance of Canals: Historical perspective of VNC canals, Operation and Management of Canals in different regimes (Feudal, Government and WUCS under PIM)	30	0	0	0	0
2.12	MOU – Management Transfer: Preparation of WUCS and Operation and Maintenance of Canals post Management Transfer.	12	3	76	11	87
2.13	Convergence and Dovetailing of Line Department Schemes: Project orientation, PIM, GAP and Exploration of schemes for convergence and dovetailing (including water charge collection, etc.)	0	0	0	0	0
	<i>Total of 2.0 IWM &amp; Safeguards</i>	256	21	314	23	337
3.0	<i>Thematic: Sustainable Agriculture and Livelihoods</i>					
3.1	Training and Demonstration: Crop and water management (crops with high water use efficiency, mixed cropping, inter-cropping, soil management, mulching, intercropping, field drainage, etc.).	28	0	0	0	0
3.2	Training and Demonstration: Promotion of organic farming and traditional practices (organic manure, bio-pesticide, soil health management, seed treatment, etc.)	28	0	0	0	0
3.3	Formation of organic groups and certification	28	0	0	0	0
3.4	Value addition and market linkages	28	0	0	0	0
3.5	Livelihood training for landless women and women from economically weaker sections	6	0	0	0	0
	<i>Total of 3.0 SAP and Livelihoods</i>	118	0	0	0	0
4.0	<i>Promoting Project Level WUCS Federation</i>					
4.1	Federation(s)-Formation, Roles and Responsibilities, long term institutional sustainability, etc.	12	0	0	0	0

4.2	Training on Federation Bye Laws writing, wetting and approval in the Federation AGM followed with registration processes	6		0	0	0	0
4.3	Training on Federation Functioning – Role of Federation in Main Canal works, CAD packages, Conflict Resolution, Irrigation Water Management, Asset Management, etc.	14		0	0	0	0
	<i>Total of 4.0 Project Level Federation</i>	32		0	0	0	0
5.0	<i>Exposure visits</i>						
5.1	Exposure visit to successful institutional models for irrigation water management/ projects on Organic Farming, Sustainable Agriculture, and Marketing within Karnataka	20		0	0	0	0
5.2	Exposure visit to successful irrigation, water related and institutional models/ projects on Organic Farming, Sustainable Agriculture, and Marketing outside Karnataka	6		0	0	0	0
	<i>Total of 5.0 Exposure visits</i>	26		0	0	0	0
	<i>Grand Total (Totals of 1.0+2.0+3.0+4.0+5.0)</i>	580		43	609	28	637

### 5.5 Strengthening the Capability of WRD/KNNL/CADA Officials

Subsequent to a meeting held by the EGIS team with the officials of KNNL on August 11, 2022, it was decided to organize a one-day training programme for the officials of KNNL and CADA (Command Area Development Authority) on construction management and quality assurance. The schedule plan and training materials is ready.

## 6. Development of Indicators for Irrigation Performance Assessment

Equity in water allocation across outlets (POs) within the same channel, and between channels has been an issue in the VNC, given the poor water control. However, with modernization of the old open channels with lining, and the anicuts, this problem of inequitable water distribution is likely to be mitigated, with reduced seepage losses in the Channel, with better regulation of water flows and with strong local institutions in the form of WUCS for irrigation water management. During the reporting period, the team worked on developing indicators for irrigation performance assessment, with focus on equity. Significant progress has already been made. For this, good amount of internationally published literature have been reviewed, including those from Food and Agriculture Organization (FAO) and International Water Management Institute (IWMI). The index once developed will help the agency in assessing the performance of the Channel-based irrigation systems in Karnataka, and therefore will contribute to their long-term institutional capability building. The basic premises on which the indicators will be developed are discussed below.

The indicators for monitoring equity in water distribution can be estimated by considering the volume of water delivered to the field, against the following key variables: average water requirement per unit area of land for the design cropping pattern; the variation in cultivable landholding size of farmers in the command area; the variation in access to alternative sources of water amongst the farmers; and variation in the design cropping pattern. Indicators will be developed for measuring equity in water distribution amongst farmers below a sluice; and amongst commands of different outlets.

Defining equity in water distribution in the context of irrigated areas involve complex considerations, because of the variation in cropping pattern and size of the landholding of the individual farmers within the command area, the differential access of the farmers to alternate irrigation facilities like wells and tanks, and the complex nature of the hydraulic systems involved in water distribution with implications for the quantum of water delivered to farmers in different areas across the system.

It is quite possible that some farmers take up crops which are water-intensive in larger area than some others. This doesn't mean that those farmers will be entitled for more water. So long as it is feasible for the farmers to adopt the suggested cropping pattern, such deviations from the design cropping pattern should be at farmers' own risk. This should be an important consideration for analyzing equity. The cropping pattern variation can be considered in water allocation decisions only if the agro-ecological conditions necessitate going for a different cropping pattern than what has been prescribed. Normally, such situations do not arise in small command areas (like in the case of VNCs), and can happen in large irrigation systems when comparison is to be made between command areas of two Channels which off-take from the same system.

Though the water allocation for a unit area of land can be decided on the basis of the design cropping pattern and all farmers can be made to adhere to this, there are inherent differences in landholding size and access to alternate sources of water, which should be considered while analyzing access equity.

Equity also needs to be assessed at various scales in the hydraulic system, i.e., from the level of farmers' plot to the outlet (sluice) level. This is because it is quite likely that farmers under one outlet (generally at the head reach) gets adequate amount of water to meet their irrigation requirements, while farmers under another outlet (generally at the tail end) are left

out. However, the volume of water delivered is an important variable to be considered for assessing the degree of equity, and the volumetric measurement is done only at the level of the main outlet. For lower scales, different indicators need to be employed for monitoring equity in Channel water distribution.

### 6.1 Establishing Robust Operational Practices for PIM

The operational practices in participatory irrigation management are as follows: developing a proposal for setting up PIM cell in the CADA of PIO, with organizational structure, mandate, functions, funding arrangement; and, describing the steps for the Design Cell to carry out process monitoring, outcome monitoring and performance auditing of the WUCS.

For participatory irrigation management system to be operationalized on the ground, it is important to institutionalize it. The departmental engineers at the PIO who are responsible for project execution have a different kind of orientation and have different priorities. A separate cell will have to be set up within the PIOs to do the handholding of the WUCS, with an administrative set up, rules and procedures, and policies (HR and finance) that provide a favourable institutional environment for the Cell to function.

Such a cell should have professionals who are trained in community development work and possess social engineering skills. The cell should also have professionals who are conversant with policies and practices that are needed to promote farmer participation in irrigation management. The cell can then take up the following: i) training programmes to build the capacities of the WUCS to perform their tasks effectively and efficiently; and ii) activities to organize farmer organizations in new areas.

The Cell will have to hire training and communication professionals as full-time staff for coordinating preparation of training materials and planning and organizing training programmes. It should also be able to invite resource persons for conducting regular training events. These activities are different from the routine activities performed by the officials of the water resources department, and would require new sets of rules to enable them do these. The Cell should also be able to carry out appraisal of the modernization and rehabilitation proposals from the WUCS, and come up with DPRs for the FIC improvement and other modernization works. It should also be able to undertake performance audit of the WUCS once in three to five years.

One of the operational practices that the Cell can adopt for promoting PIM is regular monitoring of the performance of farmer organizations to understand how they are evolving over time, and enable adequate support to the farmer organizations that are performing. The performance monitoring can be taken up by the design cell. The institutional performance monitoring can include two main areas: i) process monitoring; and, ii) outcome monitoring.

Process monitoring can look at: the internal systems and processes that the WUCs and their federation put in place to bring accountability and transparency, such as holding of regular meetings; election of the executive committee and other office bearers; preparing minutes of the meetings and getting them approved, statutory compliances including auditing of the financial transactions carried out by them.

Outcome monitoring will involve assessing the various activities undertaken by the WUCS and their federation vis-à-vis quantity and quality. In that respect, the following activities can be considered: the plans for modernization work that were prepared by the WUCS; number

of capacity building and technical training programmes conducted by the WUCs; the scale of infrastructure improvement measures taken up by them; and the physical and socioeconomic impacts of the interventions. The physical and socioeconomic impacts can cover the change in area irrigated, changes in yield, water use efficiency (kg/m<sup>3</sup> and Rs/m<sup>3</sup>), net income from crops grown and degree of equity in water distribution in the command of the WUCS.

The PIO assisted by the PSC 2 B in preparing a manual that would describe the following: i) the constitution of the cell; ii) its administrative, management and governance structure; iii) the key functions; iv) the types of rules and regulations and the financial and HR policies required for the cell to function smoothly, with least dependence on the parent organization (i.e., the WRD); v) the objectives, the strategies for achieving them; and, vi) list the key activities of the cell; and, vii) the amount of resources required by the cell annually for providing the requisite financial support to the WUCS.

## 7. Promoting Sustainable Agriculture

The PSC2 B reviewed in depth the sustainable agriculture activities planned and implemented by the PSC2 A. During Jan 2020 to Dec 2021, the PSC2 A has promoted three key components under the Sustainable Agricultural activity. Those are (i) System of Rice Intensification (ii) Sustainable Sugarcane Initiative, and (iii) On farm conservation of traditional rice varieties. The number of farmers covered under these activities are as follows;

1. Organic sugarcane growing initiative - 15 farmers<sup>8</sup> grown in total of 21 acres of land.
2. Revival of 17 traditional paddy varieties through organic farming methods by 44 farmers during kharif 2021 in total of 40.0 acres.<sup>9</sup>
3. Establishment of Community Seed Bank (2 numbers) - one in right bank (Nagenahalli) and another in left bank (Chikkajanthakal) for conservation of traditional seeds varieties.
4. Revival of traditional 64 seed varieties<sup>10</sup> through in-situ conservation at ARS, Gangavathi.

In addition to these, promoted organic farming methods as an integral component alongside sustainable agriculture activities. Key focus areas comprise introducing improved agronomic practices including traditional improved seeds and crop management techniques for paddy and sugarcane, reduction in use of chemical fertilizers, pesticides and dependency on external inputs, and promoting crop diversity for enhanced agriculture income. To improve knowledge, skills and understanding of sustainable agriculture, PSC has organized several training programs, field demonstrations and study tours for the farmers.

Sustainable Sugarcane Initiative (SSI) has gained momentum in the VNC command area. Fifteen (15) sugarcane farmers successfully adopted the SSI method without chemicals in 21 acres of land. Looking at the encouraging results, many other

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<sup>8</sup> See Tr2 VNC APR Jan-Dec 2021 P5 for details

<sup>9</sup> See Tr2 VNC APR Jan-Dec 2021 P53 and P54 for details

<sup>10</sup> See Tr2 VNC APR Jan-Dec 2021 P71 for details

farmers have placed order for improved sugarcane varieties which was developed by the ARS, Hamsabavi. Several training programs were held related to SRI, organic farming, SSI, soil health, NPM, IPM, etc using various efficient methods suitable to local conditions. The summary of the training programs as presented in the Table 38.

Table 38 Trainings and Demonstrations SAP and Livelihoods Activities by PSC2 A

Thematic : Topics	Trainings/ Events (Nos)	Male	Female	Total
Training and Demonstration: Crop and water management (crops with high water use efficiency, mixed cropping, inter-cropping, soil management, mulching, intercropping, field drainage, etc.).	67	728	287	1,015
Training and Demonstration: Promotion of organic farming and traditional practices (organic manure, bio-pesticide, soil health management, seed treatment, etc.)	248	1,094	990	2,084
Formation of organic groups and certification	4	94	6	100
Value addition and market linkages	9	143	61	204
Total	328	2,059	1,344	3,403

Details of trainings with different topics and participants attended given in the APR Jan-Dec 2021. On review of it, the PSC2 B found that 67 crop water management training and demonstrations activities were held covering 1,015 farmers (5.92%) out of total 17,125 farmers comprising of 29 WUCS; 248 trainings and demonstrations were held on organic farming and traditional practices such as organic manure (vermi-compost and bio-growth promoters such as jeevamrutha, pachagavya, fish tonic, waste decomposer, bio-pesticide (poochimarandu), soil health management, seed treatment, etc. covering 2,084 farmers (11.95%); 4 trainings were held on formation of organic groups and leading the organic farmers for certification. The participants covered is only 100 farmers (0.58%) against total command area farmers. Further, 9 trainings were held on value addition of agriculture products and its marketing linkages for increased income for the farmers. The farmers covered under value addition and market linkages trainings were 204 (1.19%).

At the overall level, 328 different events (trainings and demonstrations) were held covering 3,403 farmers (19.87%) of the total 17,125 farmers of 29 WUCS in the VNC command area. The male and female percentage covered by the PSC2 A is 61% and 39%, respectively. The PSC2 B is also aware that same farmers may be attended more than one training/demonstration as there was diverse topics covered by the PSC2 A. However, due to lack of individual farmers wise participants details PSC2 B could not make any analysis in this line.

PSC2 B will be further intensifying these activities and necessary actions will be planned and implemented by the PSC 2 B. To this affect, the activities carried out by the PSC2 B during the reporting period are as follows;

- There are 29 WUCS in VNC having a total CCA of 11,154 ha which makes an average land holding of 384.62 ha per WUCS.

- A detailed checklist is prepared to obtain data to assess the agriculture scenario and draw road map accordingly for Sustainable Agricultural Practices. A number of field visit to various channels and detailed discussion held with *Neerganti* regarding the operation of Channel and distribution of water among the command area farmers. The farmers gathered over their also shared their experiences about irrigation; its availability and pattern of use. The farmers in general prefer surface water that too in excess, rather than utilizing the ground water in conjunction.
- Another visit of Agriculture Research Station, *Krishi Vignana Kendra* and Department of Agriculture at Gangavathi was conducted by PSC 2 Part B and interacted with the officials of ARS to explore the possibility of collaboration, convergence and dovetailing the activities.

The Agriculture Research Station of the University of Agricultural Sciences, Raichur is functioning with one of its mandates as development of rice cultivars as per local requirements and suitability with the motto of promoting Sustainable Agriculture Practices (SAP). Similarly, the KVK is taking up the extension activities in their jurisdiction to promote better farming and income generation for the rural households. The Department of Agriculture is implementing the various schemes of state & central governments along with managing supply of various agricultural inputs and ensuring better prices of farm produce to the farmers.

During the meeting, the visiting team mentioned that sustainable agriculture & livelihoods was one of the components of this project which needs the technical knowhow of these institutions to support the farmers of VNC commands. The project has in any way a fixed tenure whereas these institutions will remain and continue their functioning. This continuance will not only provide an ownership but will create a trust worthy future relationship among the farmers and the institutions as well.

The observations from the visit to the RRS are as follows:

1. The most dominant rice variety grown in the area is BPT: 5204 (*Sona Masoori*).
2. The optimum yield of *Sona Masoori* is 6.0 ton per ha; However, interestingly, farmers are securing higher yield (up to 7 ton per ha) through excessive irrigation and application of fertilizers. It was mentioned that around one lac ha has been degraded due to excessive application of fertilizers
3. There is some research done by RRS on water consumption by paddy in the area.
4. The other varieties are *Kavery Sona* and RNR 150. These are early maturing varieties. Yet the average yield is 6 to 6.5 ton per ha.
5. System of Rice Intensification (SRI) is highly labour intensive and the cost of labour is high in the area, farmers are not adopting it.
6. The centre had released five rice varieties, which are of shorter duration (4 to 4.5 months):
7. Gangavathi Sona is the latest variety introduced by the station, which is pest and disease-resistant and can resist salinity of up to 8.5 ds/m. The duration is 135 days. The cost of cultivation for this variety is lower as compared to the dominant variety.
8. RNR is another new variety, which has lower glycemic index (preferred by people these days for preventing diabetes)
9. There were several demonstration carried out by the RRS last year in collaboration

with KNNL PSC 1 and 2A, wherein some 64 different varieties of rice from within the region and surrounding areas, which included some with high medicinal properties (treatment of cancer, ulcer, paralysis, etc.).

10. Some farmers of the area have started growing the niche (indigenous) varieties such as Burma black and *Navara*.

From the visit, it was evident that there is a need to understand the water requirements (especially evapotranspiration, ET), yield, net income and WUE (in kg/m<sup>3</sup> and Rs/m<sup>3</sup>) for the new short varieties of paddy introduced by the RRS at Koppal in order to examine the possibility of water saving in paddy without causing any adverse effects on farmer income.

## 7.1 Proposed Project Interventions

### 7.1.1 Improved Practices

Based on the analysis of the current farming systems in the area (inputs, outputs, market linkages), the agro-climatic conditions (soil, rainfall, weather), the way farmers practice crop cultivation, the following interventions are proposed for enhancing agricultural productivity:

1. Soil Conditioning
2. Nutrient Management: In the name of improved agriculture farmers have practiced supplementing chemical fertilizers since long and gradually stopped addition of manures which is resulting nutrient depletion in the soil this is a general observation as well the farmer's proclamation however the soil test reports of the area of intervention will be required to affirm
3. Promoting crop varieties that are less water-intensive than those that are grown currently, but give higher return per unit of land
4. Promoting use of organic pest control measures and natural pest management practices
5. Crop Rotation: Rice is the main seasonal crop and repeated in both the seasons as relay this practice needs to be discouraged, cereal & pulse rotation needs to be advocated for soil conditioning and better returns as pulses are low input cost, atmospheric nitrogen fixing and more remunerative
6. Seed Replacement: Farmers use the seeds saved from their own farm production instead of replacing with certified/quality seeds at recommended intervals. Seed replacement recommendation for rice is once in three years, for maize, bajra, jowar, arhar and sunflower, it is once in two years and for hybrid seeds, it is once in a year.
7. Cultivar Selection: For all the major crops grown in the area of intervention such as paddy, sugarcane & banana
8. Irrigation Water Management: In general, with canal irrigation, farmers practice flood irrigation which uses excess amount of water. In fact, this excess water is the water that other farmers of the command area are entitled to. Farmers shall be motivated & mobilized to utilize the irrigation water judiciously, by practicing basin method instead of flooding, and micro-irrigation technologies, especially drips + mulching (for row crops such as banana and sugarcane)
9. Conjunctive Water Use: Groundwater is available in the shallow hard rock aquifers underlying the area. The return flows from irrigated paddy fields contribute to the recharge of these shallow aquifers. But only a few farmers own bore wells for irrigation in the command area. The farmers prefer the canal water whereas they should use only their share of water from and the deficit should be met from using



- ground water. This will not only ensure equitable distribution of canal water but will keep the ground water levels at safe levels so as to prevent waterlogging
10. Minimizing the input cost: by improving the efficiency of use of chemical fertilizers and reducing the overall use of the same through organic fertilizers
  11. Maximizing the returns through value addition: Various rice cultivars having medicinal value developed at Rice Breeding Centre in Gangavati, Koppal District and farmers can fetch better prices, if they are sold after proper hulling, cleaning, grading, packaging & certification under a brand name.
  12. Safe storage and appropriate marketing

### 7.1.2 Capacity Building

In order for the farmers to adopt the strategies for sustainable agriculture discussed above, the following approach for capacity building is proposed:

7. Identification of local resource persons as trainers for ToT (Training of Trainers)
8. Motivating & Mobilizing the farmers to register Farmer Producer Organizations (FPOs)
9. Organizing Training & Visit programmes for command area farmer
10. Conducting in-situ workshops
11. Organizing competition among command area farmers for maximized crop production through incentives in cash and kind
12. Organizing 'Farmer's Fair' for canal command area farmers
13. Forming Women Self Help Groups
14. Instituting 'Best Farmer Awards' to create competition among the command area farmers
15. Promoting command area farmers to develop appropriate literature
16. Issue based wall writings through WSHGs for awareness.
17. Organizing the field visits for command area school going children to acquaint them with improved agricultural interventions.
18. On farm demonstration of new technologies / practices with performance monitoring.

### 7.1.3 Dovetailing & Convergence

The mandate of Department of Agriculture (DOA), Department of Horticulture (DOH), Department of Animal Husbandry (DOAH) & Krishi Vigyan Kendra (KVK) etc. is to assess the area specific development needs and provide the need-based interventions dovetailing & converging with the resources available through various State & Central Government schemes. Therefore, these institutions are the important stakeholders of the project and can play a pivotal role in enhancing the farmers' income.

Water is available in VNC command area and if it is used judiciously, the crop productivity can be enhanced. But this only is not enough. The need of the hour is to consider the composite farming system by involving two or more enterprises. For instance, raising livestock and crops simultaneously will provide an opportunity of using the manure produced by the livestock to produce better crops. Similarly, the crop by-products can in turn be used to feed the livestock. This will provide an environmental balance, while supporting a sustainable system.

Mixed farming is good for the environment since it is quite sustainable. In addition; the crop-livestock farming system provides a variety of financial benefits. It offers a high return on

the inputs to the farm since all products and byproducts are utilized. The dependency on feed and fertilizer to support the growth of crops or maintenance of livestock is minimized which ultimately saves money. The system provides work throughout the year, and it also offers a multiple source of- income, so that if a crop does poorly in a given season, the farmer can fall back on income from sales of fish, meat, milk or eggs.

Under, VNC there are 16 channels taken up in the project so at least one or more demonstration on mixed farming considering the visibility and impact may be conducted other than the demonstrations on improved crop production.

The preliminary field scenario and interventions are as follows

- (i) The capacity building needs assessment reveal that initial three crop seasons play crucial role as change agent in available time under SAP.
- (ii) PSC 2 Part B propose to intensify Farmers Field Schools and Demonstrations without compromising the quality in the available first three crop seasons.
- (iii) The preparatory work for FFS and other demonstrations is taken up starting from July 2022 to November 2022 with the SST team and additional resource persons (trained local farmers).
- (iv) The PSC 2 Part B will carry out Training of Trainers (TOT) program to young and dynamic farmers locally and also engage progressive farmers to assist in carrying out demonstrations and conduct farmers field schools.
- (v) Krishi Vigyan Kendras, District Agriculture Training Centers and Rice Breeding Station (Agriculture Research Station) would be roped in to the best.
- (vi) Strategic locations shall be identified to conduct FFS and onfarm demonstrations on various aspects namely
  - a) Crop intensification and Diversification
  - b) Improved Agriculture Practices
  - c) Better suitable varieties of crops grown in the VNC command area
  - d) Organic farming and certification
  - e) Outreach to women farmers

*Table 39 Available crop season for PSC 2 Part B to carry out SAP.*

Sl.No	Season Name	Period	Training Remarks
1	Summer	Jan – May 2023	Field Demonstration and Intensive Training
2	Kharif	July-Dec 2023	Field Demonstration and Intensive Training
3	Summer	Jan-May 2024	Field Demonstration and Intensive Training

The PSC 2 Part B will carry out Training of Trainers (TOT) program to the dynamic and progressive farmers selected from the respective channels and villages locally to assist in carrying out demonstrations and farmers field schools. Strategic locations shall be identified to conduct on-farm demonstrations. The list of such progressive farmers is being prepared and will be discussed with PIO accordingly.

The PSC2 B studied the vermicomposting units and found that INR12,000 invested per unit (vermicomposting pit) with a size of 14"x8"x4". The cost includes establishment materials and earthworm. The PSC2 B promotes new cost effective technology developed using HDPE material and to this effect a demonstration unit with a size of 12"x4"x2" has been established at its office premises with an investment cost of INR7,000. The cost includes

establishment materials, cow dung and earthworm.

The PSC 2 Part B is also working on the specific inputs for improvements in the MIS system particularly for the module on agricultural development and livelihood improvement.

## 8. Social Management Framework and Gender Action Plan

The poverty reduction and social strategy under the program is aligned with ADB's Poverty and Social Analysis Strategy (2012)<sup>11</sup> and Gol's current policy on promoting inclusive growth and achieving poverty reduction through integrated water resources management and community participation. Several poverty-reduction programs have been launched by the national/state governments for the rural poor comprising small and marginal farmers, landless labourers and rural artisans. The Program also aims at providing equitable access to water for farmers and rural households for both agricultural and domestic purposes in particular to tail-end, marginal, small and landless farmers, and vulnerable women. Tranche 2 VNC is categorized as *Effective Gender Mainstreaming (EGM)* as per ADB's Gender Policy. The Gender Action Plan (GAP) and activities of VNC are linked to the gender outputs and targets indicated within the MFF's Design and Monitoring Framework. The GAP lays emphasis on adopting pro-poor and gender inclusive social mechanism within the overall program design.

### 8.1 Gender Action Plan and Implementation

The gender strategy under this program aims at mainstreaming gender relations in the context of irrigation management. Put differently, women should have a key role in the grassroots resource management, governance and leadership. Their presence should be at least 30 percent in the WUCS executive board by the year 2024 as per the Design and Monitoring Framework (DMF). Alongside, the program also plans to empower women with knowledge on crop diversification and crop management, on-farm water management, O&M, systems management and control.

The following are some of the key features specified in the GAP of the Program:

- Providing women with complete information on the project organization, roles and responsibilities of different stakeholders and WUCS functions;
- Develop leadership qualities in women, and encourage their participation at various levels including as leaders;
- Recognize the interests and needs of women and incorporate the same in action plans;
- Prepare CADA and KNNL engineers for recognizing the criticality of women's participation in resource governance, and
- Evaluating the impact of women's involvement on the efficiency of the system.

The implementation of the GAP is continued after engagement of PSC 2 B on 30 June 2022. The progress made during the reporting quarter are as below.

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<sup>11</sup> ADB's Poverty and Social analysis strategy (2012);

### 8.1.1 Women Sub-Committees

Women sub-committees (WSC) are formed for enabling women to get organized as groups and participate in irrigation management, sustainable agriculture activities, livelihood initiatives etc. The orientation of the SSTs for effective formation of women sub-committees will be prepared based on the socio-cultural factors to enhance the participation of women in WUCS and irrigation management.

Up to 31 December 2021 PSC2 part A has formed 51 subcommittees with a strength of 812 members. Of the total 51 WSCs, 22 subcommittees are formed on the left bank with a strength of 346 members, and 29 subcommittees on the right bank with 466 members (see Table 40). During the reporting quarter, the new PSC has taken the stock of these WUCs and prepared a detailed list of the WSCs with individual members' details including contact numbers etc. The team is working on how to make women sub-committee vibrant in IGA activities and improved living standards. However, it is found that these WSC are not yet formally recognized or ratified by the WUCS as their subcommittees for which PSC 2 B will be facilitating WUCS to give the WSCs the subcommittee status by passing a resolution in their Board.

Table 40 Women subcommittees as of 30 September 2022

S. No.	WUCS/ Village	Channel	Formed as of 30 June 2022		Formed during Jul-Sept 2022		Cumulative as of 30 September 2022	
			No. of Sub committees	No. of Members	No. of Sub committees	No. of Members	No. of Sub committees	No. of Members
VNC Left Bank								
1	Chikkajanthakal	Lower Gangavathi	3	42	-	-	3	42
2	Ayodhya	Lower Gangavathi	1	17	-	-	1	17
3	Hosalli	Upper Gangavathi	2	31	-	-	2	31
4	Hirejanthakal		1	9	-	-	1	9
5	Anegundi	Anegundi	1	21	-	-	1	21
6	Chikkarampura	Anegundi	1	16	-	-	1	16
7	Sangapura	Anegundi	3	46	-	-	3	46
8	Basavanadurga	Anegundi	1	12	-	-	1	12
9	Hosa Bandiharlapura	Shivapura	1	15	-	-	1	15
10	Mohamad Nager		1	16	-	-	1	16
11	Shivapura	Huligi	1	17	-	-	1	17
12	Huligi	Huligi	3	47	-	-	3	47
13	Bichali	Bichal	3	57	-	-	3	57
<i>Total for LBC</i>			22	346	0	0	22	346
VNC Right Bank								
1	Nagenahalli	Kalaghatta	1	15	-	-	1	15
2		Raya	2	30	-	-	2	30
3		Basavanna	2	26	-	-	2	26
4	Hale Malapanagudi	Basavanna	1	15	-	-	1	15
5	Hosa Malapanagudi	Basavanna	1	15	-	-	1	15
6	Malapanagudi thanda	Basavanna	1	16	-	-	1	16

S. No.	WUCS/ Village	Channel	Formed as of 30 June 2022		Formed during Jul-Sept 2022		Cumulative as of 30 September 2022	
			No. of Sub committees	No. of Members	No. of Sub committees	No. of Members	No. of Sub committees	No. of Members
7	Hosuru	Raya	1	15	-	-	1	15
8	Kamalapura	Raya	1	15	-	-	1	15
9	Jagedarabandi (Narasapura)	Raya	1	22	-	-	1	22
10	Basavanadurga	Raya	1	22	-	-	1	22
11	Hosuru	Bella	1	15	-	-	1	15
12	Narasapura		1	16	-	-	1	16
13	Venkatapura	Turtha	3	48	-	-	3	48
14	Bukkasagara		4	71	-	-	4	71
15	Kaddirapura	Ramasagara	1	15	-	-	1	15
16	Ramasagara		2	30	-	-	2	30
17	Muddapura-10		1	15	-	-	1	15
18	Galemmanagudi	Basavanna	1	15	-	-	1	15
19	Deshanur	Deshanur	1	20	-	-	1	20
20	Belagodhal	Belagodhal	1	15	-	-	1	15
21	Kampli	Kampli	1	15	-	-	1	15
Total for RBC			29	466	-	-	29	466
Total for VNC			51	812	0	0	51	812

### 8.1.2 Women Empowerment

Women are empowered through capacity building programs such as trainings, exposure visits, demonstrations and field days under sustainable agriculture development and livelihood activities. Specific efforts are made to involve women as part of the mainstreaming and empowerment strategy in all the activities including irrigation related. The idea is that even in irrigation related matters women could influence male members such as in water conservation, shift to organic farming, sustainable agriculture, intercropping and adoption of traditional seed varieties.

