



**TECHNICAL COOPERATION PROJECT FOR  
THE PROMOTION OF IRRIGATED AGRICULTURE IN  
TERAI PLAIN, PHASE-2 (TCP-PIAT, PHASE-2)**  
“MAXIMUM USE OF WATER, GROW FOR SALE”



## **PRESENTATION ON PROJECT ACHIVEMENT AND FURTHER SCHEDULE**

21<sup>st</sup> January 2022

CHIEF OF KIMO (PROJECT MANAGER)

1

### **Contents of Presentation**

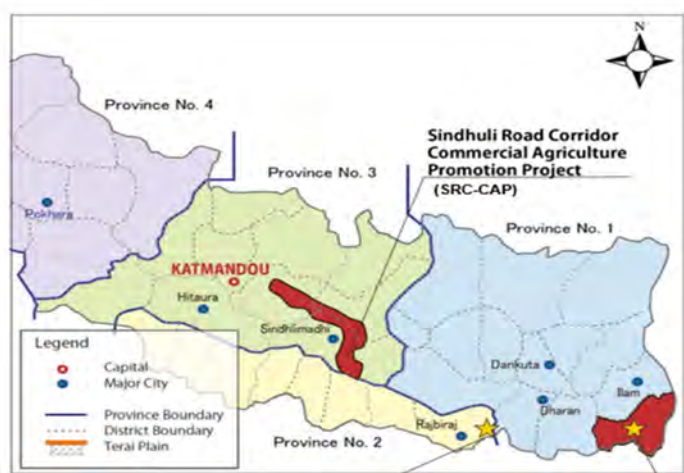
1. Outline of the TCP-PIAT
2. Project Activities and Achievement
  - 2.1 Overall
  - 2.2 Output 2: Establishment of Equitable Water Distribution / Improvement of O&M of Facilities
  - 2.3 Output 3: Practice of Market-Oriented Agriculture
3. Further Schedule

# Outline of the Project (TCP-PIAT)

## Target Area of TCP-PIAT

Kankai Irrigation Scheme in Jhapa District in Province No. 1.

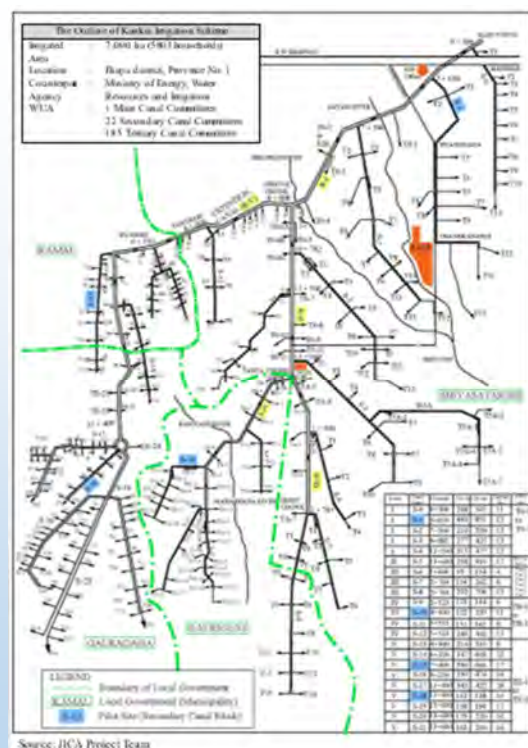
- Beneficiary Farmers: 5,803 HH
- Irrigation Command Area: 7,000 ha