This section deals with capacity building activities conducted for women. At the project level, a total of 391 capacity building activities were organized up to 31 December 2021 in which the number of women participants were 5112 (65.32%) against 2,714 men participants<sup>12</sup>, thus totaling 7,826 participants. In the reporting quarter 6 capacity building activities were held with the participation of 18 women (14.51%) and 106 men, totaling 124 participants. Thus, the total CBA organized are 397 covering 5130 women participants (64.38%) against 2,838 men participants. (Table-42).

<sup>12</sup> As per PMIS data – reference <http://vncpmis.knnlindia.com/>

### 8.1.3 Livelihood Activities by Women

PSC is encouraging trained women to become entrepreneurs and use their skills to improve their livelihoods. Follow up support services are provided for forward and backward linkages to enable them to establish entrepreneurship units and link with markets. The livelihood activities taken up by women during 2021 in general and the last quarter of 2021 in particular, are presented in Table 42.

Further, PSC 2 Part B will be building on these activities with those women entrepreneurs. In this regard, PSC team visited the centers promoting women entrepreneurship like Kishkindha and Milk Dairy centers to assess and explore the possibility of creating new entrepreneurship ventures with new skills. The team assess the potential to make difference in the women livelihoods by value addition to the locally available resources like banana and water hyacinth fiber. More such possibilities will be explored, planned and implemented through WSCs with the support of WUCS as WUCS to continue the support to WSC after the project closure. In the next reporting quarter the status of these entrepreneurship units will be studied and need based handholding support will be provided by the PSC2 B/SST.



Table 39 Capacity Building Programs for Women up to 30 September 2022

S. No.	Training/ Exposure/ Demonstration	Trainings/ events			Female Participants			Remarks
		Up to June 2022	Jul-Sept 2022	Total	Up to June 2022	Jul-Sept 2022	Total	
1.	Project awareness, GESI concept and mainstreaming women in irrigation management including leadership development (WSC)	58	1	59	1,257	5	1,263	Participants: Total-45; M-40; F-5 (11%); [33% SC/ST, 56% MF and 11% LL]
2.	Formation & Strengthening of WUCS, byelaw, administration, roles & responsibilities	16	1	17	201	1	202	Participants: Total-21; M-20; F-1 (5%); [100% SC/ST, 90% MF and 10%LL]
3.	Orientation on role and importance of women in WUCS Federation	2	0	2	15	0	15	No activity during the reporting quarter.
4.	Training on construction management, CAD packages and safeguards monitoring	20	4	24	117	12	129	Participants: Total-58; M-46; F-12 (21%); [12% SC/ST, 17% MF 10 and 5% LL]
5.	Women in Livelihood: Training on EAP, business plan preparation, production of Omega 3 Laddu, Natural soap making, Mushroom cultivation, Honey bee-keeping, Agrabatti making, paper bag making, tailoring, embroidery, production center management, banana products, solar technology and marketing of products	80	0	80	1,749	0	1,749	No activity during the reporting quarter.
6.	Channel Pollution Management: Swacha Bharath Abhiyan program convergence	4	0	4	215	0	215	No activity during the reporting quarter.
7.	Exposure visits (Within state)	41	0	41	208	0	208	No activity during the reporting quarter.
8.	Women in SADA: Community Seed Bank Management (seed treatment, procurement and sales) and Seed Art, demo on organic manure, growth promoters, herbicides, SRI paddy, sugarcane cultivation, kitchen gardening, Turmeric crop, organic farming certification, field days & melas	170	0	170	1,360	0	1,360	No activity during the reporting quarter.
	Total	391	6	397	5,122	18	5,141	

Table 42

Table 40 Details of Livelihood Activities by Women as of 30 September 2022

S. No.	WUCS/ Village	Channel	Name of Activity	Name of Women/ group involved	Production up to Sept 2021	Value/ Income gained up to Sept 2021 (INR)	Production during Oct-Dec 2021	Value/ Income gained during Oct-Dec 2021 (INR)	Cumulative Production up to Dec 2021	Cumulative Value/ Income gained (INR)
In Left Bank villages										
1	Chikkajanthakal	Lower Gangavathi	Pille Pesaru	Shambavi women group	9.23 quintals	64,840	1.62 quintals	12960	10.85	77800
			Omega 3 Laddu		12kg	6,535	1Kg	600	13kg	7135
			Vermicompost		23quintals	21,000	3 quintals	2100	26.00quintals	23100
			Earthworms		22kg	7,528	0	0	22kg	7528
			Community seed bank*		183Kg	10,980	0	0	183Kg	10,9800
2	Chikkajanthakal	Lower Gangavathi	Garments, petticoat & masks	Srinidhi women group	3260 Petticoat	53,500	1500masks	4500	4760 pieces	58000
			Milletts mix & Sesame Laddu		115kg	28,490	30kg	9000	145kg	37490
			Ragi malt		20kg	4,000	10kg	2000	30kg	6000
			Paddy torana		10 pieces	1,000	30 pieces	3000	40 pieces	4000
			Cloth bag		10 bags	400	0	0	10 bags	400
3	Ayodhya	Lower Gangavathi	Natural Soap	Hampamma	50 pieces	1,500	0	0	50 pieces	1500
			Agarbatti		30kg	3,640	18kg	2160	48 kg	5800
4	Hosalli	Upper Gangavathi	Embroidery	Vijayanagara women group	77 pieces	50,900	22	9900	99 pieces	60800
			Petticoats, Blouses, Bags & Masks	Ganga Kaveri women group	481 units	44,300	105	17250	506 units	61550
5	Huligi	Huligi	Mushroom	Girijamma & others	5kg	1,700	0	0	5kg	1,700
				Tungabhadra women group	700 masks	1,500	20	200 masks	720 masks	1,700
			Rotis		3,000 roti	9,000	2200 roti	6,600	5200 roti	15,600
6	Shivapura	Huligi	Mushroom	Durgamma &	3kg	1,050	0	0	3kg	1,050



S. No.	WUCS/ Village	Channel	Name of Activity	Name of Women/ group involved	Production up to Sept 2021	Value/ Income gained up to Sept 2021 (INR)	Production during Oct-Dec 2021	Value/ Income gained during Oct-Dec 2021 (INR)	Cumulative Production up to Dec 2021	Cumulative Value/ Income gained (INR)
				Zayeeda						
			Tailoring & Embroidery	Eramma & others	32 blouses	9,550	3	1,800 blouses	35 blouses	11,350
				Bharathi	10 blouses 8 saree kucchu	4,750	10 blouses	4,000	20 blouses 8 saree kucchu	8,750
				Vijayalakshmi	10 blouses 8 saree kucchu	5,400	8 blouses	2,800	10 blouses 16 saree kucchu	8,200
				Sheela	33 blouses 4 dresses	6,700	14 blouses	5,600	47 blouses 4 dresses	12,300
			Agarbatti Making	Anjanadevi women group	56kg	6,340	470kg	33,000	526kg	39,340
			Vermicompost	Durgamma	1400 kg	9,800	100kg	700	1500 kg	10,500
			Vermicompost	Uma	700kg	4,900	700kg	4,900	1400kg	9,800
			Earthworms		10kg	4,000	10kg	4,000	20kg	8,000
7	Bandiharlapura	Shivapura	Tailoring	Tara	5 blouses 3 dresses	1,100	0	0	5 blouses 3 dresses	1,100
				Surekha	50 blouses 23 dresses	12,500	20 children dresses	4,000	50 blouses 43 dresses	16,500
				Swapna women group	56 blouses 20 petticoat 22 dresses	11,250	60blouses 25piticoat 20 dresses	21,500	116 blouses 40 petticoat 42 dresses	32,750
8	Sangapura	Anegundi	Tailoring & other products	Lalitha	33 blouses 13 uniforms 10 dresses	5,900	22 blouses	2,200	55 blouses 13 uniforms 10 dresses	8,100
				Shivamma	23 blouses	2,600	10 blouses	2,000	33 blouses	4,600

S. No.	WUCS/ Village	Channel	Name of Activity	Name of Women/ group involved	Production up to Sept 2021	Value/ Income gained up to Sept 2021 (INR)	Production during Oct-Dec 2021	Value/ Income gained during Oct-Dec 2021 (INR)	Cumulative Production up to Dec 2021	Cumulative Value/ Income gained (INR)
				Madina women group	30 dresses 50 Zig Zag 377 uniforms 50 shirts 20 blouses 100 masks	23,888	20 dresses 25 Zig Zag 5 uniforms 20 blouses	8,800	50 dresses 75 Zig Zag 382 uniforms 50 shirts 40 blouses 100 masks	32,688
				Piraabi-Vermicompost	14 quintals	9,700	8 quintals	5,600	22 quintals	15,300
					7kg	2,450	4kg	1,400	11kg	3,850
				Gowramma	36 blouses 45 Zig Zag 20 saree falls	6,300	21 blouses 10 Zig Zag 20 saree falls 0 blouses	4,000	57 blouses 55 Zig Zag 40 saree falls	10,300
			Roti making	Durgashakthi women group	3,750 roti	11,250	1200 roti	3,600	4950 roti	14,850
9	Anegundi	Anegundi	Pickle making	Vijayanagara women group	28kg	5,200	6kg	600	34kg	5,800
			BAKAHU products		2kg	500	2kg	500	4kg	1,000
10	Bichali	Bichal	Tailoring	Samruddi women group	20 blouses	3,100	35 blouses	3,500	55 blouses	6,600
				Sursti women group	30 blouses	5,160	15 blouses	1,000	45 blouses	6,160
				Manasa women group	42 blouses	5,600	48 blouses	3,000	90 blouses	8,600
	<i>Sub-Total (9 villages)</i>	<i>6 Channels</i>	<i>22 activities</i>	<i>12 WSC</i>		<i>4,69,801</i>		<i>1,88,770</i>		<i>6,58,571</i>
	In Right Bank villages									
10	Nagenahalli	Basavanna	Shavige	Bharathi	3 Kg	1,800	2kg	1,200	5kg	3,000
			Honey -1box Roti Papad	Manjula	- 240 no. 1050 no.	2,495	300 no. 20 Piece	900 700	540 no. 1070 no.	5,345

S. No.	WUCS/ Village	Channel	Name of Activity	Name of Women/ group involved	Production up to Sept 2021	Value/ Income gained up to Sept 2021 (INR)	Production during Oct-Dec 2021	Value/ Income gained during Oct-Dec 2021 (INR)	Cumulative Production up to Dec 2021	Cumulative Value/ Income gained (INR)			
			Shavige		200kg		25Kg	1,250	225 Kg				
			Honey	Tayamma	0	0	0	0	0	0			
			Mushroom	Tayamma	5kg	2,000	0	0	5kg	2,000			
			Floriculture (Kakada)	Tayamma	200 pouches 2 kg	4,240	8Kg	960	10Kg	5,200			
11	Nagenahalli	Raya and Basavanna	Natural soap	Bhuvaneshwari	176 soaps	20,260	0	0	176 soaps	20,260			
			Omega Laddu		18 kg							18 kg	
			Paddy seeds	Bharathi and Team * (10 Members) Community Seed bank	517kg						2.5 quintals	-	7.67 quintals
			Vegetable seeds		8 packets							300	
Waste D Composure	13 Bottle	330	24 bottles										
Metarizium (bio-control)		30 packets	11 pocket	1760	41 pocket								
12	Narasapura	Bella	Kitchen garden	Shivamma	4,300 pouches	17,900	250 pouches	750	4,550 pouches	18,650			
			Floriculture	Shivamma	24 kg		15Kg	1,800	39 Kg	9,250			
			Petticoat	Bharathi & team**	387 pieces		37,780	53 pieces	4,500	440 pieces	42,280		
13	76 Venkatapura	Turtha	Kitchen garden	Manjula	554 kg 65 pouches 30 pieces	21,620	0	0	554 kg 65 pouches 30 pieces	21,620			
			Vermicompost	Kalpana	0				0		500 Kg	3,500	500 Kg
14	Ramasagara	Ramasagara	Omega Laddu, Chakli, Nippattu & Millet mixture	Vidyashree (Sri Durga WSC)	68 kg 250 pouches	48,300	10kg 40 pouches	7,000	78kg 290 pouches	55,300			
			Vermicompost	Renuka (Sri Durga WSC)	40 quintals	28,000	0	0	40 quintals	28,000			
			Vermicompost	Shivalila	-	-	4 quintals	2,800	4 quintals	2,800			

S. No.	WUCS/ Village	Channel	Name of Activity	Name of Women/ group involved	Production up to Sept 2021	Value/ Income gained up to Sept 2021 (INR)	Production during Oct-Dec 2021	Value/ Income gained during Oct-Dec 2021 (INR)	Cumulative Production up to Dec 2021	Cumulative Value/ Income gained (INR)
			Fraks and Dress	Prabhavathi & Team	-	-	480 pieces	45,600	480 pieces	45,600
15	10 Muddapura	Ramasagara	Tailoring	Ellamma WSC	650 pieces	9,000	700 pieces	10,500	1350 pieces	19,500
16	Ananthashayana gudi	Basavanna	Omega Laddu, Ghee Chakli & Mixture	Kavitha	10kg 14kg 5kg	17,900	15Kg  40 Pieces	9,000  1,000	25Kg  40 Pieces	27,900
17	Jagirdarbandi	Bella	Petticoat & Saree	Tara Begum & team**	223 pieces	11,230	25 pieces	1,200	248 pieces	12,430
23	Bukkasagara	Turtha	Omega Laddu, Chakli, Millet mixture & Roti	Basamma Vasantha & Shivagamma	27.5 kg 200 roti	11,700	30 kg 1000 roti	16,000	57.5kg 1200 roti	27,700
			Bakahu Powder	Shwetha & Gundamma	2 kg	500	50 kg	12,500	52 kg	13,000
<i>Sub-Total (8 villages)</i>		5 Channels	24 activities	8 WSC		2,53,415		1,23,55		3,76,965
Total (Left and Right bank villages)						7,23,216		3,12,320		10,35,536

\* Paddy seeds procured under project cost and distributed by community seed bank.

## 8.2GAP progress in VNC

Progress of the Gender Action plan under Outputs 2 and 3 as per ADB format is given in *Table 43*.

*Table 41 : Status of Gender Action Plan as of 30 September 2022*

Activities, Indicators, Baseline, Targets, Time Frame and Responsibility	Progress to Date		Remarks: Issues and Challenges (Reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Progress for the reporting Quarter (Jul-Sept 2022)	Cumulative Progress (1 Jan 2020 to 30 June 2022)	
Output 2. Irrigation system infrastructure and management modernized			
Activity 2. Build awareness of women's equal rights and participation in water resources management and livelihood improvement			
<p>Targets/Indicators 2: 30 sensitization workshops focusing on gender equality and social inclusion (GAP) approaches and women's role and participation in water resources management and farm/off farm livelihood activities conducted for all WUCS in the VNC subproject area (T: 30 workshops conducted with at least 60% men's participation) Baseline: Responsibility: PMU/PIOs Time Frame: Year 2-3</p>	<p>6 trainings were conducted for WUCS members. (T: 124; M: 106, F: 18).</p>	<p>60 trainings conducted for WUCS members (T: 1837; M: 686, F: 1151). Training need assessment is generally part of the monthly CBA schedule plan.</p>	<p>No due</p>
<p>DMF Indicator 2d. At least 50% of all WUCS office bearers and members (with at least 60% men's participation) reported increased knowledge on the application of gender concepts and principles to water resource management. (2019 baseline: n. a.) Time Frame: Year 2-3</p>	<p>6 trainings were conducted for WUCS members. (T: 124; M: 85%, F: 15%)</p>	<p>As of 30 September 2022, the total number of registered WUCS office bearers and members for the 18 established WUCS amount to 9,100 of which 6,331 are men (69.57%) and 2,769 are women (30.42%). The target of total WUCS to be formed and strengthened revised to 29. The total farmers covered by 29 WUCS are 17,125, of which 12,663 (73.94%) are male and 4,522 (26.40%) are female.</p> <p>Trainings have been conducted for 1837 WUCS members (5.62% of total farmers of 18 WUCS) of which men</p>	<p>At completion: likely achieved, <i>but a significantly higher participation of men is required to exceed the minimum 60% threshold for men's participation.</i></p>

Activities, Indicators, Baseline, Targets, Time Frame and Responsibility	Progress to Date		Remarks: Issues and Challenges (Reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Progress for the reporting Quarter (Jul-Sept 2022)	Cumulative Progress (1 Jan 2020 to 30 June 2022)	
		comprised 686 (37%) and women comprised 1151 (63%) on Gender Empowerment and Social Inclusion GESI concept and mainstreaming women, women in irrigation management and principles of water resource management.	
<p>Targets/Indicators 3:                      At least 30% of WUCS management board members are women (T: M– 150; F–50)                      Baseline: Responsibility: PMU/PIOs                      Time Frame: Year 1-2</p>	<p>With the facilitation of PSC2 B 4 WUCS have got permission for election of WUCS Board from Karnataka Cooperative Election Authority.</p>	<p>As of 30 September 2022, 18 WUCS Boards are functional, of which 17 have MOUs with KNNL for water management, water charges collection, and O&amp;M responsibilities (this is considered as “established”). Women representation on management boards of the established 18 WUCS amount to 48 out of a total of 212 positions (22.64%).</p>	<p>At completion: likely achieved, <i>but more women representation on management boards is required to exceed the 30% minimum threshold.</i></p> <p>As per the byelaws of Cooperative Societies, only two out of 12 Board members should be women. PSC guided for women representation to be at least 30%. Out of 18 WUCS 17 WUCS have formed Board wherein 8 WUCS has 3 or 4 women Directors (WD) in each.</p> <p>Those are;                      Left Bank - Chikkajanthakal, Sangapura, Hosahalli, and Bichal WUCS (3 WD in all);                      Right Bank – Deshanuru and K-Nagenahalli (3 WD in each), 10 Muddapura and Malpanagudi WUCS (4 WD in all) Belagodhal WUCS (5 WD). The Chikkajanthakal WUCS elected a woman member as Vice President. Added to this 2 of the CEOs are also women.</p> <p>Nonetheless, as in Tranche 1, non-voting women members belonging to ‘D’ categories would be placed on the Board to increase and</p>

Activities, Indicators, Baseline, Targets, Time Frame and Responsibility	Progress to Date		Remarks: Issues and Challenges (Reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Progress for the reporting Quarter (Jul-Sept 2022)	Cumulative Progress (1 Jan 2020 to 30 June 2022)	
			mainstream the women participation in irrigation management. This trend will be intensified and broad-based.
DMF Indicator 2c. 30 WUCS established and trained on operation and maintenance of tertiary irrigation system and improved on-farm water application methods (with 30% women representation in management boards and 40% attendance in training) (2019 baseline: 0) Timeframe: Year 2-4	19 trainings were conducted for WUCS members. (T: 332; M: 309 (93%), F: 23 (7%))	A total of 637 training events covering 10,889 participants, of which 5,750 were men (53%) and 5,139 were women (47%) have been completed.	This indicator should read with Target/Indicator 3 above to avoid duplication.  The target of WUCS establishment revised from 30 to 29.  At completion: likely achieved, but more women attendance in training is required to exceed the 40% minimum threshold.
Activity 3. Improve the knowledge of relevant government departments on GAP approaches in agriculture, irrigation and water resources management			
Targets/Indicators 4: 5 gender sensitization workshops provided to WRD and KNNL staff on GAP concepts in the design and implementation of water resources management, irrigation and agriculture programs for vulnerable populations, including women and use of sex-disaggregated data for decision making (T-100: M-70; F-30) Baseline: Responsibility: WRD/PMU/PIOs Time Frame: Year 1-2	1 gender sensitization workshop organized. (T: 7; M: 7; F: 0)	Three workshops were held for KNNL staff. (T: 36; M: 31; F: 5)	The total number of sanctioned technical staff of KNNL at ICZ, Munirabad amount to 299, of which 210 are filled up positions. In this 163 are men and 37 are women.  At completion: likely to be achieved, <i>but an indicator change is required to say "At least 50% of WRD and KNNL staff in the Irrigation Central Zone office (including....." and activities associated with this output need to be prioritized.</i> The Irrigation Central Zone office is the project implementation office for tranche 2.

Activities, Indicators, Baseline, Targets, Time Frame and Responsibility	Progress to Date		Remarks: Issues and Challenges (Reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Progress for the reporting Quarter (Jul-Sept 2022)	Cumulative Progress (1 Jan 2020 to 30 June 2022)	
DMF Indicator 2e. At least 50% of KNNL staff (including 30% women) reported increased knowledge on the application of gender concepts and principles to water resource management. (2019 baseline: n. a.)	No Due	No Due	This will be covered as part of effects monitoring study or a separate impact study will be taken up by the PSC2 B
Output 3. Program and management systems operational			
Activity 4. Monitor progress of gender and socially inclusive focused activities in water resources management			
Targets/Indicators 5: Project management information system with gender indicators Baseline: Responsibility: PMU/PIOs Time Frame: Year 1-4	The same PMIS system will be continued with Updation to accommodate the targets, performance and outputs after PSC 2 B taken over.	Complied for outputs 2 and 3. Data being regularly updated. For VNC, the MIS has been redesigned to include gender disaggregated data for all programs/activities. PMIS has been completed and data entered at: <a href="http://vncpmis.knnlindia.com/">http://vncpmis.knnlindia.com/</a> Gender Monitoring format is also finalized and data is being updated periodically. PPMS also completed for VNC.	Current: for ACIWRM all QPRs up to Q2 2022 have been submitted to ADB. For KNNL all QPRs up to Q2 2022 have been submitted to ADB. Sex-disaggregated data being collected and compiled for reporting for all events. For SMR (only for Output 2), all up to October 2021 to March 2022 have been submitted to ADB.  At completion: likely achieved.
Targets/Indicators 6: Sex-disaggregated data collected, analysed and reported in quarterly progress reports and safeguard monitoring reports Baseline: Responsibility: PMU/PIOs Time Frame: Year 1-4	Current: Project MIS expanded to include VNC activities and indicators including gender aspects. ASP. netmvc application is used. Data updated from time to time by the PSC 2 B.  In addition, PSC has developed a user-friendly app called <i>Civil Works Monitoring</i> for monitoring the modernization (civil) works. All the field engineers and senior members involved with the project have access. Data can be entered into the app by authorized engineers through mobile input. Data sheets, reports, graphs, and charts are generated. Application is fully operational and is being used by KNNL engineers.		At completion: likely achieved.



## 9. Development of PMIS and PPMS

### 9.1 Introduction

The PMIS will be an important tool for project management. It should help monitor the input and output at any given point of time. The results from input monitoring will be a reflection of the physical and financial performance of the project. The results from output monitoring will reflect on the performance of the project. It is proposed to develop a web-based Project Management Information System (PMIS) for monitoring of inputs, their timeliness, quality and adequacy for KIWRIM Tranche-1 and Tranche-2 activities. The PSC will develop a system of monitoring for generating standard reports on inputs against the annual action plans will be produced and used by the project teams to assess the progress on inputs.

A good management information system is essential for the project to address operational issues (of preparing tender documents, awarding of contracts, and execution of the work by the contractor, creation of WUCS, training of WUCS), issues related to operation and maintenance of the infrastructure that is being created, issues related to water release, monitoring of the social and environmental safeguard.

This system should provide flexible, interactive and user-friendly tools to allow collation of inputs from various implementing agencies, produce standard reports, and allow raising specialized queries to track all aspects of the project progress (including physical and financial progress and project impacts) at any point of time. The PMIS will monitor all key inputs and activities under the project including the procurement and financial management aspects.

The existing PMIS and PPMS developed during Tranche 1 shall be considered while developing the web-based MIS system for Tranche 2. Further, the PSC further needs to develop a GIS based asset management system for Tranche 2, develop Program Manuals and impart trainings to staff for effective use of the MIS.

Further improvements will be suggested in the existing architecture in consultation with the subject matter experts and the department staff. A quick review of the Tranche 1 MIS shows that some of the important aspects of the project such as agriculture, livelihoods, environmental safeguards and institutional processes are not included. A module/provision will be incorporated in the existing PPMS to generate the monitoring reports for both the tranches.

During the reporting period, the International Irrigation Specialist and the MIS specialist together conceptualized the management information system for the VNC modernization project. The scope and contents of the PMIS and GIS had been defined.

#### Scope of the MIS

- Ensuring validated information for decision making from time to time
- Collation of qualitative and quantitative information on the project progress, outputs and outcomes
- Providing the users with access to all the data collected from the projects
- Improving the timelines of delivery of status reports to all stakeholders.
- Creating transparency and accountability for results
- Enabling Customized Queries for generation of various reports

- Dissemination of project related information and project documents with easily updated postings, news, archives, notifications and publications to all relevant stakeholders.
- Allowing the project team to track the status of various project activities in order to identify the work that is completed and the work that is still pending throughout the project's life cycle

### Scope of GIS System

- The web based geospatial decision support system (DSS) should be capable of integrating spatial, non-spatial and temporal data and should fetch the result based on the geospatial query / search.
- The geospatial DSS should display maps and other data layers (state, district, irrigation scheme and village boundaries with physical, socioeconomic and environmental data)
- The Geospatial Portal should allow users for visualizing all the information related to the sub-projects on the web with restrictions and rights for different types of users.
- User should be able to query within administrative, hydrological and hydraulic system boundaries (Basin, District, irrigation scheme command area, Mandal & Village, Assets etc.) and Jurisdiction boundaries.
- It will display geospatial dashboards (pie, bar charts) according to project conditions, ayacut, command area, irrigated area, etc., and this will provide information to the Department / PIU/ WUCS--, about the latest status of the project, thereby being able to visualize the bigger picture.
- The PMIS is integrated with geospatial portal.
- Mobile Application and Geospatial portal should be integrated for seamless data flow and workflow management.
- Hands-on training will be provided to all PSC/PMU/PIO/WUCS users through an online programme.
- Web-based GIS Assets Management Plan and O&M Plan

### Contents of the MIS

The contents of the Proposed MIS will be as follows: a) scope of the management information system; b) performance of the irrigation scheme and Agricultural Performance; c) project operational performance; and, d) social and environment safeguard monitoring

### 8.3 Development of Training Modules

Efficient pricing of irrigation water is an effective tool not only for improving the efficiency of use of water in agriculture, but also for enhancing the cost recovery, thereby helping the agency to sustain the investments for operation and maintenance of the irrigation infrastructure. Pricing irrigation water on the basis of actual use of water by the farmers and that reflects the scarcity value of the resource is key to achieving this goal. Based on a

concept initiated by the Team Leader, a team led by the International irrigation Specialist, and with the Irrigation Specialist (National) as a member, worked on developing a training module on irrigation water pricing and improved O & M of the Channels, with input from the team leader. A field visit was undertaken to the Upper and Lower Gangavathi Channels by a team comprising the Int. Irrigation Specialist, Irrigation Specialist (National) and the Operation and Maintenance Specialist to understand the working of the irrigation systems under VNC, particularly the hydraulic aspects, and a visit was made to the office of Odderahatti Irrigation Division to understand the method adopted by KNNL to charge for the water.

The module deals with the following topics: the concept of economic value of water and theoretical aspect of irrigation water pricing, objectives of irrigation water pricing; the different modes of water pricing followed by the irrigation agency and their potential impacts; current method followed by KNNL for estimating the volumetric water delivery to the outlet; an innovative method for estimating water use by the farmers and irrigation water scheduling; scientific estimation of crop water requirements; devices for measurement of volumetric water delivery from irrigation Channels, in the field; and methods of fixing volumetric water prices for improving the financial viability of WUCS. This module titled *Water Pricing in Channel Irrigation for Improved Irrigation Management: Theories and applications*, which is in the form of a PPT, is to be used for training the officials of KNNL and CADA, as part of the effort to achieve the goal of improved irrigation water management.

#### 8.4 Project Website

The PSC2 B obtained credentials to access the KNNL website <http://knnlindia.com/kaveri2/adb.html> and reviewed the structure and content of the same. The following documents are uploaded in the website during the reporting period;

1. Tranche 2 VNC QPR3 Jul-Sept 2021
2. Tranche 2 VNC APR Jan-Dec 2021
3. Tranche 2 VNC SMR Apr-Sept 2021
4. Tranche 1 Case studies report titled – Harnessing Women Power for Institutional Strengthening – English Version
5. Tranche 1 Case studies report titled – Mahila Shakthi : Yashogathegalu – Kannada version.
6. Tranche 2 Case let title – ‘Neerina Dara Sangrahanne Madidevu’ – Kannada version
7. Jalasampada Issue 11 – Kannada bi-monthly version
8. Neeravari Nirvahaneyalli Mahileyaru mathu Durbala Vargagala Palgolluvike – Kannada version
9. Tranche 2 QPR1 Jan-March 2022
10. GIS maps showing Command area of 16 VNC channels
11. GIS maps showing channel wise all WUCS location and status of registration separately for LB and RB channels
12. GIS maps showing length of 16 channels

13. GIS maps showing DPOs and escapes of Ramasagara channel

14. GIS map showing core, buffer and periphery of HWWA

#### 9.4 PMIS - Improvements

- Data will be captured in hybrid mode (Online / Offline). The online data will be captured using KNNL website (<http://knnlindia.com/kaveri2/adb.html>)
- Offline data (one time data/static data) will be collected and uploaded in the PMIS regularly. Wherever the data is available in the hard form/soft form will be linked to the PMIS.
- Identified and proposed more variables/indicators on process, progress and performance monitoring data.
- Development of input formats and collecting the data for planning and implementation is in progress.
- Action Plans / Targets will be captured and progress monitored regularly.
- Baseline data will be collected to compare the outcomes.
- Key Performance indicators / Impact data will be captured in regular intervals.
- Infrastructure created in the project will be shown spatially.
- A Dashboard will be designed with spatial and non-spatial data.

#### 9.5 PMIS – Sustainable Irrigation Infrastructure Improvement Management system

- Channel / Work / Year /Month wise - Program & Progress details are collected and updated under civil works so far.

Additional information is proposed in the existing PMIS:

- Technical features / Memoirs of the Project/channels, Process monitoring data.
- Mile stones will be defined, progress will be captured against to that for effective monitoring of the programme.
- Data will be captured pertaining to impacts monitoring, Water Efficiency and Productivity etc.,
- A web-based GIS will be developed to show the location, other information and PMIS data of the control structures and non-control structures. All assets will be given a code and linked to GIS along with attribute data.
- Time series data on area irrigated / Year wise / Crop wise / Season wise details will be captured.
- For monitoring of the distribution network related works - a list of all major structures, outlets to be covered in the year concerned and rail/ road crossings/ utility crossings should be defined as targets and monitored for their achievement.

#### 9.6 PMIS - WUCS

Information captured in present PMIS:

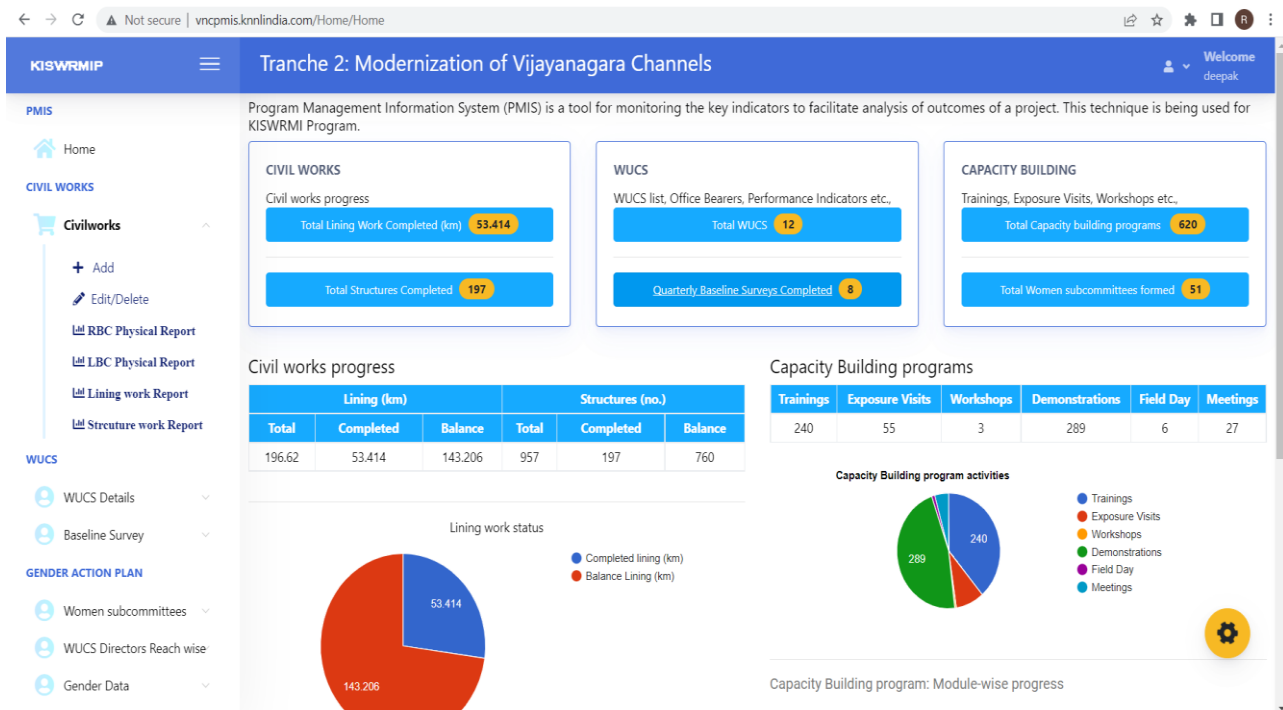
- Office bearers, Baseline / (Basic Information) data is being captured

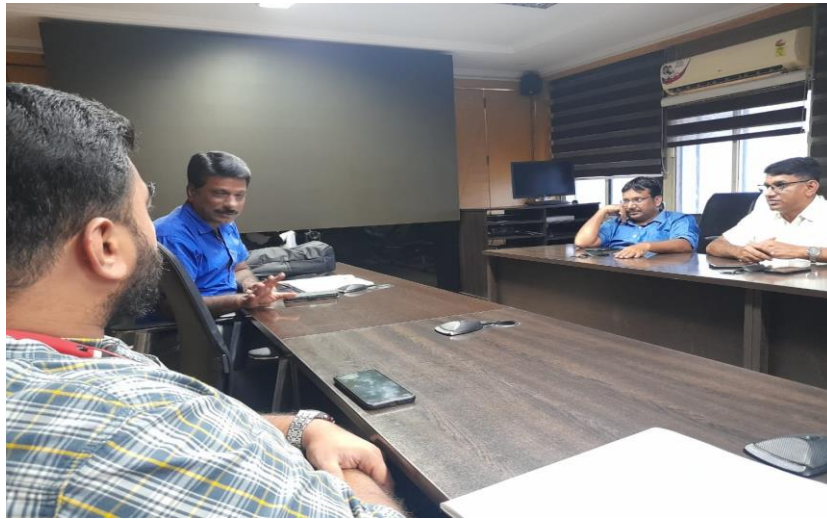
**Additional information is proposed in the existing PMIS:**

- Basic data of the WUCS, membership details, Socio economic data and secondary data.
- Total farmers / khatedars list, GB members list
- Cadastral, soil & land use maps, Crop particulars details list, Water Tax Demand etc.
- Capacity Building
- Information captured in present PMIS:
- Training wise details are being captured.

**Additional information to be captured in the PMIS:**

- Some additional variables proposed in the existing training data viz Participants category, Program type, Date, Villages covered under the WUCS.
- A provision will be given to Upload Images / Videos to each training.
- Few design changes proposed in IEC data.





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KISWRMIP 🏠 Home 📄 DMF 📄 GAP 📄 Agreed Action Points 📄 ₹ Disbursement 📄 📄 Reports 📄 📄 Admin 📄 Welcome subramanya 🚪 Logout

☰ Project Basic Data ▾

Project Basic Data		
1	Name of the Program	Karnataka Integrated and Sustainable Water Resources Management Investment Program (KISWRMIP)
2	Project Number	MFF 0085: Loan 3836 IND
3	Sector	Agriculture & Natural Resources
4	Financial Plan for MFF 2014-2024	ADB \$150 million, GoK \$75 million; Total \$225 million
5	Tranche:2 2019-2024	ADB \$91 million, GoK \$39 million; Total \$130 million
(i)	Loan Signed on	18 November 2019
(ii)	Loan effective from	Loan is effective from 24 Jan 2020
(iii)	Loan Closing Date	Loan Closing by 31 March 2024 and closing of investment program by 24 September 2024
(iv)	Executing Agencies	Water Resources Department of Karnataka through (i) Karnataka Neeravari Nigam Limited (ii) Advanced Centre for Integrated Water Resources Management

☰ Contract award under Tranche-2 ▾

☰ Disbursement under Tranche-2 ▾

*Interaction with PMU officials on further improvement*

**9.7 Asset Management Plan**

With respect to Asset Management Plan with special emphasis on web based GIS asset management plan, PSC 2 B is working on the following:

- (ii) Asset Management Planning
- (iii) Identifies its asset stock (like irrigation infrastructure, sluices, roads, culverts, escapes, etc) and quantifies its condition and performance
- (iv) Inventory of assets at project level, each division, channel and WUCS level
- (v) This is also being part of the material prepared know your channel, hydraulic particulars of the channel
- (vi) Creation of database on assets and dissemination to KNNL officers, WUCS and CADA
- (vii) GIS mapping of VNC assets exclusively for main channels, distributaries, DPOs, FICs, WUCS office building and other structures.

### 9.7.1 GIS Mapping

PSC 2 B is working on generating GIS maps on various parameters and the same is being uploaded in the website. As of September 2022, following maps are generated.

- 3.2.3 VNC channels under VNC modernization program
- 3.2.4 VNC channel command area
- 3.2.5 WUCS command area
- 3.2.6 DPOs location on channels
- 3.2.7 Length of VNC channels
- 3.2.8 Status of WUCS

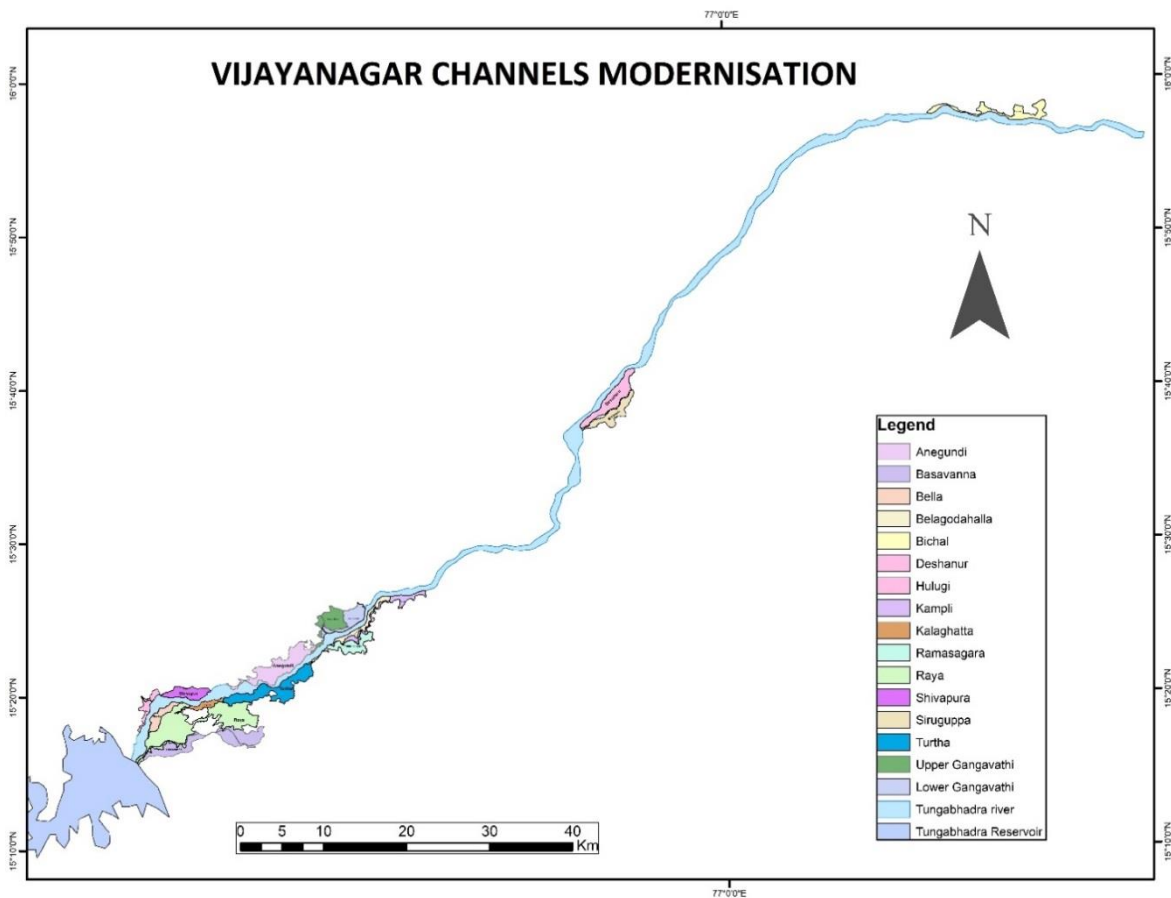


Figure 12 Vijayanagara Channels Modernisation

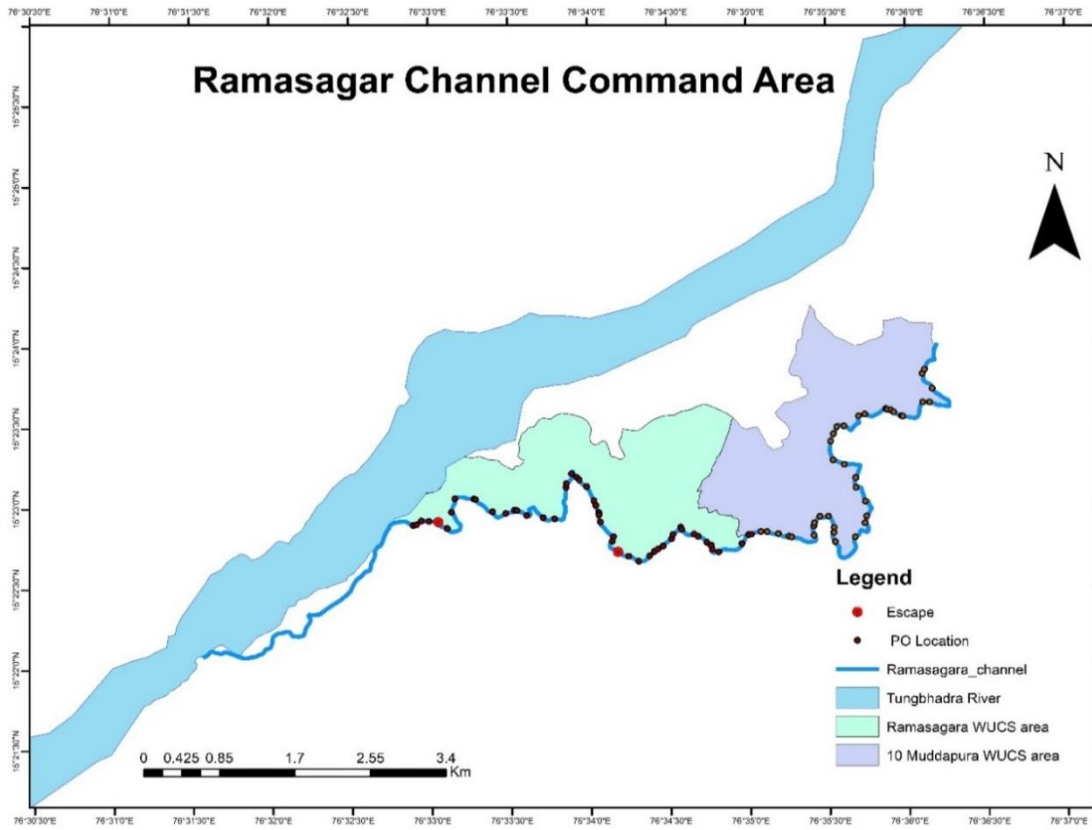


Figure 13 Ramsagar Channel Command Area

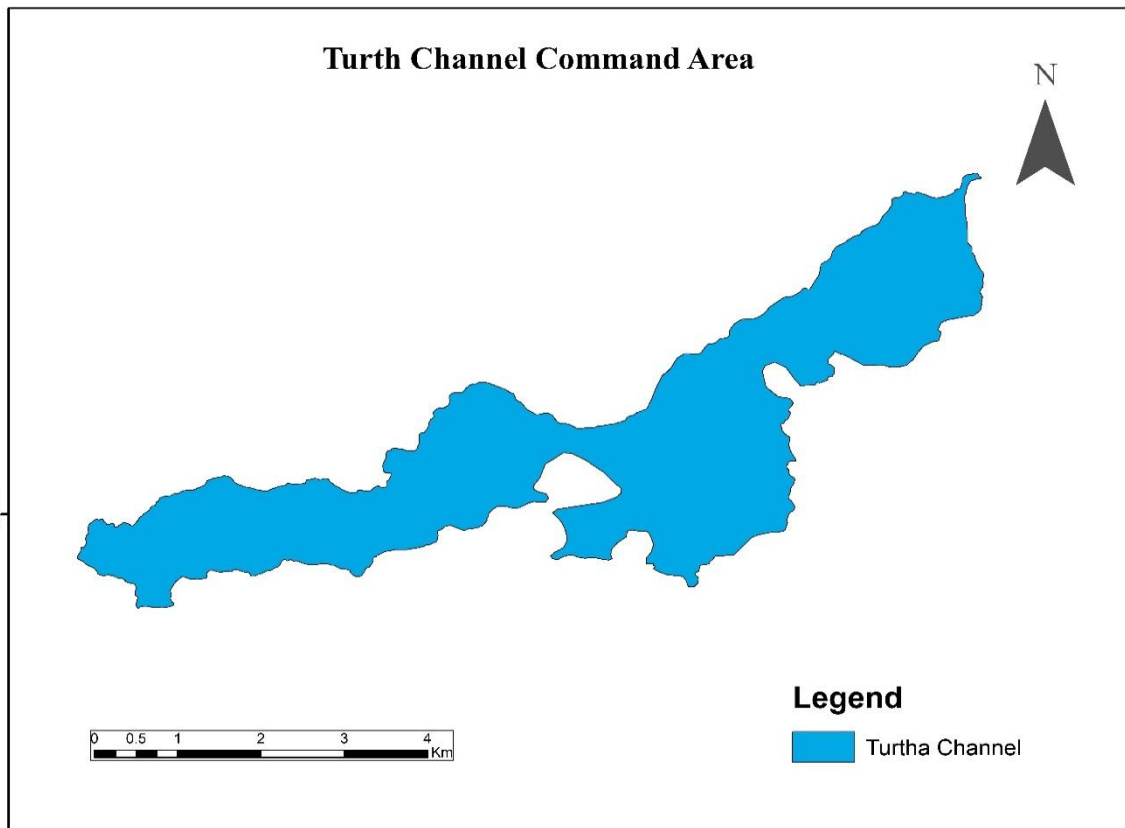


Figure 14 Turtha Channel Command Area



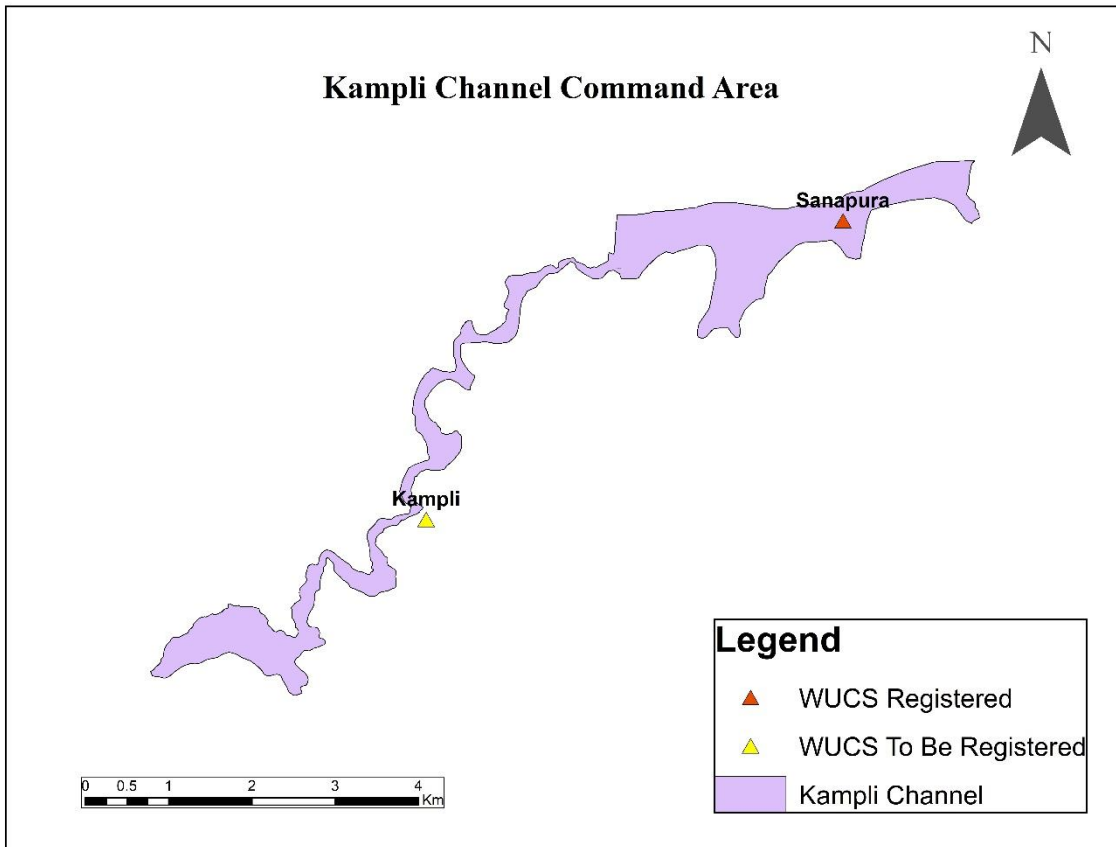


Figure 15 Kampli Channel Command Area

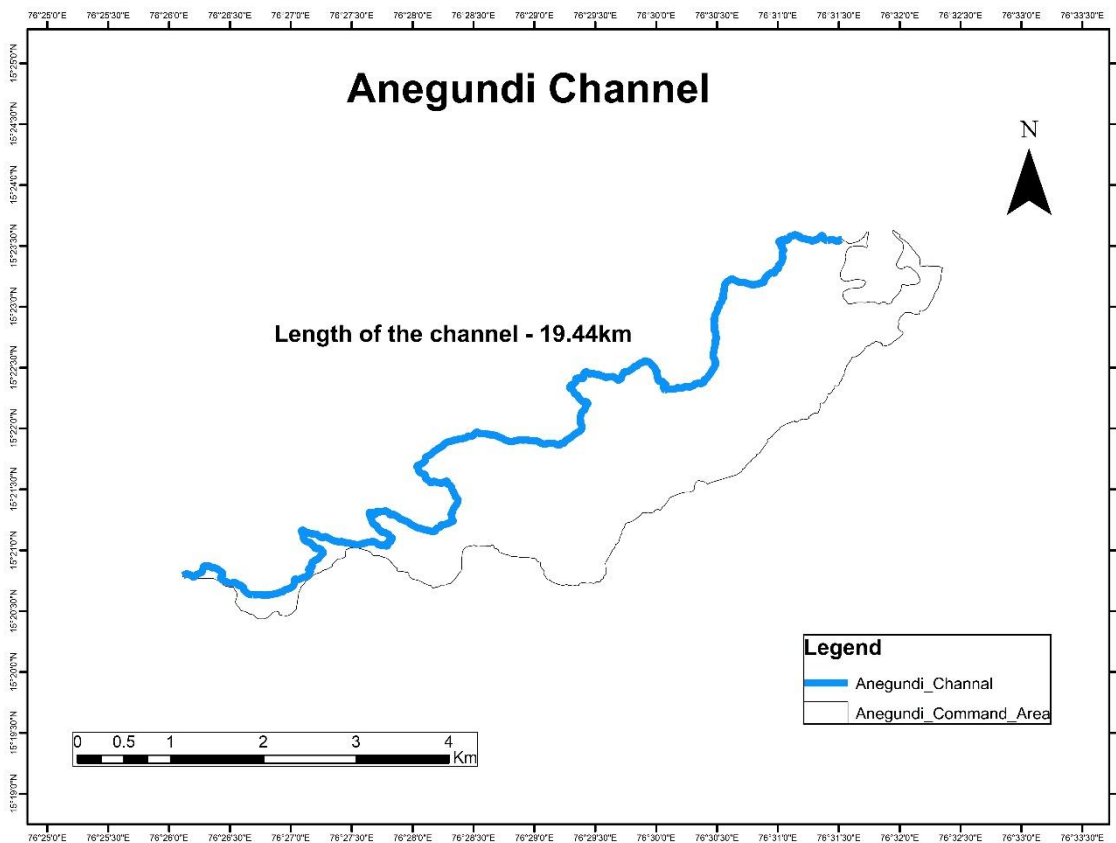


Figure 16 Aneundi Channel

## **10. Cultural and Heritage Sites**

Some section of the Vijayanagara Channels falls in the area of World Heritage Site (UNICEF) – Hampi and is under HWMA authority. The interventions have to comply with certain regulations stipulated by HWMA authority. The following map shows the core, buffer and periphery area of HWHA.

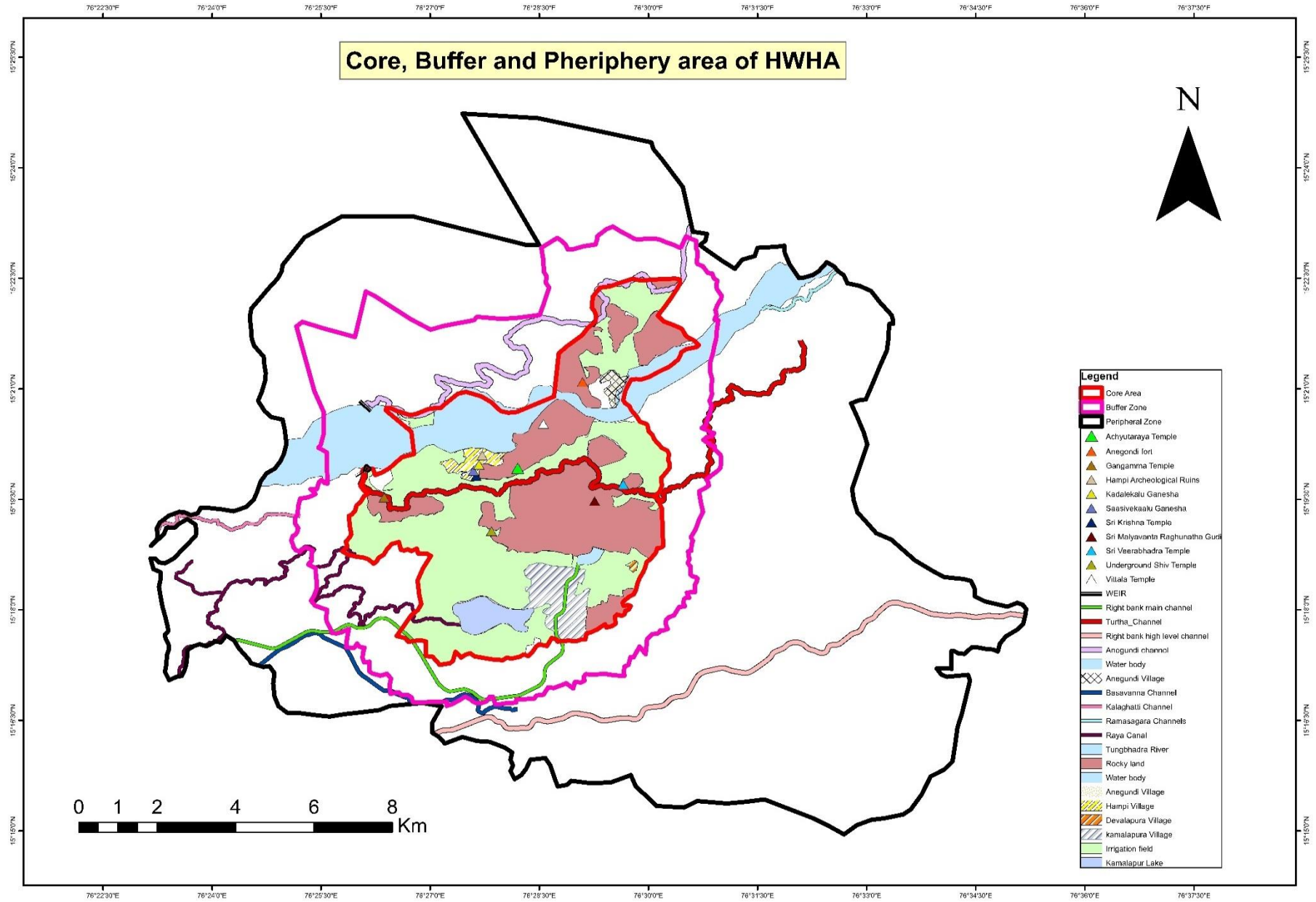


Figure 17 Core, Buffer and Pheriphery area of HWA

## 11. IEC Activities

Review of existing training materials and preparation of appropriate modules and materials and approach and techniques in mass communication were undertaken. The following materials were prepared.

- Preparation of “Know your Channel” Document: The IEC specialist also finalized the “Know Your Channel” document pertaining to all 16 VNC channels. This document covers description of each of the 16 channels, such as history, channel, villages benefitted by the channels, monuments along the channel stretch, hydraulic information like off-take and length of the channel, geographical location such as longitude, latitude, structures, and whether it falls under Hampi Heritage Area or not.
- Otter conservation area and Daroji bear sanctuary, command area, crop details, soil type, number of farmers deriving benefits from the channel, number of WUCS formed under the channel, PO wise *Khatedar* list and a few photographs are also included. The required information for preparing these Channel documents were extracted from different published and unpublished reports, and divisional and sub-divisional offices of KNNL and CADA. Each channel-related document is 4-7 pages long. This will help the water resource department officials, WUCS representatives and others understand the technical and other details of these channels, at a glance.
- WUCS Bylaws: For the orientation and registration of Water Users Cooperative Societies (WUCS) Bylaw book has been compiled, edited and printed. This 38-page book has such details as ‘the guidelines and process of registration of the Society, roles and responsibilities and activities that can be undertaken by the Society
- *Jalasampada* Newsletter: The first draft of this bi-monthly vernacular newsletter, issue # 11 for the months of July-August is ready and was sent it to KNNL and CADA for review.

The issue contains:

- A message by MD, KNNL, Bengaluru
  - An editorial note by the Chief Engineer, ICZ, Munirabad
  - An appeal to WUCS by Administrator, TB CADA, Munirabad
  - An appeal to Farmers by Team Leader, PSC2 B
  - Process of formation of the WUCS, its registration & MOU signing
  - Water Charge Collection by WUCS
  - CAD civil works packages
  - Book-Keeping in WUCS
- Project awareness brochures: To create awareness among the WUCS, Woman subcommittees, general public in project area and different stakeholders about the VNC modernization project, various types of awareness materials are preparing. In the month of Sep 2022, 3 handbills drafts are finalized, namely 1. About the VNC project (including background, history, area, cropping details, scope, activities, list of channels, etc.), 2. WUCS roles and responsibilities (Including background of WUCS, activities, scope, roles and responsibilities etc.) 3. Women and water management (Including Gender aspects, participation of women and vulnerable people in the project, opportunities, activities, expected outcomes, etc.).

In addition to the above said brochures, the first draft document of Agriculture

activities in VNC project area was prepared and it will be finalized in the month of Oct 2022 and the initial draft of the document, titled CAD works concept for use by PSC site Engineers. This broacher briefly describes what a CAD package is, why it is required, works details, WUCS involvement, process of execution of the civil works, etc.

- VNC Essay Competition: To create awareness among school children in entire VNC project area, an essay competition was conceptualized. The objectives of the essay competition are: 1) making the school-children aware of the centuries-old Vijayanagara irrigation system; ii) providing information to these children about Vijayanagara and other kings who built these ancient water systems; iii) Introducing them to traditional methods of water management; iv) making the children aware of the need for protection of the VNC anicuts and Channels; and, v) keeping them informed of the project on modernization of VNC.

The first essay competition was announced in Govt. Higher primary School, Nagenahalli, Hospet taluk, Vijayanagara district on 20th Aug 2022. This school comes under Raya channel. The Head master Mr. Basappa and other teachers supported the event very well. Around 30 students submitted their essays' to the teachers and PSC has collected the essays' for review.

- The second essay competition was announced in Bukkasagara High School of Hosapete taluk, Vijayanagara district. This school comes under 'Turta' channel tail end area. A total of 60 children- both girl and boys studying in 8<sup>th</sup>, 9<sup>th</sup> and 10 standards have agreed to participate in this essay writing competition. Head Master of the school, Shri Jagadeesh has taken active role in the discussions and agreed to encourage all the students to participate in the competition.
- Preparing a Panel of Resource Persons: During the reporting period, PSC2 B identified and prepared a panel of Resource Persons, who are in-depth knowledge and experience in different thematic areas such as sustainable agriculture, organic farming, animal health, nutritional vegetable garden, value addition in agriculture, etc., and who can be involved in PCS's capacity building activities The expertise of these resource persons will be used as and where required, in the capacity building activities and ToTs (Training of Trainers) being planned.
- Video Documentary

The base exercise on the concept and topics were identified for 10 video documentaries and work plans prepared. Given the technological advancement, the message from video documentaries seems to be spreading fast and as per the TOR there is a provision for making several videos of both shorter and longer duration. The contents of some of these could also be disseminated using the 'You tube' and mobile phones WhatsApp group.

Objective of the Video Films: To communicate the important and relevant issues like History, Project intentions & interventions/Concerns/Issues with respect to Vijayanagara irrigation channel modernization project; to produce a communication material (Video films) useful to educate and to bring awareness and motivation about Vijayanagara irrigation channel modernization project; Video films are useful in training and capacity building programs as tool to disseminate information and initiate action oriented thought process.

To create general awareness and motivate active participation of all stakeholders of the project / Policy Makers / General Public.

- Street Play

To execute street play activity, identified experienced folk artists group and discussed about project expectations and possible theme for the street play.

- Press Clip

Compiled 3 media reports published in Kannada Prabha Kannada daily, Vijayavani Kannada daily and news today Telugu daily which published on 22.7.2022 about EGIS experts' field visit.

- Communication Strategy

As part of communication strategy common Email group (<https://groups.google.com/g/egispssc2>) and WhatsApp groups for easy communication, sharing information etc. The different whatsapp groups created and managed are given in Table 44.

Table 44 Different WhatsApp groups maintained

S. No	Group name
	Project Level
1.	VNC Adhuneekarana Yojane
2.	VNC Neerubalakedaarara Gumpu
3.	VNC Mahila Gumpu
4.	VNC Jenusakanike Gumpu
5.	VNC package 1
6.	VNC Deshikrushikara Mela Gumpu
	WUCS/ Community Level
7.	VNC Huligi WUCS
8.	VNC Dhanapura 2 WUCS
9.	VNC Belagodhahal WUCS
10.	VNC Hosur WUCS
11.	VNC Anegundi WUCS
12.	VNC Chittawadigi WUCS
13.	VNC 88 Mudlapura WUCS
14.	VNC Shivapura WUCS
15.	VNC Siruguppa WUCS
16.	VNC Sanapura WUCS
17.	VNC Deshanuru WUCS
18.	VNC Bandiharlapura WUCS
19.	VNC Bukkasagara WUCS
20.	VNC 10 Muddapura WUCS
21.	VNC Sangapura WUCS
22.	VNC Kaddirampura WUCS
23.	VNC Hirejanthakal WUCS
24.	VNC Chikkajanthakal WUCS
25.	VNC Kamalapura WUCS
26.	VNC Hosahalli WUCS
27.	VNC Bitchali WUCS
28.	VNC Amaravati WUCS
29.	VNC Malapanagudi WUCS
30.	VNC Kalaghatta WUCS

31.	VNC Narasapura WUCS
32.	VNC Kampli WUCS
33.	VNC Ramasagara WUCS

- “Know your WUCS” Document: A format has been developed to collect information related to all the 29 WUCS, such as profile of the WUCS, composition of the executive body, the irrigation assets, financial support received from CADA and others, command area, crops cultivated, etc.

## 12. Financial and Procurement Management

### 12.1 Financial Management

The financial management system practiced at the present at different levels such as PMU, PIO and CAO, Dharwad of KNNL has been reviewed and the needful changes are recommended. The details are as reported below;

- The existing practice of finance reporting mechanism at PMU, Bangalore, PIO, Munirabad and CAO, Dharwad of KNNL reviewed and action to be taken report has been shared to PMU, Bangaluru as shown in Annexure-3
- Visited the Sangapura WUCS to assist in preparation of BOQ estimate for CAD package as per design of WUCS building and FIC survey measurements, details available under CAD package section.
- Prepared the Financial Management note for the inception report.
- Reviewed and assisted in preparation of PMU in PFS compliance to ADB, EPA observations to incorporate in QPR reports for QPR1 Jan-Mar 2022, QPR2 April-June 2022 and QPR3 July–Sept. 2022. Details notes available in Unaudited PFS for each quarter.
- Reviewed the Audited PFS for the FY 2020-21. The Gaps in the Auditors report has been addressed and shared with General Manager (Finance) of PMU, KNNL during wrap-up meeting.
- Developed excel formats for WUCS books of accounts with Receipts and Payments, Income and expenditure statements and Balance Sheet for the Committee resolutions for the activities to be executed for claims of payments for reimbursement procedure, the document translation to Kannada is in process.

### 12.2 Procurement Management

The present procurement system under the project has been reviewed and needful recommendations are made as detailed below;

- The Procurement plan format was prepared and shared with the PMU and PIO of KNNL. The excel sheet shows the details of office furniture, equipment, software and vehicles. There is a provision of items to be procured as per the table in the Aide memoire of ADB review mission, KNNL for office furniture, equipment, software and vehicles. A provisional estimate value of USD\$ 1,120,00.00 which is (\$11.20 Million) equivalent in INR 760.00 Lakhs which is (INR 7.60 Crores). The currency exchange conversion rate of INR 76.00 for 1 USD is considered. The procurement method as per the table is Request for Quotation (RFQ). The review of the draft RFQ would be on Prior Review by ADB. Number of packages to be prepared is 12. Each contract

not exceeding USD \$ 100,000 equivalent to INR 76.00 Lakhs per package. The detailed format was shared through email on 14 September 2022 to EE, TR division.

- Prepared the Procurement and Disbursement note for inception report.

#### Methodology in executing the Procurement Plan

- a. Prepared excel format for Procurement Plan, Procurement Monitoring reports with payment details as prescribed by ADB.
- b. Discussed and developed excel format listing of items goods & equipment and civil works requirement from implementing agency KNNL (PMU, PIO & CAO).



## 13. Operation and Maintenance

Regular efficient and effective operation and maintenance (O&M) of the entire irrigation system, starting from reservoir, main canals, distributaries and tertiary canals to the on-farm water delivery system is necessary to achieve the goal of improved irrigation management. The PSC 2 Part B will assist KNNL, CADA and WUCS in developing policies, operational rules, procedures and practices for improved operation and maintenance of the canal systems starting from the main system to the tertiary canals.

Operation & Maintenance (O&M) of the tertiary canals will be primarily the responsibility of the WUCSs in the long run. The development of O&M work plan and its implementation will be shouldered by PIO, CADA and SST.

### 13.1 Objectives of Improved Operation

- Release the agreed volume of water to the WUCSs at the agreed times
- Ensure equity in distribution of water across the system
- Changing water release policies in response to events such as rainfall and emergency conditions such as breach in the canal
- Minimize conveyance losses
- Disseminate information about water delivery schedules to WUCSs and other Stakeholders

### 13.2 Objectives of Improved Maintenance

- Maintain the main system in a suitable condition to meet the operational objectives
- Judicious use of maintenance funds
- Operationalize the MOU undertaken between KNNL and WUCS for O&M
- Minimize interruptions to water releases that occur due to deferred maintenance

In order to realize the operation and maintenance objectives of KISWRMIP, the following actions are planned:

- Review of existing documentations like various type of operational plans and practices with KNNL, CADA and WUCS (i.e., operational plan, operation data, operational policy, rules & specifications, operational procedures (such as water distribution, system scheduling, indenting and ordering, operation of water delivery system, etc.), emergency preparedness plan, irrigation plan- annual & seasonal, maintenance work plan, maintenance data, routine maintenance plan, catch up maintenance plan, preventive maintenance plan, essential structures maintenance plan and operation & maintenance manual.
- Review and discussion about present irrigation system operation with KNNL engineers/authorities
- Review and discussion about present operation of tertiary canals and on-farm water management practices with KNNL, CADA and WUCS (Federation too).
- Develop broad operating principles and prepare system-specific operation manual, based on the outcomes of the above discussions. WUCS input shall be used in development of the operation plan and WUCS shall have responsibility in managing some aspects of the plan.

- In order to improve the overall system efficiency, specific strategies will be evolved on the following: 1) optimum delivery of water at canal head to meet indented demands while reducing evaporation and seepage losses; 2) plugging leakages; 3) controlling unauthorized diversions and other unaccounted uses; 4) improving reliability of supply to prevent the farmers from over-irrigating their fields; improved conveyance and distribution; improved field application efficiency that optimizes soil moisture, reducing evapotranspiration from weed growth and using water efficient crop management practices; and, improved drainage.
- All these strategies have to be operationalized by KNNL for main canal system and by the WUCS for FICs, with the assistance from CADA wherein PSC2 Part B will step in through trainings and exposure programs.
- During the previous year, the Government of Karnataka has issued an order that the CAD civil works could be undertaken by KNNL engineers, hence CB on infrastructure below direct pipe outlet to KNNL and CADA staff.

### 13.3 Main System Flow Measurement

Improved flow measurement will aid better operation of the irrigation system both in terms of day-to-day management of releases and quantification of volume of irrigation water delivered. Main canal flow measurement will use electronic flow-measuring devices with telemetry to enable real time data acquisition to guide system operation. Likely measurement points are the outlets at the boundaries of WUCSs, at major inflows and possibly at selected outflow points of the commands. In addition, flow measurement using flumes with water level and flow volume recorders is proposed for all outlets so that the volume of water delivered to individual WUCSs can be measured. The Operation and Maintenance specialist will use the data collected using the flow measuring devices to examine how far the actual canal operations are aligned with the water release policies.

### 13.4 Support to Operators and WUCSs

#### 13.4.1 Support to System Operation

System operators (KNNL) will need support to enable them make best use of the system. Capacity building activities will be undertaken to enable them:

- Undertake more efficient and effective operation and maintenance of the irrigation distribution system.
- Benefit from the flow measurement and information generated therein to achieve more responsive and efficient operation to support the WUCSs in achieving equitable distribution and minimize wastage.

Capacity building of the WUCSs is also required to enable them undertake more efficient and effective operation and maintenance of the irrigation distribution system.

#### 13.4.2 Support to System Maintenance

Effective maintenance requires not only improved asset management but also adequate finance to meet the costs. KNNL, CADA and WUCS work towards estimation of maintenance cost and mobilizing the same through available funding sources. Collection of water charges from farmers is one sustainable source of revenue for meeting O & M expenses.

Here are a few observations made:

- No formal document for Plan of Operation & Maintenance exist with the KNNL resulting water distribution seems arbitrarily. No formal maintenance procedure in place as well.
- As civil work for modernization of VNC channels are on, pipe out let are not having control gates and the discharge through them is continuous and are being closed temporarily.
- As the Channels run throughout the season, water loses through seepage and wastage due to over irrigation are excessive, consequently water logging & drainage problems.
- Water stagnation is also observed in certain reaches due to presence of vegetation and debris deposited in the Channels.
- Need of proper training and capacity building of Neerganti and others field level workers were assessed after discussion with them over O&M issues.
- During the visit to ongoing civil work of Channel lining it was observed that sufficient inlet at all required location are not provided consequently farmers themselves making holes through the lining of Channels, wherever farmers felt need to pass the stagnated water in their fields through the lining (recently done) of Channels.

The team held consultation and discussion with KNNL staff to understand the current and prevalent arrangement and procedures concerning Channel system operation and maintenance. Visits were made to Anegundi, Bichal, Deshanuru, Siruguppa, Kampli and Ramasagara Channels of VNC to see the ongoing civil works of Channel lining and construction of proposed structures in order to assess and foresees the issues and challenges in regards of O&M.

During the reporting quarter, the team visited Oderahatti Irrigation Division of KNNL (along with the Int. Irrigation Specialist and Irrigation Specialist) to understand and review the procedure/process of preparing water bills of WUCS by KNNL division staff. Discussion was held with Mr Vishwanath, AE (Gangawati lower Channel), Mr Krishnaiya, AE (Gangawati upper) and Mr Taajuddin, Accountant posted at Oderahatti division of KNNL.

### 13.5 Observations/Findings

At present, water bills are being prepared by taking average duty for the command area of WUCS to serve (i.e., 60 Acres per Cusec) as there is no arrangement at present to measure the volume of water supplied for irrigation to WUCS. However, provisions for measuring volume of water to the WUCS have been made in the modernisation work of VNC.

- None of the VNC Channels have any control structures or measuring devices.
- Department estimates the discharge of the Channel and the time duration for which water is released through the Channel to estimate the unit of water.

- These discharge figures were based on the 'duty' estimated for the Channels, based on the command area they had to serve. The average duty used was 60 acres per cusec.
- At many locations along the Channel drainage water from the irrigated paddy fields of upper Gangavathi Channel entering the lower Gangavathi Channel through pipe drains
- The modernization work of Lower Gangavathi Anicut has not yet started
- There was no work was in progress at Upper Gangavathi Channel and Lower Gangavathi Channel. It was observed that lot of vegetation growth in constructed Channel section and its berm also.
- There was no work was in progress at Lower Gangavathi Channel. After construction of Channel, it is kept like abandon and no maintenance activities are being done, resulting lot of vegetation growth in constructed Channel section and its berm also. If, it will not remove timely than it will hamper the health of Channel adversely.

### 13.6 Interventions

In order to ensure equity in water distribution and charge for water charges based on the actual volume of water utilized by the farmers, there is a need to have a system for allocating the fixed amount of time for irrigating the field based on the irrigation water requirement (IWR) of individual crop grown and its area cultivated. Implementing volumetric water pricing will enable O&M cost recovery & surplus fund generation as well, efficient water use, equitable water distribution and less wastage of water.

The PSC2 B collected the details of proposed structures (Channel-wise) and the same is expected to help monitor the progress in a better way and impart on-job training to field staff (Neerganti, Gangman and Water Inspector) on O&M aspects. He had also collected the "Irrigation Manual for Major and Medium Project-1974" from Oderahatti division which was developed and prepared by a committee constituted by the then Chief Engineer. This is the only document available with KNNL division offices regarding policy, procedure, structure and system for O & M. The relevant sections and content of this manual will be useful while preparing O&M Manual for VNC.

Currently, the team is holding consultation and discussion with concern KNNL staff and other stake holders of VNCs to understand the current and prevalent arrangement/procedure/ systems for O&M. The channel wise and structure wise construction progress is prepared.

- Introducing the concept of pricing irrigation water on the basis of the irrigation water requirement of the crops in the command.
- The idea of allocating fixed amount of time for each farmer for irrigating the fields based on the irrigation water requirement (IWR) of the crops grown and the area cultivated, and charging based on the estimated volume of water needed for crop maturity was also shared with the engineers. It was pointed out that such a system would ensure equity in water distribution and charges proportional to the volume utilized by the farmers.
- At some place, the Channel cross section get affected by rocks projections, where lining work is not continuous, there proper bonding/flushing be confirmed with the rock forms. This could cause problems of scouring in future as water passes through the gap between the concrete lining of the side slope and the soil.
- The weeds/vegetations should be removed timely otherwise it will hamper the health of Channel adversely.

## 14. Tungabhadra Left Bank Canal

### 14.1 Overview of Tungabhadra Irrigation System

This system has a command area of 244,000 ha supplied from the Tungabhadra dam via a 227 km long main canal. Construction commenced in the 1960s and was envisaged as a system to provide supplementary irrigation to crops that are subject to erratic rainfall during the kharif season. A disproportionate amount of water is used for paddy production in the upstream part of the command and water is reported to rarely reach the tail end areas. New concrete lining has been provided for most of the main canal and some of the distributaries in order to reduce conveyance losses. Groundwater is used to supplement canal water supplies in all the command area and, within about 5km of the Tungabhadra River, pumped river water is a major supplementary source for the tail end areas of the distributary canals where canal water supplies are often erratic.

The feasibility study of Tungabhadra Left Bank canals is for system modernization, including installation of flow control structures (such as installation of cross regulators on the canals, providing gates for the canal outlets), flow measurement below the outlets, flow measurement at the boundaries of divisions, telemetry, canal automation, and lining of several of the distributaries. Like in Tranche 1, TLBC will also involve building and strengthening of Water Users Cooperative Societies and agricultural improvement in the command area. The feasibility study for the system modernization work is to be carried out by PSC 2 Part B.

### 14.2 Status of TLBC Feasibility Study

Keeping in view the specific objectives of the Tungabhadra Left Bank Canal (TLBC) modernization plan, the following reports will be prepared as part of the feasibility study report: 1) technical feasibility of carrying out various modernization works of TLBC; 2) hydrological opportunities for improving irrigation performance, including better equity in distribution of water across the distributaries, through system modernization work; 3) Environmental Assessment Review Framework (EARF); 4) Poverty and Social Assessment (PSA); 5) Social Safeguard Due Diligence Report (SDDR); 6) Resettlement Framework; 7) Summary Poverty Reduction and Social Strategy (SPRSS); and 8) Economic and Financial Analysis (EFA).

Based on a careful examination of the various components of the modernization work envisioned, the types of analysis required for carrying out the technical feasibility study, economic viability, and social and environmental impact assessment of the TLBC modernization plan and the methodology for carrying out these analysis were identified, and the types of data to be collected from various sources were also identified during the past three months. They are summarized below.

The technical/engineering part of the feasibility study report preparation will involve the following: i) examining the original design of the scheme and the assumptions involved; ii) detailed hydrological assessment of the inflows from the TB catchment, and the water demands in the command area (current and likely future) to ascertain the availability of sufficient amount of water for irrigating the proposed command area; iii) the structural condition of the canal network of TLBC, the losses in the system during conveyance of irrigation water through the main canal, distributaries and field channels, and problems related to delivery and distribution of irrigation water (adequacy, reliability, control, equity in distribution across the system); iv) analyzing the physical, chemical and bacteriological

quality of water in the canals; and, v) studying the condition of groundwater in the command area and waterlogging & salinity problems, if any.

The technical/engineering part of the feasibility study report preparation will also involve: i) study of the topography, soils, geology and geohydrology to ascertain the technical feasibility of the proposed modernization work; ii) long-term changes in rainfall and temperature of the area, and inter-annual variability in these parameters to understand their implications for irrigation water demand for crop production, and inflows from the catchment to meet the crop water demand; iii) studying the processes leading to contamination of canal water, and the technical feasibility of improving canal water quality; and, iv) studying the land holding pattern, cropping pattern, climate, soils and access to well irrigation in the command area to ascertain the scope for improved water management and agricultural productivity through adoption of water-efficient irrigation methods and water-efficient crops.

The analysis of long-term trends in the rainfall and temperature and long-term trends in the inter-annual variability, combined with the rainfall-runoff relationship that existed for the catchment (prior to the building of TBD) will be used to derive implications of such long-term trends in climatic parameters and their characteristics on the current and future surface water availability for irrigation water supplies.

The analysis will particularly look at the characteristics of the observed rainfall and temperature for a time period prior to the construction of the reservoir, a period from the time of construction of the reservoir and present, and the characteristics of the predicted rainfall for the future time period of 40-50 years and their implication.

The economic viability aspects will involve the evaluation of the incremental economic benefits that can be derived from the scheme modernization (through improved yield, increase in cropped area, and introduction of high value crops, etc.) against the additional investments required for modernization. The economic evaluation will also include the social costs and benefits (i.e., the negative and positive externalities of the interventions). The financial analysis for the proposed project will be carried out by the Financial Management Specialist.

For social impacts, the likely impacts in terms of displacement, land acquisition, rural poverty and gender will be analyzed by the Social Development and Gender Specialist. For environmental impact assessment, the likely impacts on forests, groundwater and biodiversity will be analyzed by the Environmental Specialist.

## 15. Strengthening Basin and State Level Institutions for IWRM

### 15.1 River Basin Planning: Tungabhadra Sub-Basin

Scientific planning based on sound knowledge of hydrology, geohydrology, hydraulics, economics and other social sciences and environment is important for sustainable development and management of water resources. During the reporting period, the International Irrigation Specialist had reviewed the critical issues related to river basin planning in Karnataka. Also, the current state of knowledge and the status of work with respect to river basin planning for major river basins of the state, were assessed. Also, the ongoing studies on river basin planning being carried out by KNNL, and ACIWRM were reviewed. A total of four reports prepared by ACIWRM on river basin planning and institutional aspects of IWRM were reviewed by the International Irrigation Specialist. They are:

- 1) Tungabhadra river basin profile;
- 2) River basin plan: Tungabhadra and Vedavati basins;
- 3) Integrated river basin management of Tungabhadra sub-basin: an institutional framework; and
- 4) Water sector governance in Karnataka: policies, acts and institutions

The reviews looked at the following: i) the robustness of the methodologies and tools used for constructing basin water balance and scenario building; ii) the contents and quality of the training programmes being undertaken by ACIWRM; iii) the status of implementation of K-WRIS; and iv) progress in implementation of two land and water management pilots in Tungabhadra Left Bank Canal (TLBC) system. Particular emphasis was on checking whether the methodologies are robust enough to integrate IWRM concepts while estimating the water demand and supplies and changes in resource conditions for building basin water balance, and the validity of the assumptions made with regard to future changes in water availability and socioeconomic conditions that determine the demand for water.

A review report synthesizing the findings of the review has been prepared. One of the issues identified with respect to the studies done by AC-IWRM was the absence of a scientific methodology for accounting of water use, which led to over-estimation of contribution of groundwater to meeting various water requirements in the Tungabhadra basin. It was found that the contribution of surface water sources allocated from the large reservoirs and tanks to irrigation was highly under-estimated. Another problem identified was over-estimation of consumptive water use in paddy.

As the next step, recommendations will be made to strengthen river basin planning to make the process robust. For this, the team from PSC 2 B has planned to hold a meeting with the key officials of ACIWRM to discuss the findings of our review of the basin planning work being carried out by them on October 06, 2022.

### 15.2 Strengthening Institutions for IWRM

International experience suggests that effective IWRM has fairly common features where: (i) The institutional framework is both robust and flexible, and includes modern legislation and an integrated policy framework, (ii) Planning and management of water resource is knowledge driven, and involves good collection and management procedures and the same data is used to support planning and decision making (iii) Integration is built into institutions, resource management, and policy and the environment is recognized as a legitimate water

user, (iv) Community awareness raising and participation is a key part of water resources management so that communities understand and contribute to solutions through local management and actions. ((v) A single agency is responsible for coordinating overall water resources planning and management; vi) the agency that is engaged in water resources management and water allocation and the agency which is responsible for water-related services are not the same; and vii) There is monitoring to evaluate whether the river basin is being managed sustainably.

The current structure, functions and roles of the various water institutions active in the state and in Tungabhadra basin will be analyzed vis-à-vis their ability to contribute to sustainable development and management of water resources and (inter-sectoral) water allocation in the basin by comparing them against the internationally accepted institutional design principles for sound water resources management (Frederiksen, 1998; Saleth and Dinar, 2004; Kumar, 2006). Also, the 'institutional health' of the water agencies in the state will be assessed by looking at the laws/regulations related to water, water policies, and water administration. Accordingly, suggestions on the key reforms needed (law, policies, etc.), the changes/modifications needed in the organizational structure and nature of capacity building of the human resources (staff) of these institutions will be made.

Particular emphasis will be on strengthening the capabilities of ACIWRM, which has been created to promote IWRM in the state, by providing technical support, for carrying out basin level water resource planning using sound IWRM concepts, and for assessing basin-scale water use efficiency and water productivity.

Thereafter, based on the need identification, capacity building training programmes will be undertaken for the senior officials of various water agencies (such as the state WRD, KNNL, Rural Drinking Water and Sanitation Department (RDWSD) Karnataka, ACIWRM, CADA, etc.) on analysing the performance/effectiveness of water institutions; and principles and practices of IWRM; and institutional design principles for sound water resources management that is based on IWRM concept.



## 16. Effect Monitoring Study

Irrigation creates a wide range of impacts: first at the household on the irrigators, and at the societal level on agricultural labourers and non-farm wage labourers. These impacts include, social, economic and socioeconomic. The impacts can be direct and indirect. The direct impacts can be on the farming system, crop and milk yield, farm employment, division of labour within the household, household expenditure, domestic food security and nutrition, knowledge of improved agriculture, incidence of water-borne diseases, and household-level decision making on farming enterprise. The indirect impacts can be on agricultural and non-farm wage rates, change in extent of out-migration from the irrigated area, and agro industries. The effects monitoring study is to be carried out by the PSC 2 B for both the completed Gondi irrigation modernization project and Vijaya Nagara Channel modernization project, which is being undertaken. The International Irrigation Specialist from the PSC 2 B team has worked on conceptualizing these studies and has developed a methodology for the same. The key components of the effects monitoring study, visualized, are as follows:

The Effects Monitoring study will include the following tasks:

- Capture the effects triggered by the improvement in irrigation services related to agriculture, animal husbandry, farm labour and non-farm employment
- Capture the effects of improved irrigation services on division of labour within households, women's workload, women's leisure, domestic food consumption and nutritional intake
- Examine access to irrigation water in all the three reaches of the project, namely, the head, middle and tail end, during both kharif and rabi seasons as a function of change prior to project;
- Examine the impacts on domestic food security and nutrition
- Examine the changes in knowledge and capabilities of the farmers, including the women farmers; and,
- Capture women's empowerment aspect being sustained through various activities initiated during the project duration

The detailed methodology for analyzing each component is being worked out. The study will involve collection or primary data from the farmers who receive canal water, the farm and non-farm wage labourers, women within the farm households.

## 17. Conclusion and Way Forward

There are several challenges in operationalizing IWRM in the context of Tungabhadra (sub) basin, especially in the immediate downstream areas of Tungabhadra reservoir from which the Vijaya Nagara Channels receive inflows. Application of IWRM concepts in the implementation of KISWRMIP suggests that there is judicious use of both surface water and groundwater resources for agricultural productivity improvement in a manner that the integrity of the hydrological system is not compromised and water needs of multiple sectors (irrigation, domestic use, industry, livestock use, water use for fisheries and environment) that are often competing are met with minimum conflicts over water use thereby meeting social, economic and environmental goals. The underlying challenges are scientific, technical, and institutional. This means neither should there be problem of excessive withdrawal of water from the river and groundwater mining, nor there should be problem of waterlogging and salinity.

The scientific challenges concern understanding the hydrological system behaviour—surface water groundwater interactions, the changes in the flow regime of Tungabhadra catchment due to climate variability and change. The technical challenges concern modernizing the water diversion system (such as anicuts) and water distribution system (channels) and establishing greater control over water delivery. The institutional challenges concern making the farmers participate in irrigation management through strong local institutions and ensuring equitable water allocation, efficient water pricing and effective recovery of water charges to cover the operation and maintenance cost of the irrigation system, and reorienting the water resources department to make it capable of implementing IWRM practices for sustainable water management.

One of the most important components of Tranche 2 is VNC modernization, which involves lining of main channels and Field Irrigation Channels and construction of control and non-control structures. The Civil Works on irrigation system modernization of the main canals is still lagging. The non-availability or shortage of construction materials, especially sand, has been cited as the reason by the contractor during the construction progress review meetings. Untimely rains have also affected the speed of construction work. The overall progress as on September 30, 2022 is only about 44%. The Construction Management and Quality Assurance Specialist is analyzing the data pertaining to the past progress, individual channel-wise and arrive at an estimate of the time required to complete the works, if the work continues at the current pace (with the same amount of labour, machinery, and with single shift). The idea is to make concrete suggestions for speeding up the work.

A major achievement during the quarter on the institutional front are: 1) the development of CAD works package, with the Memorandum of Understanding, the BOQ for the works (FIC and WUCS building), the design drawings and cost estimates; and 2) a simultaneous enhanced preparedness of the WUCS to take up CAD works. The preparation for undertaking the CAD works is in progress, with many WUCS now satisfying the criteria to qualify for undertaking the works with registration, opening of bank accounts and other necessary documentation. A large amount of survey work required for preparing the detailed proposal for undertaking CAD works is completed by the WUCS under four of the channels. This will result in the respective WUCS to take up activities of construction of Field Irrigation Channels, which would result in improved water conveyance efficiency and increased reliability of irrigation water delivery to the farmers' fields.

A full-fledged Staff Support Team is already in place in the two field offices. They will function as the backbone for undertaking the institutional capacity building work, especially the

awareness programmes, on-job trainings and setting up of field demonstrations targeted at the farmers and WUCS.

Currently, PSC 2 B is in discussion with the officials of KNNL and CADA to identify the nature of trainings that they require and which will help them improve the quality of their inputs for the successful implementation of the ongoing project (KISWRMIP, particularly VNC modernization project) and beyond. Accordingly, in the coming months, the PSC 2 B will focus more on capacity building of the government agencies in Construction Management and Quality Assurance (CMQA), Participatory Irrigation Management (PIM), Integrated Water Resources Management (IWRM) and Water Use Efficiency (WUE), etc.

The ongoing work on development of irrigation performance indicator (with focus on equity), the development of performance assessment index for WUCS and the development of Project Management Information System (PMIS) would be a critical input for strengthening the institutional capability building of the sector agencies in monitoring the progress in implementing the irrigation modernization work and overall project management.

By the end of the reporting period (period ending September 30, 2022), the PSC 2 B team could organize on workshop for the WUCS on implementation of CAD packages in which the process and procedure to be followed for CAD package implementation were discussed. The Tranche 2 PSC 2B team has already prepared a tentative training calendar for the capacity building activities to be undertaken for the WUCS for their institutional strengthening. A total of 38 capacity building activities have already been undertaken. Activities are being planned on various statutes, irrigation and PIM related Acts, organizational management, accounts keeping, on-farm water management, water allocation and water pricing, etc.

During the last three months, two important visits were made by the EGIS-PSC 2 B team to the agricultural research station in Gangavathi to explore the possibility of undertaking collaborative demonstrations of crop and other agricultural technologies aimed at promoting enhanced agricultural productivity, and water and nutrient use efficiency in agriculture in the region. Several areas of potential collaboration were identified including soil improvement, varietal improvement, on-farm water management, conjunctive use of groundwater and surface water, integrated pest management, integrated nutrient management, crop rotation, etc. The team working on agriculture productivity will be coming up with specific plans to set up demonstrations in the VNC command area on various soil, crop and water management technologies in the coming seasons in collaboration with the ARS.

Overall, the focus in the coming months will be implementation of the CAD packages by the WUCS that are ready and preparation of the feasibility study report for the modernization of Tungabhadra Left Bank Canal.

## Annexure 1

### Status of WUCS in VNC

#### 1. INTRODUCTION

The ADB supported *Karnataka Integrated and Sustainable Water Resources Management Investment Program (KISWRMIP)* has a component of forming/strengthening Water Users Cooperative Societies (WUCS) under VNC Modernization Project. The VNC project should have 29 WUCS as per norm based on standard command area of each WUCS. Upto end of September 2022, 23 WUCS are registered and 6 more to be registered. Of those registered 11 are of left bank and 12 are of right bank.

PSC 2 Part B continues to carry out Baseline Assessment which is used as a means to monitor change in the performance of WUCS against select 29 parameters, which revised to 35 parameters. PSC 2 Part B carried out three baseline assessment of WUCS i.e., for QPR1 (end of March), QPR2 (end of June) and QPR3 (end of Sept) of 2022 during the reporting period. The later one becomes the 11th baseline assessment carried out in the left bank and 4th baseline assessment in the right bank for the quarterly progress reporting.

During the reporting quarter, it is observed that there is a wide variation and lack uniformity in WUCS development. Few WUCS were past signing MOU stage and few yet to be notified for the formation of WUCS. Egis, with its past experience of working on evolving an effective method of bringing uniform development of WUCS and preparing WUCS to take up CAD civil works is working on effective strategy with clear approach and method.

Table 46, 47 and 48 provides the Status of VNC WUCS as of 30 September 2022.

Table 42 Status of VNC WUCS in the LB Channels as of 30 September 2022

S. No.	VNC Canals																							
	WUCS		Huligi				Shivapura				Anegundi				Upper Gangavathi				Lower Gangavathi				Bichal	
	Activity	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	12 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	
1	Notification copy		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
2	Promoters List		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
3	Opening Bank Account		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
4	Total farmers/khatedars list		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
5	Share Ledger		Y		N	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
6	Shareholders (%)		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
7	List of shareholders updated		Y		Y	Y	Y	Y	Y	Y	Y		Y	N	Y		Y		Y		N		Y	
8	Registration certificate		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
9	WUCS Byelaws		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
10	WUCS Office		Y		N	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
11	WUCS office building		N		N	N	N	Y	N	N	N		Y	N	N		N		N		N		N	
12	Letter head		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
13	WUCS Board Functional		Y		Y	Y	Y	Y	Y	N	Y		Y	N	Y		Y		Y		Y		Y	
14	CEO appointed		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
15	GB members list		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
16	PAN Card		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
17	TIN/GST/TAN		N		N	N	N	N	N	N	N		N	N	N		N		N		N		N	
18	Bank Passbook updated		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
19	Cadastral, soil & land use maps		N		N	N	N	N	N	N	N		Y	N	N		N		N		N		N	
20	Crop particulars detail list		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
21	MOU with KNNL		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
22	Meeting notice book updated		Y		N	N	Y	N	N	N	Y		Y	Y	Y		Y		Y		Y		Y	
23	Annual Audit report maintained		Y		Y	Y	N	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
24	General Body meeting minutes register updated		Y		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
25	Governing Body meeting minutes register updated		Y		N	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
26	Inward & Outward Register updated		Y		N	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
27	Board of Directors Strength (no.)		12		N	12	12	12	12	12	12		12	10	10		10		11		11		12	
28	Applied for One-time functional grant		N		Y	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y	
29	One-time grant received (%)		N		N	N	N	N	N	N	N		N	N				N		N		N		N
30	One-time functional grant received (INR in Lakhs)		N		N	N	N	N	N	N	N		N	N				N		N		N		N
31	WUCS collecting water charges		N		N	Y	Y	N	N	N	Y		N	Y	N		Y		Y		Y		Y	
32	Annual maintenance grant received (Y/N)		Y		N	N	Y	N	N	N	Y		Y	Y	Y		Y		Y		N		Y	
33	Cash book updated		N		N	N	N	Y	Y	Y	Y		Y	Y	Y		N		N		N		N	

S. No.	VNC Canals	Huligi						Shivapura				Anegundi				Upper Gangavathi				Lower Gangavathi				Bichal	
	WUCS	Huligi		Kamapasagara		Shivapura		Bandiharapura		Anegundi		Sangapura		Hirejanthakala		Hosahalli		Chikkajanthakal		Danapura-2		Bichali			
	Activity	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	12 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL	1 <sup>st</sup> BL	11 <sup>th</sup> BL		
34	Income and expenditure register updated		N		N	Y	Y	Y	Y	N	Y		Y	Y	Y		N		N		Y		N		
35	WUCS involved in O&M activity		N		N	Y	Y	Y	Y	Y	Y		Y	Y	Y		Y		Y		Y		Y		
	Total Parameters		35		35	35	35	35	35	35	35		35	35	35		35		35		35		35		
	No. of parameters achieved/in place		24		19	26	27	27	26	24	28		30	27	28		27		27		26		27		

Table 43 Status of VNC WUCS in the LB Channels as of 30 September 2022

S. No.	VNC Canals	Basavanna				Raya								Bella				Kalaghatta		Turtha			
	WUCS	Amaravathi		Malappanagudi		Nagenahalli		88-Mudlapur		Chittavadi		Kamalapura		Hosuru		Narasapura		Nagenahalli		Kaddiram-pura		Bukkasagara	
	Activity	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL
1	Notification copy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	Y
2	Promoters List	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	Y
3	Opening Bank Account	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	N	Y
4	Total farmers/ khatedars list	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	Y	N	N
5	Share Ledger	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y
6	Shareholders (%)	Y	Y	Y	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	Y	Y	N	Y	N	Y
7	List of shareholders updated	N	Y	N	Y	N	Y	Y	Y	N	Y	N	Y	N	Y	N	N	N	Y	N	Y	N	Y
8	Registration certificate	Y	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	N	N	N	N	Y	Y	N	N	N	Y
9	WUCS Byelaws	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
10	WUCS Office	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	N	N	Y	N	N	N	N	N
11	WUCS office building	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	Letter head	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
13	WUCS Board Functional	Y	Y	Y	Y	Y	N	Y	N	Y	N	Y	N	N	N	N	N	Y	Y	N	N	N	N
14	CEO appointed	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
15	GB members list	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
16	PAN Card	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
17	TIN/GST/TAN	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
18	Bank Passbook updated	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	Y
19	Cadastral, soil & land use maps	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	N	N	N	Y

S. No.	VNC Canals	Basavanna				Raya								Bella				Kalaghatta		Turtha				
	WUCS	Amaravathi		Malappanagudi		Nagenahalli		88-Mudlapur		Chittavadi		Kamalapura		Hosuru		Narasapura		Nagenahalli		Kaddiram pura		Bukkasagara		
	Activity	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	
20	Crop particulars detail list	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
21	MOU with KNNL	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
22	Meeting notice book updated	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
23	Annual Audit report maintained	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
24	General Body meeting minutes register updated	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
25	Governing Body meeting minutes register updated	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
26	Inward & Outward Register updated	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
27	Board of Directors Strength(no.)	N	12	N	12	N	N	N	N	N	N	N	N	N	N	N	N	N	12	N	N	N	N	N
28	Applied for One-time functional grant	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
29	One-time grant received (%)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
30	One-time functional grant received (INR in Lakhs)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	WUCS collecting water charges	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
32	Annual maintenance grant received (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
33	Cash book updated	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
34	Income and expenditure register updated	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
35	WUCS involved in O&M activity	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Total Parameters	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	No. of parameters achieved/in place	12	20	8	20	7	8	8	8	7	8	7	9	0	8	0	7	7	17	0	6	0	9	9

Table 44 Status of VNC WUCS in the RB Channels as of 30 September 2022

S. No.	VNC Canals	Ramasagara				Kampli				Belagodahal		Siruguppa		Deshanuru	
	WUCS	Ramasagara		10-Muddapura		Kampli		Sanapura		Belagodahal		Siruguppa		Deshanuru	
	Activity	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL
1	Notification copy	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	Promoters List	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
3	Opening Bank Account	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
4	Total farmers/khatedars list	N	Y	N	N	N	N	N	Y	N	Y	Y	Y	N	Y
5	Share Ledger	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
6	Shareholders(%)	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
7	List of shareholders updated	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
8	Registration certificate	Y	Y	N	N	N	N	N	Y	N	Y	Y	Y	N	Y
9	WUCS Byelaws	Y	N	Y	N	Y	N	Y	N	Y	N	Y	Y	Y	N
10	WUCS Office	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	WUCS office building	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y
12	Letter head	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
13	WUCS Board Functional	Y	Y	Y	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
14	CEO appointed	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y
15	GB members list	Y	Y	N	Y	N	N	N	N	Y	N	N	Y	Y	Y
16	PAN Card	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
17	TIN/GST/TAN	N	N	N	N	N	N	N	N	N	N	N	N	N	N
18	Bank Passbook updated	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y
19	Cadastral, soil & land use maps	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
20	Crop particulars detail list	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y
21	MOU with KNNL	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y
22	Meeting notice book updated	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y
23	Annual Audit report maintained	Y	Y	N	Y	N	N	N	N	N	N	Y	Y	N	Y



S. No.	VNC Canals	Ramasagara				Kampli				Belagodahal		Siruguppa		Deshanuru	
	WUCS	Ramasagara		10-Mudddapura		Kampli		Sanapura		Belagodahal		Siruguppa		Deshanuru	
	Activity	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL	1 <sup>st</sup> BL	4 <sup>th</sup> BL
24	General Body meeting minutes register updated	N	Y	N	Y	N	N	N	N	N	N	Y	Y	N	Y
25	Governing Body meeting minutes register updated	N	Y	N	Y	N	N	N	N	N	N	Y	Y	N	N
26	Inward & Outward Register updated	N	Y	N	Y	N	N	N	N	N	Y	Y	Y	N	Y
27	Board of Directors Strength (no.)	N	12	N	12	N	N	N	N	N	12	10	12	N	12
28	Applied for One-time functional grant	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	Y
29	One-time grant received (%)	N	N	N	N	N	N	N	N	N	N	10	10	N	N
30	One-time functional grant received (INR in Lakhs)	N	N	N	N	N	N	N	N	N	N	N	N	N	N
31	WUCS collecting water charges	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
32	Annual maintenance grant received (Y/N)	N	Y	N	Y	N	N	N	N	N	N	N	Y	N	N
33	Cash book updated	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
34	Income and expenditure register updated	N	Y	N	N	N	N	N	N	N	N	Y	Y	N	N
35	WUCS involved in O&M activity	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
	Total Parameters	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	No. of parameters achieved/in place	13	21	09	13	4	1	8	9	10	15	27	30	10	20

## 2. KEY FINDINGS OF WUCS STATUS ASSESSMENT

S. No.	Key Findings of WUCS Status
1	<ul style="list-style-type: none"> <li>• All 29 WUCS are notified for registration, 23 among them is registered, 18 of them have completed elections for Board and all of those 18 signed MoU with the KNNL for operation and maintenance.</li> <li>• Elections to ten WUCS on the left bank completed (Hirejanthakal, Chikkajanthakal, Hosahalli, Danapura-2, Sangapura, Bandiharlapura, Bichal, Shivapura, Vijayanagara and Huligi) and signed MoU.</li> <li>• Elections to eight WUCS on the right bank completed (Amaravathi, Malapanagudi, K-Nagenahalli, Ramasagara, 10 Muddapura, Belagodahal, Deshanur and Siruguppa) and signed MoU.</li> <li>• Four WUCS (Chikkajanthakal, Hosalli, Sangapura and Bichal) elected 3 women Directors each as against 2 specified in the bylaws. Four WUCS on the right bank also have 3 to 5 women Directors. Belagodahal and 10 Muddapura have elected woman as Vice-President of the WUCS Board while Bandiharlapura and Bichal WUCS have women CEOs. Thus, the total strength of women on the WUCS Boards is 48 against total 219 Board members as of end of September 2022.</li> <li>• The baseline prepared for the LBC and RBC WUCS by the PSC2 A with 29 parameters is revised to 35 parameters and a uniformity in parameters maintained. Further, WUCS status is assessed as 11<sup>th</sup> and 4<sup>th</sup> status assessment depending on their start of assessment. One WUCS election done, four WUCS notification done namely Narasapur, Hosur, Kaddirampura and Bukkasagara and Four WUCS namely, Kalaghatta, Belagodahal, Malapanagudi and 10 Muddapura appointed CEO, signed MoU with KNNL. However, many WUCS are lagging in on many points. But with a little handholding and a few trainings and one or two exposure visits to best practicing societies would bring them on a par with the other performing WUCS.</li> </ul>
2	<p>Five WUCS on the left bank and two on the right bank (Shivapura, Bandiharlapura, Bichal, Hirejanthakal, Danapura 2, Amaravathi &amp; Ramasagara) have received annual maintenance grant (AMG) from CADA (INR100,000) during FY 2021-22 and there is scope for all 29 WUCS to apply and receive the AMG during FY 2022-23 wherein the role of social mobilization by SST will be enabled.</p>

Annexure 2

Formats for WUCS Wise Data

Format-1: Registration and Khatedars Details of Water Users Cooperative Societies

Bank: Left/Right Bank

S. No.	WUCS Name	Registration Date	Name the of Villages	Name of Grama Panchayaths covered	Total Command Area (ha)	No. of Khatedars			No. of SC/ST Khatedars		
						Male	Female	Total	Male	Female	Total
1.			1. 2. 3. 4.								
2.			1. 2. 3. 4.								

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Format-2: Membership Details of Water Users Cooperative Societies

Bank: Left/Right Bank

S. No.	WUCS Name	Total No. of Khatedars			No. of SC/ST Khatedars			Total No. of Shareholders (Upto Last Quarter)			No. of SC/ST Shareholders (Upto Last Quarter)			Total No. of Shareholders (as of reporting quarter)			No. of SC/ST shareholders (as of reporting quarter)		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1																			
2																			
3																			
4																			
	Total																		

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Format-2A: WUCS wise Registration, Bank Accounts, PAN & GST Details											
S. No.	WUCS Name	Registration Date	Registration Number	Name and Address of the Bank	Account Number	IFSC Code	PAN Number	TAN Number	GST Number	ESI Number	PPF Number
	Left Bank										
1											
2											
3											
	Right Bank										
4											
5											
6											
7											

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Format-3: Details of One-Time Functional Grant received by the Water Users Cooperative Societies

Bank: Left/Right Bank

S. No.	WUCS Name	Command Area (Ha)	Total One-time Functional Grant available for WUCS @INR1200/ha.	Total Contribution to be collected from farmers @INR120/ha	Total Grant available from govt @INR1080/ha	Collection of farmers contribution upto last quarter (INR)	Grant received from government upto last quarter (INR)	Collection of contribution during reporting quarter (INR)	Grant received from government during reporting quarter (INR)	Total Contribution collected (INR) Upto reporting quarter	Total Grant received from Govt. (INR) upto reporting quarter	Total Functional grants available in WUCS account (INR)
1	2	3	4	5	6	7	8	9	10	11=7+9	12=8+10	13=11+12
1.												
2.												
3.												
4.												
	Total											

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Format-4: Details of Participation of Women in the Water Users Cooperative Societies as Board of Directors

Bank: Left/Right Bank

S. No.	WUCS Name	No. of Directors Elected by the Board	No. of Women Directors in the WUCS Board	Number of SC/ST/OBC Directors in the Board	Number of Tail end Directors in the Board	Number of D Category Women members in Board
1						
2						
3						
4						
Total						

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Format-5: Details of Women Sub Committees in the Water Users Cooperative Societies as Board of Directors

Bank: Left/Right Bank

S. No.	WUCS Name	Number of Women Sub Committee upto last quarter	No. of Women Sub Committee in Present Reporting Quarter	Total No. of Women Sub Committees	No. of members in Women Sub Committee	No. of SC/ST/OBC members in Women Sub Committee	No. of Marginal Famer members in Women Sub Committee	No. of Landless members in Women Sub Committee
1.								
2.								
3.								
4.								
	Total							

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Form-6: Audit of Accounts and General Body Meetings Details of Water Users Cooperative Societies during FY 2021-22

Bank: Left/Right Bank

S. No.	WUCS Name	Date of registration	Audit completion Yes/No	Date of General Body Meeting	Total Members in WUCS	No. of Participants in General Body Meeting			Method of Invitation to General Meeting	Whether return filed with Cooperative Dept? Yes/No	Whether Audit Reports Available in WUCS? Yes/No
						Male	Female	Total			
1.											
2.											
3.											
4.											
5.											
	Total										

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Format 7: ACCOUNTING MANNUAL AND MAINTANANCE OF DOCUMENTS IN WATER USER'S COOPERATIVE SOCIETIES

S. No.	Documents Maintained (Left Bank WUCS)	Items to be available at the time of inspection	Kindly put Yes/NO mark if maintained	
			Yes /No	Remarks
1.	Registration Certificate	Frame and hang it on the wall		
2.	Bye-law/ Memorandum of Association	Keep it in the file and show to the members as and when they put a request		
3.	Permanent Account Number (PAN)	Frame and hang it on the wall		
4.	Goods and Service Tax Number (GSTN)	Frame and hang it on the wall		
5.	Tax Account Number (TAN)	Frame and hang it on the wall		
6.	List of Command area khatedar farmers	Keep it in the file and use as and when required		
7.	Shareholding members list	Maintain a separate register and update it from time to time		
8.	One-time functional grant register	Keep the details in separate sheet at the end of the stock register and details to be reflected in the Cash book in the receipt side and credit details in Bank also to be recorded		
<b>Books of Accounts</b>				
9.	Cash Book: Receipt side <ol style="list-style-type: none"> <li>One Register- to be updated on daily basis</li> <li>Dates and transaction to be clearly mentioned</li> <li>All corresponding Vouchers documentation to be made available in the file</li> </ol>	Details to be maintained in the Cash Book-Receipt: <ol style="list-style-type: none"> <li>Opening Balance as on _____</li> <li>Receipts should be issued for all transactions related to WUCS</li> <li>Members contribution</li> <li>Mobilization Advance with Package nos.</li> <li>Receipts cheque no date of all reimbursed running bills with resolutions are attached respective bills. Indicate FIC / Building separately with package nos.</li> <li>Bank interest accrued</li> <li>Water charge collection</li> <li>2% of TDS by KNNL on the Bills submitted by WUCS</li> <li>18% of GST paid against the Bills submitted by WUCS</li> <li>Miscellaneous receipts any cash to be accounted other than the above-mentioned items</li> </ol>	Check list: receipts and payment with disbursement profile, Bills, Tax ready reckoner with Resolution's, handing over of the Civil Works, Furniture, O&M Kit are readily available in excel format. To be installed in Desktop for the WUCs. Readily available in excel format, just translate into Kannada and fill in the blanks.	
10.	Cash Book: Payment <ol style="list-style-type: none"> <li>One Register – to be updated on daily basis</li> <li>Dates and transaction to be clearly mentioned</li> </ol>	Details to be maintained in the Cash Book-Payment: <ol style="list-style-type: none"> <li>Payment should be issued for all transactions related to WUCS through cheques for payment above INR2,000</li> </ol>	Check list: Receipts and payment with disbursement profile, Bills, Tax ready reckoner with Resolution's, handing	

S. No.	Documents Maintained (Left Bank WUCS)	Items to be available at the time of inspection	Kindly put Yes/NO mark if maintained	
			Yes/No	Remarks
	3. All corresponding Vouchers documentation should be available in the file.	2. Payment: cheque no date of all payments made for the running bills with resolutions are attached respective bills. Indicate FIC / Building separately with package nos. 3. Labour charges 4. Computers & Accessories / Furniture purchased or supplied by PIO 5. O & M Kits purchased or supplied by PIO 6. Bank charges to be mentioned. 7. 2% of TDS by KNNL on the Bills submitted by WUCS 8. GST payments made by the WUCS for all purchases. 9. Closing - Balance as on	over of the Civil Works, Furniture, O&M Kit are readily available in excel format. To be installed in Desktop for the WUCS Readily available in excel format, just translate into Kannada and Fill in the blanks.	
11.	Bank Passbook: Every Month passbook to be updated and Bank reconciliation statement (BRS) to be prepared as a model given in Annexure-1	Sample/ Model Bank Reconciliation is explained below in a table.		
<b>Meeting Register</b>				
12.	1. Minutes of the Meeting to be maintained in one register for Board members meeting and Annual General Body meeting 2. Separate minutes book to be maintained for women subcommittee meetings 3. Meeting Notice Book 1. Board members periodical meeting and special/emergency meeting notice 2. Annual General Body meeting notice 3. Women Sub-Committee Meeting notice	All proceedings and resolution of the board meeting / general body meeting / women subcommittee meeting to be recorded and made available in the WUCS office for the members and officers	Maintained in Kannada language.	
<b>Asset Register</b>				
13.	Asset Register should contain s.no., descriptions of assets, date of purchase, bill no., amount, type of asset (moveable/fixed) and location of asset installed	All assets to be purchased after the decision taken at Board meeting and the assets provided under the project to be maintained with proper acknowledgement and documentation; assets provided under the project to be ratified by the Board members in the Board meeting		
<b>Other Mandatory Items</b>				
14.	Attendance Register – Staff and Daily Wage Labour	One register to be maintained Separate daily wage labour register to be maintained for the CAD package works		
15.	Memorandum of Understanding (MoU) with Karnataka Neeravari Nigama Limited (KNNL) and renewal copies	MoU - start date _____ Completion date _____ Renewal date _____		



S. No.	Documents Maintained (Left Bank WUCS)	Items to be available at the time of inspection	Kindly put Yes/NO mark if maintained	
			Yes /No	Remarks
		Copy to be maintained at WUCS office		
16.	<ol style="list-style-type: none"> <li>1. Water Rate Volumetric Bills issued by KNNL</li> <li>2. Water Rate Demand letter</li> <li>3. Water Rate Demand, Collection and Balance (DCB) register</li> <li>4. Water rate collected issue receipts second copy</li> <li>5. Water rate arrears collection notice Book – Yellow color</li> <li>6. Water rate arrears collection notice Book – Pink color</li> </ol>	WUCS to maintain a register, bills and receipts as per the prescribed format		
17.	Cadastral Map, CAD Map and related documents	Maps may be exhibited on the wall once new office for WUCS is constructed. A copy to be retained in the file		
18.	Audited Project Financial System (APFS) – Audited Reports for each financial year	Income and Expenditure Report, Receipts and Payments Report, Profit and Loss Account Report, Assets and Liabilities Report	Excel format readily available, just translate into Kannada and fill in the blanks.	
19.	<ol style="list-style-type: none"> <li>1. Inward Register and Outward Register</li> <li>2. Complaints or Grievances and RTI Register</li> </ol>	WUCs to maintain a Register with 19.1 and 19.2 activities /items and corresponding letters and documents to be filed		
21.	Training Register	WUCS may maintain a Training register for various trainings with list of participants and resource persons details		
22.	Letter head /Seal/s of the WUCS	WUCS shall have following seals; <ol style="list-style-type: none"> <li>1. Common Seal of WUCS with address</li> <li>2. Seal for President</li> <li>3. Seal for Vice-President</li> <li>4. Seal for Chief Executive Officer</li> <li>5. Seal for Board Members</li> </ol>		
23.	Legal documents	WUCS may maintain following books; <ol style="list-style-type: none"> <li>1. Irrigation Act Book</li> <li>2. Cooperative Act Book</li> <li>3. Water charge government order, etc.</li> </ol>		

Bank Reconciliation Statement (BRS) – sample Model

Monthly Bank Reconciliation Statement – as on 31 Mar 2022.		
Particulars	Amount	Amount
Balance as per Bank Statement /Pass Book		3,00,000.00
Add: Cheques deposited but not cleared	20,000.00	
Less: Cheques issued but not cleared in the Bank	50,000.00	
Net amount	30,000.00	30,000.00
Adjusted Balance		2,70,000.00
Balance as per WUCS Cash Book		2,60,900.00
Add: Amount credited into bank but not recorded in cash book.	9,800.00	
Interest received	20.00	
Less: other Charges not recorded in books	720.00	
Net amount	9,100.00	9,100.00
Adjusted Bank Balance in the Cash book		2,70,000.00

Karnataka Integrated and Sustainable Water Resources Management Investment Program  
Vijayangara Channels Modernization Project

Format-7A: STATUS OF MAINTANANCE OF DOCUMENTS IN WATER USERS COOPERATIVE SOCIETIES

S. No.	Documents Maintained (Left Bank WUCS)	Documents Maintained by WUCS (WUCS given Codes against name of the main village) Kindly put tick mark if maintained.											
		1	2	3	4	5	6	7	8	9	10		
1.	Registration Certificate												
2.	Bye-law/ Memorandum of Association												
3.	Permanent Account Number (PAN)												
4.	Goods and Service Tax Number (GSTN)												
5.	Tax Account Number (TAN)												
6.	Employee Provident Fund (EPF) – if applicable												
7.	Employee State Insurance (ESI) – if applicable												
8.	List of Command Area Farmers												
9.	Shareholding Members List – Share Register												
10.	One-time Functional Grant Register												
11.	Receipt Voucher												
12.	Payment Voucher												
13.	Bank Passbook												
14.	Cheque book												
15.	Cash Book cum Accounts Ledger												
16.	Box file for bills and vouchers												
17.	Meeting Notice Book												
18.	Annual General Body Meeting Minutes Book												
19.	Board Meeting Minutes Book												
20.	Sub-Committee (Women) Meeting Minutes Book												
21.	Asset Register – Fixed and Movable												
22.	Stock Register – if applicable												
23.	Attendance Register – Staff and Daily Wage Labour												
24.	Memorandum of Understanding (MoU) with Karnataka Neeravari												

S. No.	Documents Maintained (Left Bank WUCS)	Documents Maintained by WUCS (WUCS given Codes against name of the main village) Kindly put tick mark if maintained.											
		1	2	3	4	5	6	7	8	9	10		
	Nigama Limited (KNNL) and renewal copies – if applicable												
25.	Water Rate Volumetric Bills issued by KNNL												
26.	Water Rate Demand Register												
27.	Water Rate collected receipts												
28.	Arrears Collection Notice Book – Yellow colour												
29.	Arrears Collection Notice Book – Pink colour												
30.	Complaints or Grievances Book												
31.	Cadastaral Map, CAD Map and related documents												
32.	Memorandum of Understanding (MoU) with Bhadra CADA and other departments of GoK including renewal copies – if applicable												
33.	Audited Reports – Income and Expenditure Report, Receipts and Payments Report, Profit and Loss Account Report, Assets and Liabilities Report												
34.	Letterhead												
35.	Inward Register												
36.	Outward Register												
37.	Inward Letters (Box) File												
38.	Outward Letters (Box) File												
39.	Training Register												
40.	Seal/s of the WUCS												
41.	Irrigation Act Book												
42.	Cooperative Act Book												
43.	Fixed and Movable Assets Records File												

WUCS Code: 1)Huligi, 2)Shivapura, 3)Bandiharlapura, 4)Anegundi, 5)Sangapura, 6)Hirejanthakal, 7)Hosalli, 8)Chikjanthakal, 9)Danapura-2 & 10)Bichali

Karnataka Integrated and Sustainable Water Resources Management Investment Program  
Vijayagara Channels Modernization Project

Format-7A: STATUS OF MAINTANANCE OF DOCUMENTS IN WATER USERS COOPERATIVE SOCIETIES

S. No.	Documents Maintained (Right Bank WUCS)	Documents Maintained by WUCS (WUCS given Codes against name of the main village) Kindly put tick mark if maintained.																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	Registration Certificate																		
2.	Bye-law/ Memorandum of Association																		
3.	Permanent Account Number (PAN)																		
4.	Goods and Service Tax Number (GSTN)																		
5.	Tax Account Number (TAN)																		
6.	Employee Provident Fund (EPF) – if applicable																		
7.	Employee State Insurance (ESI) – if applicable																		
8.	List of Command Area Farmers																		
9.	Shareholding Members List – Share Register																		
10.	One-time Functional Grant Register																		
11.	Receipt Voucher																		
12.	Payment Voucher																		
13.	Bank Passbook																		
14.	Cheque book																		
15.	Cash Book cum Accounts Ledger																		
16.	Box file for bills and vouchers																		
17.	Meeting Notice Book																		
18.	Annual General Body Meeting Minutes Book																		
19.	Board Meeting Minutes Book																		
20.	Sub-Committee (Women) Meeting Minutes Book																		
21.	Asset Register – Fixed and Movable																		
22.	Stock Register – if applicable																		

S. No.	Documents Maintained (Right Bank WUCS)	Documents Maintained by WUCS (WUCS given Codes against name of the main village) Kindly put tick mark if maintained.																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
23.	Attendance Register – Staff and Daily Wage Labour																		
24.	Memorandum of Understanding (MoU) with Karnataka Neeravari Nigama Limited (KNNL) and renewal copies – if applicable																		
25.	Water Rate Volumetric Bills issued by KNNL																		
26.	Water Rate Demand Register																		
27.	Water Rate collected receipts																		
28.	Arrears Collection Notice Book – Yellow colour																		
29.	Arrears Collection Notice Book – Pink colour																		
30.	Complaints or Grievances Book																		
31.	Cadastaral Map, CAD Map and related documents																		
32.	Memorandum of Understanding (MoU) with Bhadra CADA and other departments of GoK including renewal copies – if applicable																		
33.	Audited Reports – Income and Expenditure Report, Receipts and Payments Report, Profit and Loss Account Report, Assets and Liabilities Report																		
34.	Letterhead																		
35.	Inward Register																		
36.	Outward Register																		
37.	Inward Letters (Box) File																		
38.	Outward Letters (Box) File																		
39.	Training Register																		
40.	Seal/s of the WUCS																		
41.	Irrigation Act Book																		

S. No.	Documents Maintained (Right Bank WUCS)	Documents Maintained by WUCS (WUCS given Codes against name of the main village) Kindly put tick mark if maintained.																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
42.	Cooperative Act Book																		
43.	Fixed and Movable Assets Records File																		

WUCS Code: 1)Amaravathi, 2)Malappanagudi, 3)Chithavadagi, 4)88 Mudlapura, 5)R-Nagenahalli, 6)Kamalapura, 7)Hosuru, 8)Narasapura, 9)K-Nagenahalli, 10)Kaddirampura, 11)Bukkasagara, 12)Ramasagara, 13)10 Muddapura, 14)Kampli, 15)Sanapura, 16)Belagodahal, 17)Siruguppa & 18)Deshanuru

Karnataka Integrated and Sustainable Water Resource Management Investment Program  
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Form-8: Details of Water Charges, Demand, Collection and Balance of Water Users Cooperative Societies for up to FY 2021-22

Name of WUCS:

Bank: Left/ Right

All figures in INR

S. No.	Crop Year	Season	Water charge demand as per Water Rate	Water charge Collected from Farmers	Balance to be Collected	Water Rate Bill given by KNNL	Maintenance Cost@INR40/ha.	WUCS Administration Cost @20%	Total Amount to be retained in WUCS	Amount to be remitted to KNNL account	Amount remitted/ deposited to KNNL account	Balance to be remitted/ deposited to KNNL account	Total Amount remaining in WUCS (Profit)
1	2	3	4	5	6=(4-5)	7	8	9	10=(8+9)	11=(7-10)	12	13=(11-12)	14=(5-11)
2	2001-02	Kharif											
3		Rabi											
4	2002-03	Kharif											
5		Rabi											
6	2003-04	Kharif											
7		Rabi											
8	2004-05	Kharif											
9		Rabi											
10	2005-06	Kharif											
11		Rabi											
12	2006-07	Kharif											
13		Rabi											
14	2007-08	Kharif											
15		Rabi											
16	2008-09	Kharif											
17		Rabi											
18	2009-10	Kharif											
19		Rabi											
20	2010-11	Kharif											
21		Rabi											
22	2011-12	Kharif											
23		Rabi											
24	2012-13	Kharif											
25		Rabi											
26	2013-14	Kharif											
27	2014-15	Rabi											
28		Kharif											
29	2015-16	Rabi											
30		Kharif											



31	2016-17	Rabi											
32		Kharif											
33	2017-18	Rabi											
34		Kharif											
35	2018-19	Rabi											
36		Kharif											
37	2019-20	Rabi											
38		Kharif											
39	2020-21	Rabi											
40		Kharif											
41	2021-22	Rabi											
42		Kharif											

President  
----- Water Users Cooperative Society

Chief Executive Officer  
----- Water Users Cooperative Society

Assistant Executive Engineer  
----- Sub Division, K.N.N.L

Karnataka Integrated and Sustainable Water Resource Management Investment Program  
 Vijayanagara Canal Modernization Project

Form-9: Participation of Women and Vulnerable Communities as Board of Directors in Water Users Cooperative Societies

Bank: Left/Right Bank

S. No..	WUCS Name	Registration Date	Date of constitution present Board of Directors	Date of Present Board Validity	No. of General Category Directors on the Board		No. of Women Directors on the Board		No. of SC/ST/OBC Directors on the Board		No. of Tail end Directors on the Board		Total No. of Directors	
					Previous	Present	Previous	Present	Previous	Present	Previous	Present	Previous	Present
1.														
2.														
3.														
4.														
5.														
	Total													

## Annexure 3

### Flow Chart of Bills/ Invoice Movements

#### STEP - 1

Asst. Exe. Engineer (AEE) – Subdivision Office for certification  
(Sub- Division Bill Register)

(Reference Code is given for the Bill and the same is continued till the payment is made)

#### STEP -2

Exe. Engineer (EE) Division Tungabhadra Project Circle office – Munirabad  
(For Scrutiny and pass order with noting on [C] form)  
(Division Bill Register)

#### Step – 3

Superintend Engineer (SE)- Munirabad for approval/Recommendation.

#### STEP – 4

Chief Engineer (CE) – Integrated Coastal Zone office approval/ Recommendation for payment  
(Original Invoice and bills are sent to CAO)

#### STEP -5

CAO – Dharwad Regional Finance Office KNNL for Payment sanctions.

(CAO – Dharwad releases the payment by Cheque)

(There is a Check List format gregarious filled/ updated and Sent to the KNNL – Bangalore  
for re-imburement claim at ADB)

#### STEP – 6

Exe. Engineer (EE) Division Tungabhadra Project Circle office – Munirabad  
(M. Books returns to EE office and stored at Case worker level)

Recycle of STEP 1 to STEP 5 follows in return.

(The M. Books returns to the EE Division Tungabhadra Project Circle office – Munirabad).

#### Part – III Claim reimbursable of Bills related to WUGS and Consultancy firm.

##### a. Non – Remuneration: Tranche -2

1. Bills of Civil works related items like running bills with documentary proof of M. Book Certifications, The WUCS submission of first bill/ invoice should attach the MoU (memorandum of understanding). The CAD - WUCS documents are verified and prepared by the Jr. E. at the respective sub- division office of the AEE for certification.
  2. In case of consultancy firm for Project Support Consultant (PSC) the first bill/ invoice with proof of documents should also attach the Contract Agreement.
  3. Any variance in the MoU (memorandum of understanding) or consultancy firm Contract Agreement during the implementation period such approved changes/ modification to the MoU / Contract agreement should be attached to the subsequent bills as a documentary proof.
  4. Each Bills / Invoice of WUCS/ Consultancy firm should attach the original Invoices of items against respective activities procured in accordance to the MoU of WUCS / consultancy contract agreement. Refer Part -II serial no -1.
  5. The submission of Bill/Invoice along with the original should mention the eligible reimbursement as per the MoU of WUCS / consultancy contract agreement against the respective head of accounts with the covering letter for the claims in chronological order. Refer Part -II serial no-1.
  6. In case of civil works the M. Books, BoQ, Design layout, schedule of construction should be a part of the WUCS Invoice.
  7. It was also informed by the Case Worker M. Books will be issued in serial numbers and control register /directory is maintained to identify the serial number with the JE, AEE at sub – division level at their respective area of jurisdiction, all M. Books are in the custody of EE- TB Dam Project circle office.
  8. It was also informed by the Accounts Superintend that the accounting books and bills for payment are maintained manually. The system of tracking the submitted bills along with the documentary proof are entered in the Inward and outward register.
  9. The Accounts Superintend further explained One original document with covering letter plus 7 set of photo copies total of 1 plus 7 total of 8 sets to be submitted at the EE- TB Dam Project circle office.
- Note: All Documents are maintained at the Exe. Engineer (EE) Division Tungabhadra Project Circle office – Munirabad (M. Books returns to EE office for stored at Case worker level)

## Annexure 4

## Audited Project Financial Statement

Audited Project Financial Statement for the Financial Year FY 2021-22 Assessment Year 2022- 23

1. Certified Audited Project Financial Statement FY 2020- 21 for Loan 3836 IND – Project -2.
  - a. Certified Audited Project statement available for the Financial Year FY April 2020 to Mar 31 March 2021 available.
  - b. Cumulative project till 31<sup>st</sup> March 2021 expenditure not yet claimed INR 208,118.68 which is 20.81 crores.

*Recommendation for action to be taken by the external auditors Management report: in The Financial Statement for the financial year 31<sup>st</sup> March 2021 by the external auditors to report to high light percentage expenditure not yet claimed to be reported.*

Observation on External "Audited Management Report" 31 <sup>st</sup> March 2021.	Recommendation for action to be taken by the external Audited Management Report" for 31 <sup>st</sup> March 2023.														
a. Point no 2: of the Financial Statement for the financial year 31 <sup>st</sup> March 2021 has mention the actual expenditures as per the books of accounts,	<ol style="list-style-type: none"> <li>1. M. books records as a part and parcel of the documentation for Expenditure a sample audit M. Book has to be carried out and mention if there is any variance. If noted the variance report the same if none note the variance as Nil.</li> <li>2. M. Book records matches the expenditure or variance to be reported.</li> </ol>														
b. Point 3 Significant Accounting Polices 3.1	<ol style="list-style-type: none"> <li>1. Please follow the Schedule IV of the Company Lawa and acts for compliance.</li> <li>2. As prescribed by the ADB.</li> </ol>														
c. 3.4 capital work in progress:	<ol style="list-style-type: none"> <li>1. external auditors to report to be capitalised and depreciation as per the section 32 of Income tax to be evaluated and separate scheduled as a part of the Balance sheet.</li> <li>2. The Financial Statement for the year end should report on the following: <u>For Example:</u></li> </ol> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Opening balance of financial works</td> <td style="text-align: right;">0.00</td> </tr> <tr> <td>Work to be executed</td> <td style="text-align: right;">100.00</td> </tr> <tr> <td>Works in pipe line</td> <td style="text-align: right;">50.00</td> </tr> <tr> <td>Works to be expected during the FY</td> <td style="text-align: right;"><u>1,000.00</u></td> </tr> <tr> <td>Total works to be executed</td> <td style="text-align: right;">1,150.00</td> </tr> <tr> <td>Actual works executed</td> <td style="text-align: right;"><u>850.00</u></td> </tr> <tr> <td>Balance of works to be executed (Spill over) C/f</td> <td style="text-align: right;"><u>300.00</u></td> </tr> </table> <p><i>(To be carried forwarded for succeeding Financial Year- FY) -</i></p>	Opening balance of financial works	0.00	Work to be executed	100.00	Works in pipe line	50.00	Works to be expected during the FY	<u>1,000.00</u>	Total works to be executed	1,150.00	Actual works executed	<u>850.00</u>	Balance of works to be executed (Spill over) C/f	<u>300.00</u>
Opening balance of financial works	0.00														
Work to be executed	100.00														
Works in pipe line	50.00														
Works to be expected during the FY	<u>1,000.00</u>														
Total works to be executed	1,150.00														
Actual works executed	<u>850.00</u>														
Balance of works to be executed (Spill over) C/f	<u>300.00</u>														
3.7 Funds received form the government:	<ol style="list-style-type: none"> <li>1. external auditors on availability of funds sufficiently park for the project activity and report of delay or insufficient fund causing the delay in execution of civil wors and other activities.</li> </ol>														
3.8 Cash and cash equivalent	<ol style="list-style-type: none"> <li>1. Auditor's report on any cash payment or self-cheque is issued beyond the prescribed limits by the Income tax act by the Govt. of India. Felicitate a Strongly recommend for e transfers to the party account and e governances to be made.</li> </ol>														
3.11 (a) and (b) Foreign currency transaction and translations	<ol style="list-style-type: none"> <li>1. Auditors to report on LIBOUR exchange rates and euro exchange rates and USD exchange rates are as per the RBI rules and regulations.</li> <li>2. Any Less enhancement in exchange rate due to fluctuation to be reported on the date of transfer and the date of receipts during the reimbursements claim made during the financial.</li> </ol>														
Statement on Disbursement Profile, Statement Re-imbusement claim form Jan 2014 to Jul 2021.	<ol style="list-style-type: none"> <li>1. Auditors to report as on the 31<sup>st</sup> of Mar the previous year balance of pending claims – actual expenditures made during the particular financial year and expenditure in pipe line and then arrive at the balance of to be disbursed for the succeeding year which should be the provision made during the year and payment cleared by 30<sup>th</sup> September before the AGM.</li> </ol>														

C. GOK Budgetary allocation and Expenditure Annexure – 1 table for the Financials Year FY – 2022-23 up to 31<sup>st</sup> July 2022.

Sl. No	Head of Accounts	Code No	OB as on 1 <sup>st</sup> April 2022	Budget Allocation to KNNL FY 2022-23	Grant Released to KNNL up to 31 July 2022.	Total Funds available Including OB	Amount Spent (as per the Grant and Outlays 31 <sup>st</sup> July 2022	Total pending Bills up to 31 <sup>st</sup> July 2022
A	CAPITAL							
Item 6.	KISWRIMP – ADB	4701-80-800-0-10-059(P)	18.47	135.00	0.00	153.47	1.61	0.00
B Item 2	DRIP	4701-80-800-0-80-059(P)	3.56	5.00	0.00	8.56	0.00-	0.00

## Note:

- a. It is observed that identical code is also made in sub – total (B) item 2 DRIP – Needs clarification 4701-80-800-0-10-059(P), if there is an interpolation by error the External Auditors should reconcile and mention in the “Auditors Management Report”, if there is an error found the same as to be mentioned in the report in the form of advices.

## Budget allocation vs actual Expenditure:

1. It is observed that the total Amount Spent (as per the Grant and Outlays 31<sup>st</sup> July 2022 spent is INR 1.61 crores against the Amount Spent (as per the Grant and Outlays 31<sup>st</sup> July 2022 INR 18.47 crores which is 8.71% against opening balance, it further noted that the Budget Allocation to KNNL FY 2022-23 of INR 135.00 Crores is still not utilised. The same may be re allocated for Civil works in the Tranche -2 as an upfront from KNNL – GOK - State Contribution for Tranche -2 VNC – Project for civil works to be executed for multiple packages in each WUCS of 30 WUCS.
2. Sample of CAAA withdrawal application.
  - a. Recommended that the Statutory External Auditors should mention the as follows:
    1. Opening Balance of the previous FY - Re imbursement claim has reported.
    2. Add: a. Re imbursement Claim Submitted during Pervious FY.
    3. Less: b. Re imbursement Payment Received during current FY.
    4. Closing Balance Re imbursement for the current FY.
3. Statutory Auditors Compliance on observation Paras made by the External Statutory Audits/ Internal Auditors/ AAG Auditors agencies.

Recommended that the compliance to the pending query paras should be prepared with ageing wise at to annexed to the Auditors Management Report.
4. Statement of Expenditure SOE disbursement profile by the regional Accounts office -CAO at Dharwad – has elaborative system of Check list before release for sanction and release for payments. This is a good practice for internal control mechanism.

## Annexure 5

## CAD Package Accounting System by WUCS

Name and Address of the WUS - VNC CAD					Mention R&P/I&E /BS
Bank Account No					
Address and IFSC NO:					
Date	Day	Main Component	Sub- Component	Particulars - Heads of Account	
<b>Head of Account - Income</b>					
				Opening - Balance as on 1 April 2022 FY -2022-23.	
				Advance Mobilisation.	
		Loan/Grant Received from KNNL - ADB	Upgrading of Field Irrigation Channel	Instalments	
				First Instalment amount received - FIC Lining as per the BoQ and M. Books	
				Second Instalment amount received - FIC	
				Third Instalment amount received - FIC	
				Fourth Instalment amount received - FIC	
				Fifth & Final Payment Instalment amount received - FIC	
		Loan/Grant Received from KNNL - ADB	Upgrading of Field Irrigation Channel	Instalments	
				First Instalment amount received - Building Construction	
				Second Instalment amount received - Building Construction	
				Third Instalment amount received - Building Construction	
				Fourth Instalment amount received - Building Construction	
				Fifth & Final Payment Instalment amount received - Building Construction	
		Contribution	Membership	Share Holders Contribution	
				Contribution of the Shareholding Members	
				Interest accrued form Bank	
		Revenue	Water collection	Water user Collection	
		Receipts	Other - Income	{Mention the transaction}	
				Voluntary Contribution Received.	
				Interest accrued form Bank	

				Release amount of Defect liability Period	
				Miscellaneous income	
		Taxes	TDS	2% of TDS on the Bills submitted by WUCS. - Collected	
			GST	18% of GST on the Bill after adjusting the TDS - Collected	
		Head of Account - Expenditure - SOE			
		Upgrading of Field Irrigation Channal	BOQ - (Bill of Quantity)	Clearing of Jungle Bush	
				Excavation	
				Lining	
				Contures / Sections	
				Division Box	
				Division Box piping for free flow.	
				Re-enforcement steel.	
				Labour - men force	
				Materials/ cement /sand/ steel/	
				Use of Machine and Equipment's.	
		Construction of office Building	BOQ - (Bill of Quantity)	Excavations	
				Foundation	
				Re-enforce steel for Concrete bedding	
				Use of Machine and Equipment's (JCB/	
				Labour - men force	
				Materials/ cement /sand/ steel/ Doors Window	
		Assets - Goods & Equipment's	Computers & Accessories / Furniture	Desktop Computer (Intel Core i5, 1 TB SSD, 8 GB Ram, USB, 21" Monitor Minimum 2 Years warranty, Widows 20, Antivirus, MS office 2019)	
				Computer UPS (APC BX600C IN 600VA)	
				Printer (Print Resolution: Up to 600 x 600 dpi Print Speed: Up to 14 ppm, Print Technology: Monochrome Laser, Connectivity: Hi-speed USB, compatible with USB 2.0 specifications Supported Media Types: Paper (plain, laser), labels, envelopes, transparencies, postcards, cardstock. Functionality: Print, scan, copy Power Consumption: Maximum 230 Watts Energy Star qualified)	
				Computer Table (4'x2'x2.5') with Wooden Top	
				Computer Chair (revolving)	

				Meeting Table with Steel table with wooden top (3'x4'x2.5') 5nos for each WUCS	
				Steel Almirah (3'x1.5'x6') with locker facility	
				Ceiling Fans 4 no. for each WUCS (48")	
				Fibre Chairs 60 no. for each WUCS	
				Executive Chairs (revolving)	
				Water Filters-Candle type	
				Wall Clock	
				Notice Board (3'x2')	
				Transportation (hiring of vehicles only of workshops and training), electrical wiring providing extension cord, internet connection cost, Administrative Cost etc Lump sum Charges.	
				Miscellaneous and rounding off as per actual (stationery cost/ Renewal Fees of the cooperative society any other).	
		Operation and Maintenance	O & M Kits	Crow bar	
				Pick-axe	
				Mumtee	
				Sickle	
				Khurpi	
				PVC basket (small)	
				PVC basket (big)	
				PVC basket (Pot)	
				Jug	
				PVC bucket	
				Weed cutter machine	
				Measuring tape-50 meter	
				PVC Drum (50L)	
				Gum shoe (pair)	
				Power sprayer	
		Taxes	TDS	Collected 2% of TDS on the Bills submitted by WUCS - Deposited to Circle office	
			GST	18% of GST on the Bill after adjusting the TDS - Deposited to Circle office	
				Closing - Balance as on 31 of March 2023 FY -2022-23.	
				Excess of Income over expenditure for the period 31 of March 2023	
				Excess of expenditure over income for the period 31 of March 2023	



Procurement Plan for execution of Goods and Equipment's as per ADB format – 1.

Sl. No	Contract Package No	Description of Goods and Equipment's	Unit	Quantity	Procurement Method / Type	Contract / Supply order Approving Authority	Source of Finding	Estimated Cost	Indicative Dates		
									Date of Signing MOU	Work order Date	Completion Contract
1	2	3	4	5	6	7	8	9	10	11	12

Procurement Plan for execution of Civil Works as per ADB format - 2.

Sl. No	Contract Package No	Description of Works	Unit	Quantity	Procurement Method / Type	Contract Approving Authority	Source of Finding	Estimated Cost	Indicative Dates		
									Date of Signing MOU	Work order Date	Completion Contract
1	2	3	4	5	6	7	8	9	10	11	12

Procurement Monitoring Report data would be captured in the format – 3

Sl. No.	MOU	Description of Works	Qty	Est. Cost	Actual Cost	Variance in estimate and Actual cost	M. Book No and compliance date.	Running Bill/Tax Invoice date and Amount					Handing over certificate date	Remark Satisfactor y Completion of Civil Works
								10						
1	2	3	4	5	6	7	9	Approved Date		Payment Date			11	12
								B1	B2	B3	B4	BF5		

## Procurement Plan. Goods and Equipment's

Description of Goods and Equipment's		Quantity								
1	2	CE Office	SE – Dy-CE Office	TR – Munirabad Division	Odder ahatti	Bellary	Yera mar us	QC Bellary	QC Munirabad	Total
Package – 1 Vehicles										
	Jeeps - for field Visits 10-seater - Sub division Office									
	Mini Van for exposure visits of farmers at CE office									
	Mobile Labs for soil and water testing QC - Munirabad - Bellary. RBC and LBC									
	Bikes - Sub division office									
Package -2 Computers and Accessories										
	Desktops with Processing unit									
	Laptops									
	Engineering Software's									
	a. Auto CAD b. RabIT C. Primavera P6. MIS data Collection. 3 Division and 2 QC Control.									
	Antivirus Software multi users licenced Version									
	Data Server for PSC. HO/ Division Office									
	Multifunctional (Photo copiers machine/ Scanner /Printer Colour									
	UPS - Inverters with Batteries									
	Internet Connection									
Package -3 Electronic equipment's										
	P A Sound System (Mike, Speakers)									
	OHP - Overhead LCD Projector									
	Projector Screen									
	Camera Digital – DSLR Still & Video Recording									
	Drone camera									
	Surveillance Cam with DVR									
	Air Conditioner - 2 ton									
	RO water purifier									
Package – 4 Furniture										
	Office Tables									
	Office Chairs - fixed type									
	Office Chairs - Revolving type									
	Executive Chairs									
	Conference Table with 15 Chair capacity									

Computer table with chairs									
Workshop - Plastic Chairs									
Pedestal Fans									
Almirahs - Steel									
Library shelves									
File Slotted angle Racks									

Procurement Plan Quarantine - Lab Equipment's.

Package - 5 Quarantine - Lab Equipment's	Quantity	Technical Specification	Amount
1. Test on Cement			
1.1. Fineness 90 mic sieve			
1.2. Consistency Vicat needle apparatus			
1.3 initial and final setting time - Vicat needle apparatus			
1.4. Soundness LE - Chatelier Mould with digital water Bath 50 later Capacity.			
1.5. compressive Strength Mortar Cubes			
1.6 Specific gravity 50 cc with funnel			
1.7 Specific gravity 100 cc with funnel			
1.8 Specific gravity Glass funnel			
1.9 Specific gravity Lechateliers flask			
1.10 Cement mortar mixer			
1.11 Digital Compression testing machine			
2.Coarse aggregate			
2.1 Sieve analysis - sets			
2.2 Water absorption basket			
2.3 Aggregate abrasion testing machine			
2.4. Aggregate impact value testing machine			
2.5. Aggregate crushing value testing machine			
2.6. Flakiness and elongation machine			
2.7 Sieve analysis - WBM			
2.8 Sieve analysis - WMM			
2.9 Sieve analysis - GSB			
3. Concrete Mix Design			
3.1 vibrating Table 20"x20"x20"			
3.2. Specific gravity Density bottle			
3.3. Maximum dry density optimum moisture content mould with hammer - Oven			
3.4. In- situ dry density			
3.5 Laboratory Mini portable Concrete mixer Drum type 30 Ltr			
3.6 Concrete Moulds			
3.7 Accelerated curing tanks			
3.8 Slump Cone			

	3.9 Compaction factor apparatus			
	3.10 Vee bee Consistometer			
	3.11 Rebound Hammer apparatus			
	3.12 Ultrasound pulse velocity b). Electrical pulse generator C). Transducer Amplifier and d). Electronic Timing Devise.			
	3.13 Compression Testing machine.			
	4. Bitumen Test			
	4.1. Manual Operated Bitumen content extractor apparatus			
	4.2 Digital thermometer laser type for bitumen temperature.			
	4.3 Marshall Setibility test apparatus.			
	4.4 penetration test apparatus			
	4.5. Flash point and fire point test			
	4.6. Ductility test.			
	4.7 Viscosity test.			
	5. Fine Aggregate			
	5.1 Sieve analysis - sets			
	5.2 Specific gravity Density bottle			
	6. Test on Soil			
	6.1. Water content			
	6.2. Dry Methods - Oven			
	6.3. Rapid Moisture Meter for Calcium testing method			
	6.4. Particle Size distribution - Sieve Sets			
	6.5. Hydrometer			
	6.6. Liquid apparatus			
	6.7 Plastic limit apparatus			
	6.8 Frees well index - Glass Graduated Cylinder (100ml capacity - 2nos).			
	6.9. Rapid cure test machine			
	6.10 Shrinkage limit			
	6.11 Specific gravity Density bottle			
	6.12 Maximum dry density optimum moisture content mould with hammer (Light Compaction)			
	6.13 Maximum dry density optimum moisture content mould with hammer (Heavy Compaction)			
	6.14 Direct Shear Test			
	6.15 Core cutter method with hammer (For Soil)			
	6.16 Sand replacement (For Soil) a. small sand pouring cylinder. b. cylindrical Calibrating Container.			
	6.17 Swelling pressure test apparatus (For Soil)			
	6.18 coefficient of permeability test apparatus constant and falling head. (For Soil)			

	6.18 CBR test apparatus (For Soil)			
	6.20 SBC (3 Long speed) triaxial shear test apparatus (For Soil)			
	Steel			
	7.1 UTM 1000kn			

Procurement Plan Civil Works.

Description of Civil Works		Quantity								
1	2	CE Office	SE – Dy-CE Office	TR – Munirabad Division	Odderahatti	Bellary	Yeramarus	QC Bellary	QC Munirabad	Total
1	CE – PIO – Munirabad									
2	Renovation of Dy - CE Room at the Office of CE PIO – Munirabad.									
3	New Construction for Kamalapura sub- division									
4	Renovation of CE Guest House IB									
5	New Construction of Administrative office for Odderahatti Division.									
6	Renovation of old administrative office									
7	Renovation for QC – lab Bellary									
8	New Construction of Administrative office for Bellary Division.									
9	Renovation of old administrative office									
10	New Construction of administrative office for Siruguppa sub- division									
11	New Construction of administrative office for Yeramarus Division.									
12	Renovation of old administrative office – sub division									
13	Renovation of QC – lab Bellary									
14	New construction for QC – lab Munirabad									

Annexure 6

VNC - Channel Closure Details

S. No	Name of Channel	Source of Water	Channel Length (km)	POs/DPOs (Nos)	Gross Command Area (ha)	WUCS	Channel Closure Period	Distance to HR from TB Dam (km)	KNNL Officers Responsible for Water Release, O&M-Name and Mobile					
									EE	AEE	AE/JE	Work Inspector/ Neerghanti/ Soudy/ Gangaman		
Left Bank Channels														
1.	Huligi	Huligi Anicut + TLBC 1 to 8 branch canal	10.69	1 to 53	419	Huligi & Shivapura	December 31 days and 15 May to 15 July	2.4	Sathya ppa 94485 67054	Amare shappa 90606 03637	Azeez 8123 6868 19	Hulugappa-9743607245 Shivaiah-8152822121 Amaragondayya-8123808142		
2.	Shivapura	TLBC 9 & 10 & 8 branch canal	6.54	1 to 36	717	Bandih arapura		8			Ram anandees h 9986 0377 39	Sharanappa - 9980340981 Prakash-9743611182 Ameensab-8150982418		
3.	Anegundi	Sanapura Anicut + TLBC 11 & 11A branch canal	19.44	1 to 65	1359	Anegundi, Sangapura		16			Amaresh appa 8151 0344 40	Paramanand Swamy-8762776136 Chandrashekar - 7975221673 Hulugappa-9448349756 Kedar Swamy-748391540 Ismail-9880187143		
4.	Upper Gangavathi	Upper Ganga vathi Anicut + TLBC seepage	9	1 to 36 and 4 branch channels	1383	Hirejant hakal, Hosalli		27.2			Krishnaya 9972 7364 98	Shivashankar-9980819147 Alibaba-8150865849 Raja-9538449025 Kanakappa-9972678927		
5.	Lower Gangavathi	Lower Ganga vathi Anicut + TLBC seepage	9.54	1 to 41 and 4 branch channels	1141	Chikjan thakal, Danapura-2		30.4			Vishwanath 8970 5887 53	Mardansab-7353647258 Devappa-8217472447 Laxman-9986561840 Sharanappa - 8105051302 Ramanna Naik-8150911902 Chethan-		

												7090814500 Veerabhadra appa- 9972871055 Srinivasa- 9480785429
6.	Bichal	Jukur Anicut	14.5	1 to 36	276	Bichali	1 to 31 May	137.6	Ramesh valyapur 90711 70431	Shanthraj 97417 41629	Shanthraj 9741 7416 29	Urkundappa - 9980339521
Right Bank Channels					0							
7.	Basavanna	Tungabhadra Dam + Seepage from TB RBLLC	16.5	29 to 50	1447	Amaravathi, Malappanagui		0			Jadeyappa 8095 1090 79	Govinda- 9945601377 Hanumath- 8970704701 Manjappa Mestri- 7483275822 Paramesh- 9008525532 Raghu- 9986835062
8.	Raya	Tungabhadra Dam + Seepage from TB RBLLC	27.74	5 to 68	2855	Chittavadi 88 Mudlapura Nagenhalli Kamalapur		0			Manjunath 9738 8853 54	Ramesh- 7829079533 Anjinappa- 8147381455 Devraj- 9241130068 Manju- 8050470964 Ramanna- 8970720602 Ambanna- 8618717613
9.	Bella	Hosur Anicut + Seepage from TB RBLLC	5.5	1 to 34 & tail end	741	Hosur Narasapura	1 December to 31 January	2.4	KBH Shivasankar 91139 63450	Suresh 99011 26377	Yallappa 7337 8040 94	Remesh- 9535313146 Valli- 9008207033
10.	Kalaghatta	Seepage water and drainage water from Hospet	7.02	1 to 32	349	Nagenahalli		8				Azeez Lusker- 9620184099
11.	Turtha	Turtha Anicut + Seepage from TB	18.69	1 to 103	1171	Kaddirampura Bukkasagara		16			Jadeyappa 8095 1090 79	Ali- 9964585819 Raghavendra- 9448262292 Sannaramappa- 9480353267

		RBLLC									
12	Ramasagara	Ramasagara Anicut + Seepage from TB RBLLC	15.5	1 to 86	1024	Ramasagara, 10 Muddapura		28.8			Manjunatha-9742769384 Siddanagoda-9980634979 Venkatesh-7892626789
13	Kampli	Kampli Anicut + Seepage from TB RBLLC	23.55	1 to 106	894	Kampli, Sanapura		30.4		Veerabhadraya 9448 8318 28	Mallikarjuna-8073105819
14	Belagodahal	Kampli canal water + Seepage from TB RBLLC	11.22	1 to 57	328	Belagodahal		35.2			Mallikarjuna-8073105819
15	Siruguppa	Siruguppa Anicut + 2 lift irrigation	10.85	1 to 23a, D1 & D2	1344	Siruguppa	1 April to 30 June	80	Suresh - 97317 77237	Suresh Pujar 97317 77237	Thippeswamy 9945 5468 17 Ramanjaneya-9611888798
16	Deshanur	Deshanur Anicut + 2 lift irrigation	9.03	3 to 17	815	Deshanur	No closure	80		Muneer 8139 9788 15	No Neerganti
		Total			16263						

### Resource Persons for Sustainable Agriculture Trainings

#### List of Resource Persons for Trainings

S. No.	Name and Address	Thematic Area of Expertise
1.	Pampayya Malemat, Kamalapura	Organic farming Snake control Agri tourism Environment protection
2.	Vishweshvara Sajjan Hulikere, Kudligi	Value addition Marketing Sustainable Agri
3.	Shripadaraj Murudi Achartimmapura, Koppal	Natural farming Paddy cultivation in organic method Value addition



S. No.	Name and Address	Thematic Area of Expertise
4.	Dr.Badariprasad Agri College, Gangavati	Plant protection
5.	Anandateertha Pyati, Kamanuru, Koppal	Lemon and mango farming and value addition Development journalism
6.	G Krishnaprasad Sahaja Samrudda Mysore	Seed Conservation Organic farming FPO Community Seed Bank
7.	Dr.Prakash Bhat Dharwad	Sustainable Agri Animal husbandry WADI concept Environment
8.	Mallappa Kamanuru, Kopal	Apiculture (Honey bee keeping)
9.	Dummalli Shivamma, Bhadravati	Varmi compost
10.	M G Patil Faculty(Rtd), Coop. Training Centre, Hubli	Cooperative Policies and Acts WUCS formation
11.	Venkatram	Cooperative management, accounts and booking in WUCS
12.	Shivappa Gulagannavar, ARCS-Rtd, Koppal	WUCS Bye-law Cooperative Audit
13.	Shailashree	Gender and leadership development among women
14.		

Details of the ARSs, KVKs, ADAs and SADHs for the SAP Trainings

S. No.	Name	Designation	Address
	ARS, Gangavathi		ARS, Kanakagiri Road, Gangavathi
1.	Dr B G Masthanareddy	Principal Scientist and Head	
2.	Dr Mahanthashivayogaiah K	Rice Breeder	
3.	Dr Sujay Hurali	Entomologist	
	KVK, Gangavathi		
4.	Dr Raghavendra Yaligar	Senior Scientist & Head	KVK, Kanakagiri Road, Gangavathi
5.	Mr. G Narappa	Scientist	
	ADAs – Left Bank		
6.	Ajmeer Ali	ADA, Koppal	
7.	Mr.Santhosh Pattadakal Mr.Channabasava	ADA, Gangavathi AO (TA), Gangavathi	
8.	Geetha L	ADA, Raichur	
9.	Hussain Saheb	ADA, Manvi	

S. No.	Name	Designation	Address
	SADHs – Left Bank		
10.	Poornima Andani	SADH, Koppal	
11.	Rathnapriya Yaragal	SADH, Gangavathi, Gangavathi	
12.	Mahesh Hiremath	SADH, Raichur	
13.	Chandrashekara Metigowdar	SADH, Manvi	
	ARS, Hagari, Ballary		ARS, Hagari, Ballary District
14.	Dr Ravishankar	Principal Scientist & Head	
	KVK, Hagari, Ballary		KVK, Hagari, Ballary District
15.	Dr. Ramesh B K	Senior Scientist & Head	
16.	Dr Shilpa	Scientist, Home Science	
	ARS, Siruguppa		
17.	Dr C M Kalibavi	Head	
18.	Dr Ashok Kumar Gaddi	Soil Scientist	ARS, Siruguppa
19.	Prabhuling Tevari	Economist	
	MARS, Raichur		
20.	Dr Ashok Kumar	Associate Director of Research	MARS, UAS, Raichur-584104
21.	Dr Ajay Kumar	Scientist- Agronomy	
	KVK, Raichur		
22.	Prahlad	Senior Scientist and Head	KVK, Raichur
23.			
	ADAs – Right Bank		
24.	Vamadev	ADA, Hosapete	
25.	Vamadev (l/c)	ADA, Kampli	
26.	S.B.Patil	ADA, Siruguppa	
	SADHs – Right Bank		
27.	Shankarappa	SADH, Hosapete TA to SADH	
	Pavan Naik		
28.	Shankarappa	SADH, Kampli	
29.	W Mahesh	SADH, Sirugupppa	

Note: Contact list may be updated from time to time as scientists and officers are transferred.

## Annexure 7

### Success Stories for Exposure Visits

#### List of Places with Success Stories for Exposure Visits

S. No.	Places visited	Purpose of Visit/ Learnings	Local Resource Person
Within the VNC project area			
1.	Kaddirampura	Integrated farming and honey bee-keeping	Basayyaswamy, progressive farmer
2.	Ramasagara	Value addition to Banana crop – Dried Banana product	Gangadhara, progressive farmer
3.	76 Venkatapura	Model Kitchen Garden	Manjula and Basavaraj, progressive farmers
4.	Bukkasagara	Production of Banana Fibre Products and bags	Annapoornamma, women entrepreneur
5.	Kampli	Marketing of readymade garments	Hiranmayi Garments, Kampli
6.	Sangapura & Chikkajanthakal	Tailoring Production Centre	Reshma at Sangapura & Geetha at Chikkajanthakal
Outside the project area but within Karnataka			
7.	Tr 1 Gondi Project area, Bhadravathi, Shivamogga district	Learning from Tr 1 Gondi modernization project activities	President and CEO, Gondi WUCS Federation
8.	Kumbaluru, Davanagere district	Conservation of Indigenous Paddy Seeds and Organic Farming	Anjaneya, progressive farmer
9.	Nittur, Davanagere district	Production of value-added home products and its marketing.	Sarojamma, women entrepreneur
10.	Plantech Nursery, Davanagere district	Horticulture nursery raising and grafting techniques	Parameswara, Nursery owner
11.	Bandralla, Gangavathi taluk, Koppal district	Vermicomposting by women	Saidabi, Entrepreneur.
12.	Chikkabenaikal, Gangavathi taluk, Koppal district	Mushroom Cultivation	Neelamma, Mushroom cultivator
13.	Kavithala, Manvi taluk, Raichur district	Tree based mixed cropping with focus on sandalwood tree farming	Kavitha Mishra, progressive farmer
14.	Agriculture Research Station, University of Agriculture Sciences, Raichur	Vermicomposting and production of bio-nutrient boosters like metarhizium, Trichoderma, etc.	Dr. Arun Kumar and his team
15.	Bedakihal, Chikkodi taluk, Belagavi district	Organic way of sugarcane cultivation	Suresh Desai, progressive farmer
16.	Agriculture Research Station, Sankeshwara,	Different varieties of sugarcane cultivation, seed	Dr. Sanjay Patil and his team

S. No.	Places visited	Purpose of Visit/ Learnings	Local Resource Person
	Belagavi district	production, nursery technique, cultivation, harvesting and production of jaggery	
17.	CFTRI, Mysuru	Production of value-added home products with latest technologies and through scientific method	Dr. Nandini, Senior Scientist, CFTRI
18.	Sahaja Seeds, Mysuru	Seed preservation and treatment methods	Manju/ Shanthakumar, Sahaja Seeds, Mysuru
19.	Arogya Bhutti, Mysuru	Soap making and marketing	A.V. Murthy, entrepreneur
20.	Kailas Naturals, Mysuru	Organic paddy cultivation and marketing of rice	Kailas Murthy, entrepreneur
21.	Belavala Farm, Mysuru	Kitchen garden seeds and horticulture crops	Raju, Coordinator, Belavala Foundation
22.	Siri Dhanya Centre, Yaradona.	Growing and marketing of Siri Dhanya (millets)	Mallikarjuna/ Siddanagoudar, Siri Dhanya entrepreneur
23.	Hulgol Multipurpose Cooperative Society, Bhairumbe, Sirsi Taluk	Success and performance of 100 years old multipurpose cooperative society	GM Hegde, CEO, Hulgol MPCS, Bhairumbe
24.	Kadamba Organic Produces Marketing Society, Sirsi	Production and marketing of organic products through cooperative approach	Vishweshwara Bhat, CEO, Kadamba OPMS, Sirsi
25.	WUCS, Gopanala, Channagiri Taluk, Davanagere district	Successful WUCS – functioning in own building, high rate of water tax collection, FIC maintenance	Vasanthappa, CEO, WUCS, Gopanala
26.	Value added production centre, Hirekerur	Value added products from agriculture produces	Jayamma, entrepreneur, Hirekerur
27.	Community Seed Bank, Ramapura, Kundagola	Conservation and reproduction of traditional indigenous seeds, machanized Agarbathi making, Dairy, Chilli power & tailoring	Savithamma Kodli entrepreneur, Kundagola
28.	Tuber Mela, Joida	Growing and marketing of Tuber based vegetables and value-added products	Satyanarayana/ Jayananda Darkar Program Coordinator, Tuber Mela Program, Joida
29.	CVR Natural Organic Farm, Karatagi	Organically growing and marketing of sugarcane products	Pramod, farmer and entrepreneur, Karatagi
30.	Sahaja Organics, Bengaluru	Marketing of organically grown agriculture produces	Somesh, CEO, Sahaja Organics, Bengaluru
31.	Sahaja Vegetable Growing Farmers	Organically growing and marketing of vegetables	Nagarathna/ Somesh, Secretary, SVGFA,

S. No.	Places visited	Purpose of Visit/ Learnings	Local Resource Person
	Association, Bengaluru	through cooperative approach	Bengaluru
32.	Organic Certification Centre, Bengaluru	Organic certification of farmer lands	Manager, OCC, Bengaluru
33.	Jaivik Krishik Society, Bengaluru	Organizing training on organic farming methods	Harish/ Sujay, Coordinator, JKS, Bengaluru
34.	Farm, Kustagi	Tree based farming and less water intensive crops	Ramesh, Kustagi
35.	Waghad Irrigation Project	Participatory Irrigation Management through WUCS and Federation	Shahaji Somavamshi Coorindator Rajendra Shinde, EE Manoj More, Manager
36.	Anna Hazare Institute of Rural Development	Integrated Water and Watershed Management	Anna Hazare, Ralegaon Siddi Ramdas Satkar, PC

## Annexure 8

### Proceedings of The Participatory Irrigation Management & CAD Works Implementation Workshop Held On 29-07-2022 At District Agriculture Training Centre, Odderahatti, Gangavathi Taluk, Koppal

As per the discussion held with PMU and PIO on 27-07-2022 at KNNL office, Bengaluru, a One-day interactive workshop was organized on Participatory Irrigation Management and Command Area Development works under ADB assisted Vijayanagara Irrigation Canals Modernization Project of KISWRMIP for the KNNL engineers and representatives of WUCS on 29-07-2022 at 11.00 am at District Agriculture Training Centre, Odderahatti Irrigation Campus, Gangavathi Taluk, Koppal District. The workshop topics include VNC modernization works and need for participation of WUCS, Farmers and Women in PIM, current status of WUCS formation and functioning, strategies for further strengthening, gearing up for CAD works through WUCS (Buildings, FICs, Furniture and O&M tool kit for WUCS office), quality maintenance in CAD works and handholdingservices and financial management in WUCS by maintain the books of accounts for all transactions in general and CAD works in particular.

The purpose of the workshop was to present the current scenario and engage the stakeholders in discussion to draw a road map to expedite the WUCS building and FICs by utilizing finance available under CAD package. Total 45 members present, includes Presidents, Chief Executive Officers and members from 14 WUCS (8 from left Bank and 6 from Right Bank), Program Coordinator-VNC,KNNL, Executive Engineer, KNNL, Oadderahatti division, AEEs, AEs, Technical Assistants representing Superintendent Engineer and Chief Engineer Office, Munirabad, Section officer, KNNL, Team Leader and experts from PSC- participated in the workshop.

A brief inaugural session was carried out to welcome the participants and for self-introduction. The Team Leader highlighted the purpose and structure of the workshop in brief and the need for focussed interaction on the same to draw an understanding on the way forward in terms of discharging the roles and responsibilities of stakeholders. The dignitaries on the dais include representatives of WUCS, PIO and PSC2.

The technical session encompasses the presentations by the KNNL officers, Program Coordinator, ADB Program, KNNL and experts from PSC 2 with the help of PPTs in Kannada on all the topics given above.



The Program Coordinator, ADB project, KNNL gave a description on the conceptualisation of VNC modernisation project and various components. He drawn attention of the participants on the need to expedite the process of carrying out WUCS strengthening and CAD works as the project is implemented through time bound.

The Executive Engineer, Odderahatti Division highlighted the importance of participation of WUCS in VNC modernisation through building vibrant WUCS. The Assistant Executive Engineer, Agalakera Division assured timely technical support for CAD works carried out by WUCS.

Started with special emphasis on, the Team Leader, PSC2 said the importance of farmers' participation in participatory irrigation management, the current status of water user cooperative societies, the need for the modernization works to be carried out by the societies, the criteria to be taken up CAD works by the WUCS and preparation of designs. He also informed about the supplementary preparations, necessary documents for the construction of the WUCS building, financial management in the implementation of the CAD works and its accounting, technical assistance, etc.

From the PSC Irrigation specialist, Financial Management specialist, Construction Management specialist, Training coordinators and O&M specialists were explained their role and expected support from WUCS during the CAD works implementation and sustainability.

The representatives of the WUCS, who participated proactively in the entire

discussion and conveyed their acceptance to implement the CAD FIC and building works, taking proper site approval for WUCS building and necessary design and plan documents for building construction, etc. In continuation of this discussion, WUCS representatives asked for the following clarifications from KNNL and PSC2;

1. Who will provide designs for CAD FIC works?
2. Cost provided for each CAD package.
3. Support from department for clearing encroachment of service road and inspection path of few VNC channels.
4. Obtaining site for the construction of WUCS building within the city limits (Upper Gangavati canal).
5. Use of steel for the construction of FIC works.
6. Possibility of constructing WUCS federation office building.

The Program Coordinator asked PSC2 to prepare an estimated survey for the FICs with the support of WUCS members and engineers. The WUCS were informed that estimation of FIC and office building of the Sangapura WUCS has already completed as a model and as the first document it will be submitted to the ADB.

PSC2 Team Leader elaborated the eligible criteria's for WUCS to carry out CAD works;

- WUCS must be registered with farmers having membership as shareholders covering at least 51% of the total command area of the WUCS or 61% farmers as per the khatadars list;
- Executive committee should be formed and be active;
- The WUCS should have a recent audit report;
- Must have a bank account;
- There shall be a report of the Annual General Meeting;
- Adequate maintenance of books of accounts and other documents, such as receipt book, proceedings book, shareholders list, etc;
- Should have entered into an agreement with the KNNL;
- Must have PAN, TAN and GST number;
- The WUCS should have a site in the name of the WUCS to construct an office building and provide appropriate documents for the same;
- Must have signed an MoU with the KNNL and WUCS is engaged in collection of the water rate from the farmers;
- Ready to enter into an agreement with the KNNL for execution of CAD works;
- Willing to take up responsibility of O&M activities once works completed.

The workshop concluded with vote of thanks.

Team Leader  
PSC2 – EGIS India



## Annexure 9

### Proceedings of The Kick Off Meeting of PSC 2 Part B – Egis Under the Chairmanship of Chief Engineer, Knnl, Munirabad Was Held On 18-07-2022 At Office of Ce, Icz, Munirabad, Koppal

A kick off meeting was held under the Chairmanship of Chief Engineer, KNNL, ICZ, Munirabad on 18-07-2022 at 3.30 pm at Office of Chief Engineer, ICZ, MUNIRABAD, KOPPAL to interact M/s EGIS EAU – EGIS India Consulting Engineers Pvt Ltd – Project Support Consultant – II) regarding the support service for KISWRMIP Tranche II.

The Chief Engineer welcomed the participants and briefed about the project. He opened the floor for further deliberations. The Executive Engineer, TR 1 highlighted the importance of PSC activities, which was followed by Program Coordinator, ADB Project KNNL sharing his views on need to expedite the activities. The team leader, PSC 2 Part B gave overall framework of the deliberations which was followed by



self-introduction of the participants representing KNNL, CADA, EGIS and Contractor – RNSIL. A ceremonial kick-off meeting through lighting the lamp was

carried out by CE, EE, EGIS members and other participants.

Team Leader, PSC 2 Part B made a detailed presentation in Kannada with the help of PPT in English for the benefit of the participants. He highlighted the initiation of the KISWRMIP program, steps taken by the State towards IWRM, setting up of exclusive think tank organization – ACIWRM, state wide engineers and other stakeholders capacity building, etc.

He illustrated the various components of the KISWRMIP – Output 1, 2 and 3, objectives, PSC 1 and PSC 2, scope of services of PSC 2 Part B, Roles and Responsibilities, Key experts, Non-Key experts and office staff including establishing offices in the project area.

Further, the presentation emphasized on civil works - modernization of Vijayanagar channels (Package 1 and 2) and their status. One of the key activities – i.e. CAD packages were illustrated in the kick off meeting and draw attention of the



participants over the developments with regard to design, estimation and execution through WUCS including the observations made by ADB and the compliance. The Government Order permitting KNNL engineers to execute field irrigation channel civil works across the State was informed to the participants.

A special focus was laid on WUCS and its status, sustainable agriculture, gender specific activities, safeguard monitoring, environment, capacity building and training programs adopting various methods, techniques and approach, IEC and communication strategy. Most importantly, importance of gender participation and specific activities towards women's empowerment under PSC 2 Part B were highlighted.

Program Deliverables for PSC 2 Part B for VNC are – Inception Report, Quarterly Progress Reports, SMR half yearly, Bio-diversity reports, Consolidated annual report, mid-term report, project completion reports, effects monitoring report. For TLBC deliverables include – EIA, EARF, PSA, Social safeguard due diligence, Resettlement framework, Summary Poverty Reduction and Social Strategy and Economic and Financial Analysis. For Gondhi – Effects Monitoring Report.

The presentation flagged the tasks initiated on the directions of KNNL i.e. facilitate

preparation of QPR 1 of 2022 (Jan-Mar 22), finalization of SMR – Oct 21 to Mar 22, QPR 2 (Benchmark for Inception Report), Inception Report – Activities, Methodology and Time Frame.

The Deputy Team Leader, PSC 2 part B briefed about Egis and the experience, commitment and dedication of all the team members and the support. He highlighted the already established Project Office at Hospete and the process of setting up offices for SSTs in Gangavathi, Kamalapura and Kampli with due concurrence of KNNL.

The Program Coordinator, ADB Project, KNNL further illustrated the PSC activities, need for working in coordination with all the stakeholders, expedite the tasks enlisted, etc. He stressed upon the procedures to be followed, accounting mechanism and timely reporting through proper channel.



The Chairman of the meeting - Chief Engineer, opened the floor for discussion. The participants discussed various components mentioned above with special emphasis on WUCS, sustainable agriculture, VNC packages and CAD works. The preparation of model CAD works through WUCS encompass office building and equipment and FICs to the tune of US \$ 30,000/- per package including the draft MOU with WUCS would be taken up on priority.

The Executive Engineer, TR 1 thrust upon the quantity and quality output and urged all the engineers of KNNL to participate actively and cooperate with the PSC 2 Part B. He advised engineers to expedite the completion of pending tasks in few channels and WUCS including preparation of model CAD works packages in one WUCSs on priority. He also suggested that establishing SST office in Kampli instead of Sindhanur would be ideal in terms of covering the cluster of vijayanara channels.

The Team Leader briefed the preparation of the draft QPR 1, discussion of the same with EE, TR1 and PC, ADB project KNNL and said that the PSC 2 part B is working along with Contractor on S curve. Simultaneously, the check list for QPR 2, which is also benchmark for inception report is under preparation.

The Chairman of the meeting - Chief Engineer, instructed all the participants to share the work plan, work together and strive for the success of the project. He urged for timely reporting and regular communication with various levels of KNNL accordingly. He concluded the kick off meeting by planting a mango sapling in the compound of the CE office building.

Chief Engineer  
KNNL, ICZ, Munirabad

List of participants

Sr. No.	Name of the Officer/ Address	Designation	Name of the Department/ Institution	Telephone/ Mobile Number
1	Mr. L. Basavaraj	CE	KNNL Irrigation Central Zone, Munirabad	
2	Mr. Shiv Shankar	Executive Engineer	T.R. Division Munirabad	9113963450
3	Mr. Nagabhushan	Program Coordinator VNC	KNNL	9448442911
4	V. Manjula Kumari	EE (D)	CE Office Munirabad	9986236194
5	Lingaraj P.T	TA, CE. Office	CE Office	8147009057
6	RITA. B. Vernekar	AE	CE Office	9483340972
7	Ramanandish Prasad T	AE, No2	No.2 TR Subdivision	9986037739
8	Jagadeesh. K	AE	No.1 TR division	9880042004
9	S.V. Amaresh	AEE	T.R. project No.2	9060603637
10	K. M Veerabhadrayya Swamy	JE	VNC Canal Subdivision Kamalapur	9448831828
11	Surendra babu	AE	No CSD Kallur	9632370785
12	S.B. Patil	RNSIL	RNSIL	9483502928
13	Suresh	EE I/C	No. 6 Canal Division Ballari	9483384195
14	A.Suresh	AEE	VNC Subdivision kamalapur	9901126377
15	H. Sathyappa	EE	No2 Canal Division	9448567054
16	K. Shantaraj	AEE	AEE, KNNL, Subdivision, Gillesugur	9739639086
17	R S Wallyapur	EE	EE, KNNL MUNIRABAD	9071170431
18	Doraiswamy R	Team Leader	EGIS India	7760807119
19	M. Dinesh Kumar	International Irrigation Specialist	EGIS India	9705015640
20	Vinay Kumar Rathi	Dy Team Leader PSC2	EGIS India	9810706463
21	Dr. Seema Srivastava	Environmental Expert	EGIS India	8887896070
22	N. Balakrishna	Training Coordinator	EGIS India	9448928730
23	G N Deepak Kumar	Construction Management Engineer	EGIS India	9343648080
24	Sujeet Kumar	Irrigation Specialist	EGIS India	8130219525

25	Ravindra Jadon	O&M Expert	EGIS India	9754025493
26	Dr. VP Singh	Agriculture Specialist	EGIS India	9415104712
27	GV Ravi Kumar	MIS/GIS Expert	EGIS India	9440169705
28	Mallikarjuna	Communication and Documentation Expert	EGIS India	9686194641
29	Baskar RJ	Financial management Specialist	EGIS India	8073373570
30	Veerasha AM	Training Coordinator	EGIS India	9901120761
31	Dinesh Kumar	MIS Executive	EGIS India	9761741111
32	Sandeep Kumar	Office Manager cum Accounts	EGIS India	7217687604
33	Nithesh	Office manager cum Accounts	EGIS India	9845425714
34	Ramprasad G	Office Superintendent	EGIS India	9620418713

## Annexure 10 Implementation of CAD works by WUCS

### **1.0 Water Users' Cooperative Society (WUCS) and its formation**

A co-operative society, which has majority of the land holders in its area of operation as its members and when all such members own more than half the irrigable area is formed for repair, maintenance and operations of canal network under its area. Under major and medium irrigation projects, WUCS are formed on hydrological boundary at various levels of irrigation system namely primary WUCS, distributary level and project level federations and apex body at the state level. Karnataka by amending its Irrigation Act of 1965 in 2000 made legal provisions for the formation of WUCS registered under Karnataka Cooperative Societies Act of 1960 and subsequent amendments.

The area of operation of WUCSs is delineated and notified by the irrigation officer. CADAs are delegated with necessary powers to motivate, register and oversee the functioning of the WUCS. A WUCS become eligible for registration when it reaches collection of membership fee of 60% of farmers or 51% of the land area in WUCS jurisdiction. The membership fee is deposited in the bank account exclusively opened in the name of WUCS.

#### **1.1 WUCS Membership:**

The membership to the primary WUCS is through voluntary by paying share capital of INR 115/- (Share value 105/-, membership fee 5 and entry fee 5). The landowners in the jurisdiction of respective WUCS become primary members with voting power. After registration, WUCS conduct election for the board of directors comprising 12 members (6-General category, 2-OBC, 2-women, 1-SC and 1-ST) and one additional member nominated by the Nigam (KNNL/VJNL/KBJNL/CNNL).

#### **1.2 WUCS Functions: as per the PIM objectives, the WUCS are supposed to:**

- Develop irrigation infrastructure availing institutional finance,
- Procure water on volumetric basis and distribute the same to members and non-members as per principles laid down by the general body of the society,
- Levy and collect water charges and service charges at rates determined by the general body of the society and not less than crop area charges prescribed by government,
- Prepare water and financial budgets for each season,
- Mobilize financial resources,
- Resolve disputes among water users,
- Implement on-farm development works,
- Assist Government Agency in implementing irrigation and drainage works,
- Repair and operate and maintenance of the canal network using funds provided by the Government or WUCS' funds.
- Undertake formation of roads to provide access to farms under Food for Work Programme with beneficiary contribution etc.

- Undertake avenue plantation

## 2.0 Resource Support to WUCS:

### 2.1 MOU for Operation and Maintenance:

In major and medium irrigation projects, a co-operative society which has majority of the land holders in its area of operation as its members and when all such members own more than half the irrigable area, the society becomes eligible to take over irrigation management from the Government agency through entering into Memorandum of Understanding (MOU) between KNNL and WUCS.

WUCSs have to collect water charges not less than the prescribed crop area charges (Rs 100/acre for paddy, Rs 400/acre for Sugarcane, etc). This way, WUCS benefits from volumetric supply water bill and crop area water charges.

### **Government's Support**

- Supply of Irrigation water @ INR 12/1000 m<sup>3</sup>
- Retain 20% of the total water bill for management purposes
- Retain INR 40/ha for maintenance of the handed over canal network
- **One-time functional grant/PIM grant per ha:**
  - Central/Union Government: ₹ 540
  - The State Government : ₹ 540
  - Farmer's Contribution : ₹ 120

*The interest accrued on the deposits of the WUCS account are also to be utilized for WUCS functioning.*
- **Annual maintenance grant by the Govt of Karnataka:** ₹ 1.0 lac per WUCS registered and having MoU with Nigam (annual account audit is required)

### 2.2 Technical Assistance from CADA to WUCS:

The Command Area Development Authority through its Central Sector Schemes support for the utilization of irrigation potential created and connecting the irrigation infrastructure to the farm-gate level. The salient features of CADA schemes include; (i) on-farm development works, (ii) soil & topographical surveys, (iii) field irrigation and/or drainage channels, (iv) land reclamation, (v) adoptive trails, crop demonstration, trainings etc., (vi) implementation support for participatory irrigation management (PIM), (vii) correction of system deficiencies and establishment cost. Similarly, State Sector CAD programs include construction of godowns, housing, special component plan and tribal sub plan, ayacut roads, pick up and krishihondas. However, due to lack of grants, CADA is unable to take-up the programs at required scale.

### 2.3 Comprehensive Modernisation Plan and CAD Civil Works:



Includes all round development of irrigation system encompassing improvement to the irrigation infrastructure, sustainable agriculture development, community participation for judicious and equitable distribution of water, sustainable operation and maintenance of canal network covering main canal, distributary and tertiary (field irrigation channels) and capacity building of various stakeholders and institutions.

### **3.0 KISWRMIP:**

The Government of Karnataka is implementing the comprehensive modernization program in Tungabhadra Sub-basin comprising Gondhi Sub Project in Tranche 1 and Vijayanagara Channels in Tranche 2 through KNNL under the financial assistance of Asian Development Bank.

As a part of CMP, CAD civil works includes construction of WUCS office building, improvement of FICs and appurtenant structures and basic requirement like furniture and office equipment. The CAD civil works is planned and implemented by WUCS with the technical and financial assistance from KNNL.

#### **3.1 Planning CAD Civil Works:**

WUCS entered into MOU for water management and O&M with KNNL is eligible to take up CAD civil works. The works will be entrusted to WUCS through a Memorandum of Understanding drawn exclusively for each package not exceeding US\$ 30,000/- and minimum 10 packages per WUCS.

Considering the merits and demerits of the various forms of contractual agreement and the existing contractual form between WUCS and KNNL, the Memorandum of Understanding is better suitable to execute the works. For the preparation of first document, PIO and PSC 2 assisted WUCS to prepare plan and estimates, schedule of construction, BoQ, site plan, etc. The same is presented in the meeting called by WUCS exclusively to present the works and cost estimate and procedures of KNNL for implementation.

#### **3.2 Assistance to WUCS office building/Godowns:**

CADA under State sector schemes gave financial assistance to WUCS to construct office building cum godown for office purpose and store agricultural produces, implements and fertilisers etc. Due to lack of grant, it is unable to provide to all the WUCS.

Under, KISWRMIP, financial assistance is given to WUCS to construct their own office building. To utilize this benefit, WUCS should possess land in its name. The practice is to obtain land from the Gram Panchayat or from Nigam and any other government agencies.

#### **3.3 FICs and Appurtenant Structures:**

Most FICs are in dilapidated condition and lost in cross sections and carrying capacity leading to several problems including low productivity and tailend deprivation. Under KISWRMIP, the lining of FICs and appurtenant structures like cistern, CTC, drop, field drain, etc will be undertaken.

#### **3.4 Equipping WUCS office:**

Under KISWRMIP CMP of VNC modernization emphasis is laid to support WUCS for sustainable function. Basic requirement like office furniture (Chairs, Tables), computer with UPS will be provided to WUCS.

### **4.0 Contractual Arrangements and Implementation:**

The Memorandum of Understanding, similar to the existing practice of contractual agreement between KNNL and WUCS for water management and O&M, is being adopted in executing CAD packages.

The Government of Karnataka in its GO NoWRD68CAM 2021, Bengaluru dated 20.09.2021 specifies that during the meeting held on 09.08.2021 under the chairmanship of Hon'ble Minister for Water Resources. The difficulties of CADA to execute FIC works due to its financial and staff shortage was taken into consideration, thus, the task of carrying out CAD works has now been entrusted to all the Nigams in the State.

#### **4.1 Implementation Stage:**

PIO and PSC major role in assisting WUCS in technical aspects encompassing the civil works, environment and social safeguard, financial management, procurement, billing and payment procedures, quality assurance, etc

#### **4.2 Financial Disbursement:**

In order to facilitate WUCS in execution of CAD packages, the MOU specifies cost of the work, schedule of construction, BoQ and payment schedule. This includes mobilization advance of 15% to enable WUCS (farming community) to carry out quantity and quality CAD packages. The payments will be made in the name of WUCS after recording the Measurement Book and necessary compliance.

#### **4.3 Handing Over:**

After the completion of the work, the CAD assets will be handed over to WUCS through regular MOU for water management and O&M entered between KNNL and WUCS. A certificate of handing over and taking over signed by KNNL and WUCS is prepared and executed. The copy of the same shall be maintained with KNNL and WUCS

#### **5.0 Post Implementation Asset Management:**

The WUCS shall maintain the records of the assets handed over to it. Carry out O&M activities by effective water management and distribution among beneficiary farmers. Therefore, volumetric measurement of supplied water, collection of water charges in participatory and motivational mode, and sensitization of WUCS members and other farmer beneficiaries' regarding PIM are the key to success in smooth functioning of a WUCS. The Interest accrued from one-time functional grant FD amount and dovetailing with other government schemes are also instrumental to the financial sustainability of the WUCS.

**Annexure 11**  
**Draft Procurement Manual for CAD Works**  
**Modernization of Vijayanagara Channels**

**A. Procurement Manual**

The Procurement Operational Manual encompassing the Procurement Plan and Post Review is prepared for facilitating the procurement processes.

**1.0 KISWRMIP:**

The Government of Karnataka is implementing the comprehensive modernization program in Tungabhadra Sub-basin comprising Gondhi Sub Project in Tranche 1 and Vijayanagara Channels in Tranche 2 and feasibility of TLBC modernisation through KNNL under the financial assistance of Asian Development Bank.

**2.0 CAD Packages:** As part of Comprehensive Modernisation Program, CAD packages includes construction of WUCS office building, improvement of FIC/FDs/CDs/CTCs and basic requirement like furniture and office equipment.

**3.0 Contractual Arrangements:** The CAD works will be entrusted to WUCS through a direct contract signed between Executive Engineer, PIO and WUCS in the form of Memorandum of Understanding drawn exclusively for each package not exceeding US\$ 30,000/. The KNNL Sub – division along with PSC 2 shall prepare estimate and other relevant as listed below for the entire FIC/FDs/CDs/CTCs.

All WUCS to begin with will be allotted 10 packages and subsequently more number of packages will be given to each WUCS depending on the requirement. The MOU shall be signed on the Indian Non Judicial e-Stamp Paper of Rs 200/- per package.

The MOU for CAD civil works for WUCS building and FIC/FDs/CDs/CTCs, etc shall include parties entering the MOU, description of the works, responsibilities of the parties, schedule of construction, payment and disbursement details, etc exclusively for each package.

**4.0 CAD Package Documents**

The Executive Engineer, PIO and WUCS with the assistance shall ensure that each CAD package to contain the list of documents namely covering Letter given by WUCS, Original MOU Document for CAD package, Channel Map, Copy of Design Specifications, Site Plan, BOQs, Cost estimates, Schedule of Construction, Copy of Certificate of site possession for WUCS building given by Gram Panchayat or any other agency or individual, Valid MOU for Water Management and O&M, Audit Report and Resolution passed by WUCS.

## 5.0 WUCS eligibility

The MOU for execution of CAD packages shall be entered with WUCS in VNC jurisdiction that fulfill eligibility criteria. Prior to signing the MOU, the Executive Engineer shall ensure documents from the WUCS namely Copy of the Registration, MOU with KNNL over water management and O&M, previous year Audit Report, dedicated bank account in Nationalised Bank for CAD packages, appointed CEO, held general body meeting, PAN card, GST Number, TAN CARD, etc.

## 6.0 Identification of Works

- I. PIO and PSC-2, supported by WUCS, will conduct a walkthrough survey on canals to identify works.
- II. PIO shall prepare a design estimate of CAD works.

## 7.0 Roles and Responsibilities of PIO

PIO is responsible for

- (i) Provide technical guidance during planning , execution and post project
- (ii) Participate in the walkthrough survey along with WUCS and PSC 2
- (iii) Preparation of design specification, drawings, site plan, estimation, BoQ, Schedule of Construction
- (iv) Plan for bulk procurement of construction materials for WUCS
- (v) Supervising the execution of works in accordance with the specifications
- (vi) Provide guidance to WUCS in the preparation and submission of bills for works carried out
- (vii) Record M Book at every milestone
- (viii) Duly review for releasing payments to WUCS
- (ix) PIO along with PSC 2 shall guide and instruct the WUCS on requirements concerning ADB's policies such as Involuntary Resettlement, 1995, Indigenous Peoples Act, 1998, and Guidelines for Incorporating "Social Dimension in Bank operations".
- (x) Guide WUCS with the assistance of PSC 2 over the Environment and Social Safeguard Measures
- (xi) In case of delay and time extension, PIO will evaluate the additional time to be allowed and so inform the WUCS in writing

## 8.0 Roles and Responsibilities of WUCS

WUCS is responsible for

- (i) Mobilisation of WUC members

- (ii) Facilitate and Participate in the walkthrough survey along with PIO and PSC 2
- (iii) WUCS shall extend all possible cooperation including voluntary crop holiday and preparation of technical details of CAD packages
- (iv) WUCS shall ascertain and conform in all respects with the provisions of any general or local acts of government and regulations, laws and statutory obligations which may be applicable to the Works.
- (v) WUCS shall carefully plan and conduct the works in a manner that will minimize any adverse or negative effect on the environment and natural resources.
- (vi) WUCS shall maintain a separate book of accounts for all income and expenditures, receipts and payments for the funds received from the PIO for the execution of the works. All books of accounts shall be made available for inspection by the PIO or his authorized representatives during and post execution for review.
- (vii) WUCS shall also be responsible for safe and secure storage of materials and equipment, transport of materials and equipment, labour costs and other costs incidental to implementing the MOU. The WUCS shall be responsible for all labor and personnel employed, including for emergencies, health, accident liabilities and other social benefits and no child labour employed in any manner.
- (viii) WUCS shall carry out the operation and maintenance of FICs and appurtenant structures as per the MOU entered between KNNL and WUCS.

#### 9.0. Disbursement Procedures

The WUCS requests disbursement from the PIO by means of a (or more often) invoice based on progress of execution as specified in the MOU.

#### 10. Obtain approval for first document

KNNL/PIO will request ADB's no-objection to the first set of documents for contracting WUCSs, including the draft contract and design estimate (BOQ).

#### 11. Procurement Contract Summary Sheet

The CAD works entrusted to WUCS for execution for both WUCS office building and FIC and appurtenant structures be summarised as under and submit to ADB for perusal.

ADB will issue a procurement contract summary sheet (PCSS) number per batch of contracts based on the summary of contracts.

VNC Modernisation Program										
Command Area Development (CAD) Package Works										
A. Field Irrigation Channels/WUCS Office Building										
S. N	Channel	WUCS	No of Packages	Date of Contract		Contract Amount without Overhead	Construction Mgmt Expenses (2.5%)	Community Contribution (10%)	Total Contract Amount (in Rs.)	Total Contract Amount in BOQ (item-wise)
				Agreement	Closing					

12. Fund Flow

- (i) Executive Engineer in PIO shall take the measurement of works done, approve the bill of works done, supervise the construction of works and maintain the quality.
- (ii) WUCS will maintain an account for the project specified in the contract.
- (iii) Chief Accounts Officer (CAO) in PIO shall open a bank account to receive funds from KNNL. PIO will prepare expenditure claims and submit the same to KNNL for consolidation with withdrawal applications.
- (iv) The statement of expenditure (SOE) procedure will be used to reimburse from ADB expenditures not exceeding \$100,000 equivalent. ADB will finance 74% of eligible expenditures.
- (v) KNNL to prepare SOE based on submitted claims from PIO and indicate the applicable procurement contract summary sheet PCSS number.
- (vi) Receipts and other proofs of expenditures are to be kept for possible audit.

13. Compliance to Loan Covenants of ADB

- (i) The State shall remain committed to organizational reforms and capacity building for AC-IWRM, KNNL, CADAs, WUCSs and other water resources agencies, to implement IWRM and improve irrigation service delivery in selected river basins.
- (ii) The State shall ensure that staff responsible for O&M in KNNL, CADAs and WUCSs are trained by the consultants and contractors in the O&M of subproject facilities. In this regard the State, KNNL, CADAs and the WUCSs will ensure that an O&M plan will be developed

- (iii) for each subproject. The O&M plan will also assess additional human and financial resources required by each appropriate authority for smooth operation of subproject facilities.
- (iv) The State shall ensure sustainability of the operation and maintenance (O&M) of irrigation distribution systems in selected river basins by, in part, supporting WUCSs in the preparation of (i) asset management plans, which includes a system for water charges and remittance of water rate, and (ii) modernization plans for improving their command area system and facilitating agricultural development within their respective jurisdictions.
- (v) The State shall remain committed to organizational reforms and capacity building for AC-IWRM, KNNL, CADAs, WUCSs and other water resources agencies, to implement IWRM and improve irrigation service delivery in selected river basins

## **B. Procurement Plan**

### **14. Preparation Stage**

PIO During planning stage PIO, WUCS with the support of PSC 2 shall make necessary preparations and show readiness for the program.

- i. Preparation of Maps
- ii. Facilitate WUCS to fulfil all the eligibility criteria set in the procurement manual
- iii. Assess the water situation in the canal, discuss with farmers to arrive at number of CAD packages accordingly
- iv. Plan for the walk through survey for identification of the work (length of FIC, Structures, etc)
- v. Plan for deputing staff from PIO, PSC and farmers from WUCS
- vi. Identify places for the bulk procurement of construction materials
- vii. Data management of the CAD packages in MIS system
- viii. Develop Procurement Monitoring Report over the execution of the work
- ix. Preparation of month wise budget allocation for CAD works
- x. Individual WUCs wise details of DPOs





## C. Post Review

### 15. Selection of Packages for Post Review

The selection of contract of the CAD civil works packages for post review to be taken from the PMR (Procurement Monitoring Report). The PMR consists of all the CAD civil packages contracts entrusted to WUCS with a specific milestone including the percentage of work against invoices. In this list, 25% of the Packages shall be selected for desk review of a package documents which will be thoroughly screened for selecting 10 % sample packages for detailed assessment of the work, similar to effects monitoring study. The exercise of Post review includes both verifications of the documents and on site assessment.

### 16. List of Documents

- (i) Copy of the MOU of the CAD Civil Works Package Document (s) signed between KNNL and WUCS as shown in item 5 of procurement manual
- (ii) Addendum to MOU including original completion period and extension, if any
- (iii) Copy of the list of documents related WUCS as given in item 6 of WUCs eligibility
- (iv) Copies of material modifications to the contract during execution and the increase in the value or time of the contract; and
- (v) Asset location, to facilitate asset verification.
- (vi) Asset Register, Goods Received Note, Delivery Challan, Final Acceptance for Goods, Measurement Book, site Handover, Provisional Completion & Final Completion certificates for Works.
- (vii) Statement of Expenditure along with the details of payment for each of the contract (Invoices raised, payments certified, date of payment release, etc.)

### 17. Onsite review

- i. Random selection of DPOs under the sample package in respective WUCS
- ii. Interaction with the farmers in the sample DPOs
- iii. Assess the impact of the works in terms of quality of construction, improvement in conveyance system, timely availability of irrigation, tailend deprivation, water conflicts addressed, etc
- iv. Environment and social safeguards

Sl. No.	MOU	Description of Works	Quantity	Estimated Cost	Actual Cost	Variance in estimate and Actual cost	M. Book No and compliance date.	Running Bill/Tax Invoice date and Amount					Handing over certificate date	Remark Satisfactorily Completion of Civil Works
								10		11				
1	2	3	4	5	6	7	9	Approved Date		Payment Date			11	12
								B1	B2	B3	B4	BF 5		

Annexure 12  
Memorandum of Understanding

Program	Karnataka Integrated and Sustainable Water Resources Management Investment Program (KISWRMIP)
Subproject	Vijayanagara Irrigation Subproject
Contract Number	KNNL/VNC/LBC/ANG/SNG/Pkg 1/BLD

This contract, heretofore referred to as the “Memorandum of Understanding” here in called as MOU is made on DD/MM/2022 between Executive Engineer on behalf of Managing Director Karnataka Neeravari Nigam Limited (KNNL), which for the purposes of this Memorandum of Understanding will be referred to as “Owner” represented by Executive Engineer, No.2, Canal Division, Odderahatti, Koppal, Karnataka on one part,

and

Sangapura (SNG) (Water User Cooperative Societies) here in referred as WUCS, situated on the left bank of Tungabhadra River\_which for the purposes of this Memorandum of Understanding will be referred to as the “WUCS” (Water User Cooperative Societies), represented by the President, Sangapura WUCS” (Water User Cooperative Societies), located at Sangapura WUCS Office, Sangapura, Gangavathi Taluk, Koppal District, Karnataka, on the other.

As part of Tranche 2 Modernization of Vijayanagara Channels, Karnataka Neeravari Nigam Limited KNNL is upgrading irrigation infrastructure falling within the Sangapura, Gangavathi Taluk, Koppal District, Water Users Cooperative Society (WUCS) command area. This includes:

- (i) Modernization of all distributaries and pipe outlets (POs), direct pipe outlets (DPOs) etc. upgraded through the (WUCS) appointed through direct Contracting.
- (ii) As part of Command Area Development (CAD) packages, (a) upgradation of field irrigation channels (FICs), field drains (FDs) and associated infrastructure such as cross-drainage works (CDs), canal falls, cart-track crossing (CTCs), etc., (b) construction of WUCS building and a meeting hall; and (c) supply of basic furniture for WUCS office, computer system and printer etc.

Description and Location of Works:

The Work under this MoU comprises construction of WUCS office Building along with a meeting hall in Sangapura Village under Sangapura WUCS, Koppal taluka, Koppal district, Karnataka, at an estimated cost of INR 23,00,000/- (inclusive of GST) as per approved designs and specifications.

Contract Number	Contract Amount	Work Start Date	Work Completion Date
KNNL/VNC/LBC/ANG/SNG/Pkg-1/BLD	INR 23,00,000.00		

**1. Responsibilities:**

**A. Owner:**

- 1.1 Owner is responsible for (i) supervising the execution of works in accordance with the specifications given in schedule B and annexures; (ii) provide guidance to WUCS (Water Users Cooperative Society) in the preparation and submission of bills for works carried out, and (iii) duly review for releasing payments to WUCS (Water Users Cooperative Society). The Owner will also have final responsibility for suspension or cancellation of the MOU (Memorandum of Understanding) as the case may be if the work is not executed as per the specifications with proper justification.
- 1.2 Owner shall guide and instruct the WUCS (Water Users Cooperative Society) on requirements concerning ADB's policies such as Involuntary Resettlement, 1995, Indigenous Peoples Act, 1998, and Guidelines for Incorporating "Social Dimension in Bank operations".

**B. WUCS (Water Users Cooperative Society):**

- 1.3 WUCS shall ascertain and conform in all respects with the provisions of any general or local acts of government and regulations, laws and statutory obligations (Goods & Service Tax, Tax Deduction at Source, Income Tax, WUCS accidental relief insurance, etc.), which may be applicable to the Works.
- 1.4 WUCS shall carefully plan and conduct the works in a manner that will minimize any adverse or negative effect on the environment and natural resources.
- 1.5 WUCS is responsible for implementing the project, according to specifications, designs and drawings, site plan, BoQ, costs and construction schedule contained in the MOU (Memorandum of Understanding) and its annexures. It shall be the responsibility of the WUCS to use tested materials for works and retain Quality Control test results for verification.
- 1.6 WUCS shall also be responsible for safe and secure storage of materials and equipment, transport of materials and equipment, labor costs and other costs incidental to implementing the MOU (Memorandum of Understanding). The WUCS shall be responsible for all labor and personnel employed, including for emergencies, health, accident liabilities and other social benefits.
- 1.7 WUCS shall ensure that there is no child labor employed in any manner under the MOU (Memorandum of Understanding).

- 1.8 WUCS will ensure, to the extent possible, use of suitable labor from the local community, with Equal Opportunities for men and women and with equal pay for equal work. The WUCS shall pay reasonable wages, not less than the minimum applicable rates (Processing Missions to take particular care to lay down clear procedures on the availability, selection, and payment of local labor).
- 1.9 WUCS shall implement the MOU in accordance with applicable ADB guidelines indicated in subclause 1.2 above.
- 1.10 WUCS shall maintain a separate book of accounts for all income and expenditures, receipts and payments for the funds received from the owner for the execution of the works. All books of accounts shall be made available for inspection by the owner or his authorized representatives.
- 1.11 In the event of misuse of funds, the owner shall have the right to conduct an inquiry, if deemed necessary, and to freeze the bank account of the WUCS if inappropriate use of fund is found.
- 1.12 WUCS shall carry out maintenance of the building and others as per the Memorandum of Understanding pertaining to Operation and Maintenance entered between WUCS and KNNL.
- 1.13 WUCS shall utilize the building premises and income generated for the functioning of WUCS.
- 1.14 WUCS shall make the display board in details at the site of the WUCS office being constructed.
- 1.15 WUCS shall maintain statement of income and expenditure and get it periodically audited.

## 2. Purpose

As per the understanding, the owner shall provide funds for implementation of the MOU in accordance with the documents attached hereto.

## 3. Documents

The following documents are to be appended and form a part of the MOU:

- a) Designs, Specifications, Site plan, project cost.
- b) Mandates, designations and any other legal documents
- c) Bill of Quantities
- d) Schedule of Construction
- e) Program Organizational Structure (Organogram).

## 4. Financing and Disbursements

The Estimated amount of the MOU (Memorandum of Understanding) is INR - 23,00,000.00 (inclusive of GST), in words Twenty-Three Lakhs. The Owner shall release payments commensurate with progress of work (as specified in item 8) on receipt of a request from the WUCS, and subject to measurements and quality acceptance.

The Owner shall measure and evaluate the works completed in accordance with the specified quantity and quality, and certify payment certificates, which will be submitted for payment to KNNL.

**5. Defects Liability Period**

The WUCS shall be responsible for rectifying all defects for a period of 12 months from the date of completion of the works, which must include one full rainy season.

**6. Payment Proportionate**

Works shall be executed by the concerned WUCS against piece work agreement as per agreed rates. The works shall be measured every fortnight and bills recorded after due verification by competent authority accordingly. Taxes will be recovered as applicable.

**7. Advance Payment**

Owner shall make a mobilization advance payment of 15% of the MOU price to the WUCS upon signing of the MOU.

**8. Disbursement Procedures**

- i. The WUCS requests disbursement from the Owner by means of a (or more often) invoice based on progress of execution as given in Table below.
- ii. Requested disbursement is approved by the Owner.
- iii. All disbursements under this MOU (Memorandum of Understanding) will be carried out by means of online transfer/money transfer order, issued in favor of the WUCS, in the name of *Sangapura WUCS, Savings Bank Account No. 001600320000216 (Name of Bank) The Raichur Dist Central Co-Op. Bank Ltd, Branch Name Raichur and IFSC Code IBKL0296RDC.*
- iv. The advance payment made to the President WUCS will be recovered in third installment & final Payment.

S. No.	Particulars	On signing Contract	Work completion in percentage	Invoice Number
1.	Mobilization advance	15%		1
2.	First instalment		25%	2
3.	Second installment		50%	3
4.	Third Installment		75 %	4
5.	Final Payment		100%	5

**9. MOU Termination**

This MOU may be terminated on the occurrence of either of the following:

- (i) By mutual agreement between the parties to this Agreement; or
- (ii) By the Owner in any of the following cases:
  - (a) upon completion of the Works to the satisfaction of the Owner;
  - (b) if the WUCS engages in fraud or corrupt practices that adversely have an impact on the MOU execution in the view of the Owner;
  - (c) if the Owner is in breach of any of the provisions of this Agreement;
  - (d) for any reason as reasonably justified by the Owner in the interest of the MOU (Memorandum of Understanding).

**10. Amendment to the MOU**

Amendment to the provisions of this MOU can be made only with the consent of both the parties to the contract.

**11. Prohibitions**

The WUCS is prohibited from subcontracting any Works component, without permission from Owner; otherwise, the Owner shall have the right to cancel this MOU and shall not reimburse the costs of construction work and material to the WUCS.

The WUCS is prohibited from requesting free counterpart work from beneficiaries for activities being paid by the WUCS. In case of such contraventions, the Owner shall have the right to stop disbursements and suspend or cancel this MOU.

**12. Authorized Signatories**

Any request or report directed to any of the parties to this MOU must be signed by designated representatives of the parties.

**13. Duration of the MOU – Memorandum of Understanding.**

The WUCS commits to completion of the execution of the Works within three (3) months to be counted from the date of agreement. In case of non-compliance with this provision, the WUCS is subject to a penalty of (0.01%) of the total Contract amount per day of delay; the maximum amount of penalty shall not exceed 1.0 per cent of the MOU Price, except in the case of force majeure, in which case the Owner will evaluate the additional time to be allowed and so inform the WUCS in writing.

**14. Additions, Revisions and Variations**

14.1 Any additions or subtractions to prices or quantities that has implication on the total amount of the MOU can be authorized only by the Owner. The Owner may authorize variations in quantities, without modifying the unit price, of up to a maximum of 10% of the total price without amending the MOU. The Owner shall not reimburse any additional total costs that are not authorized.

14.2 The WUCS will not make any claim to the Owner on the basis of incomplete knowledge or errors in the project design or specifications during or after the execution of the MOU.

**15. Settlement of Disputes**

Any conflict(s) or dispute(s) arising out of or in connection with the interpretation or implementation of this MOU, which cannot be settled amicably by the parties, shall be decided through judicial proceedings in accordance with the Indian laws.

**16.** The present MOU shall take effect when signed by all parties.

Signed:

Executive Engineer, No 2  
Canal Division  
Project Implementation Office  
Oderahatti, Camp, Koppal  
District

The President  
Sangapura WUCS – Water  
Users Cooperative Society.  
Sangapura, Gangavathi Taluk,  
Koppal District, Karnataka

Witness:

On behalf of the PIO

On behalf of the Sangapura WUCS

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Name of Witness: \_\_\_\_\_

Name of Witness: \_\_\_\_\_

Designation: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_



### Program Organizational Structure