**Chandra Nahar Irrigation Scheme**  
The Project for the Rehabilitation of Irrigation Facilities in Eastern Terai Area

**Kankai Irrigation Scheme**  
The Project

Source: JICA Project Team



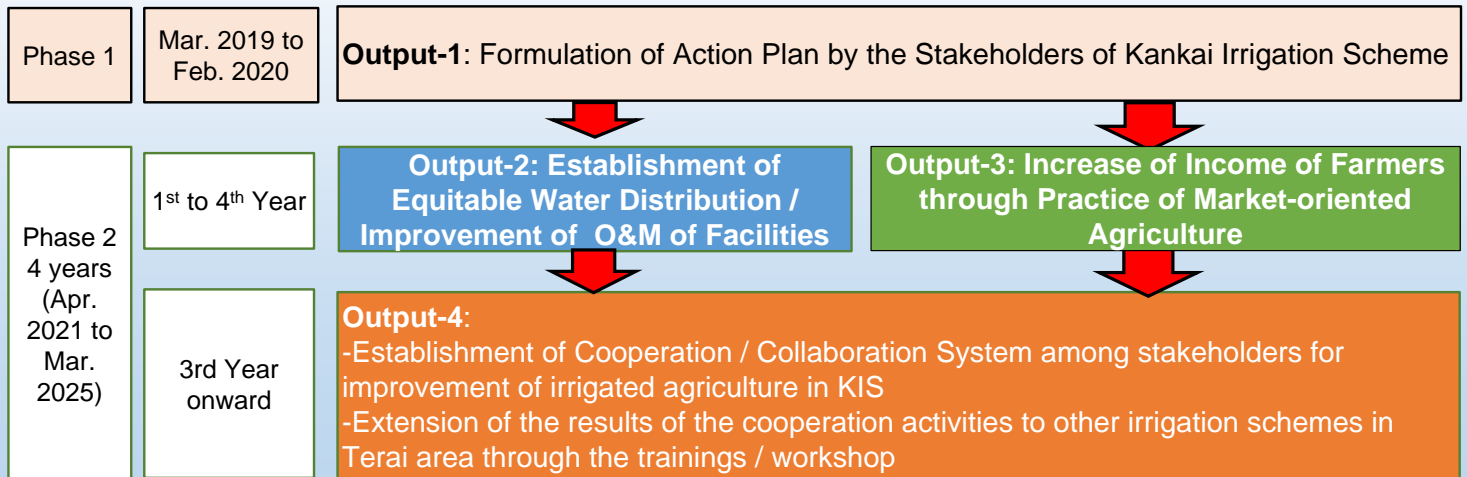
Source: JICA Project Team

Layout Map of KIS

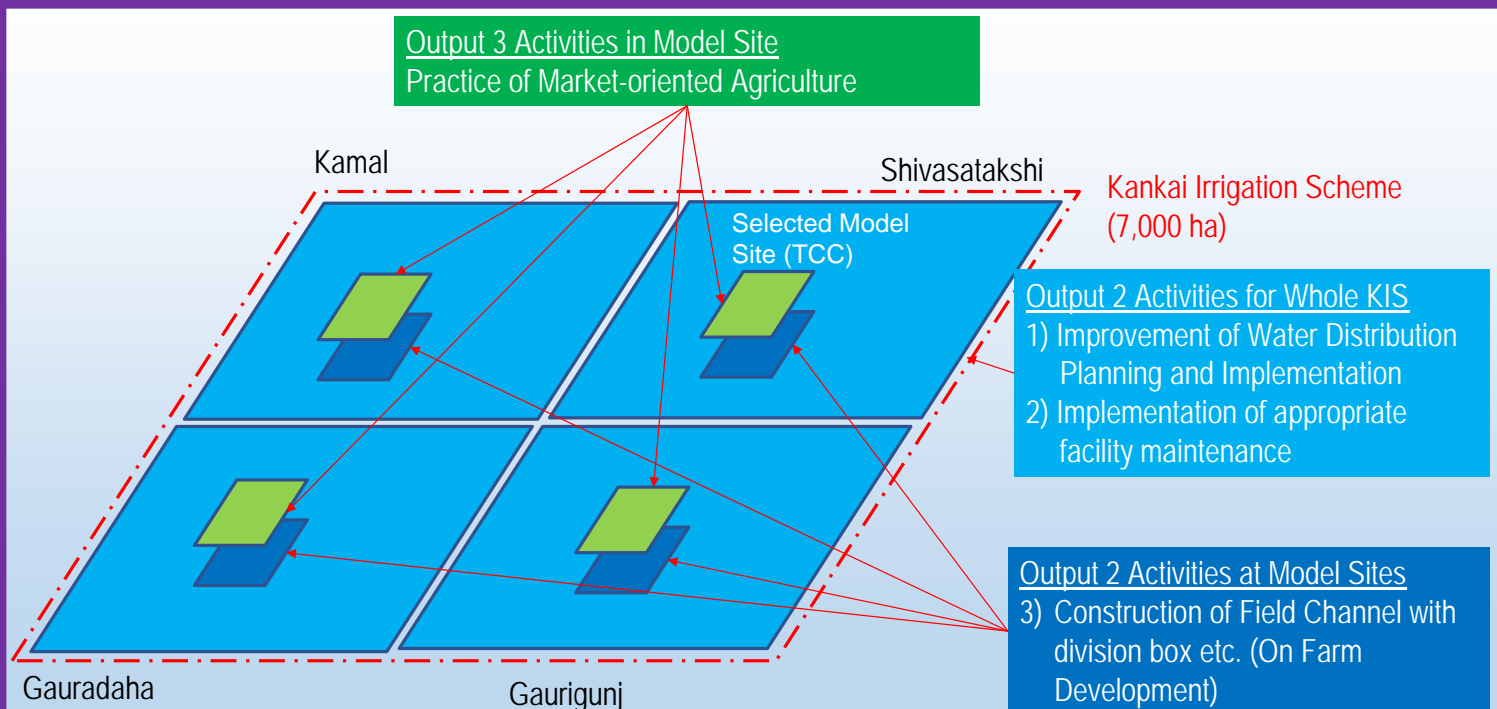
## Outline of the Project

**Overall Goal:** Practice of Model of Irrigated Agriculture developed by the Project in Terai Irrigation Area

**Project Purpose:** Formulation of Model of Irrigated Agriculture by the collaboration among the Federal, Provincial, Local Governments and Water Users Associations (WUAs).



## Activities and Target Area in Phase 2

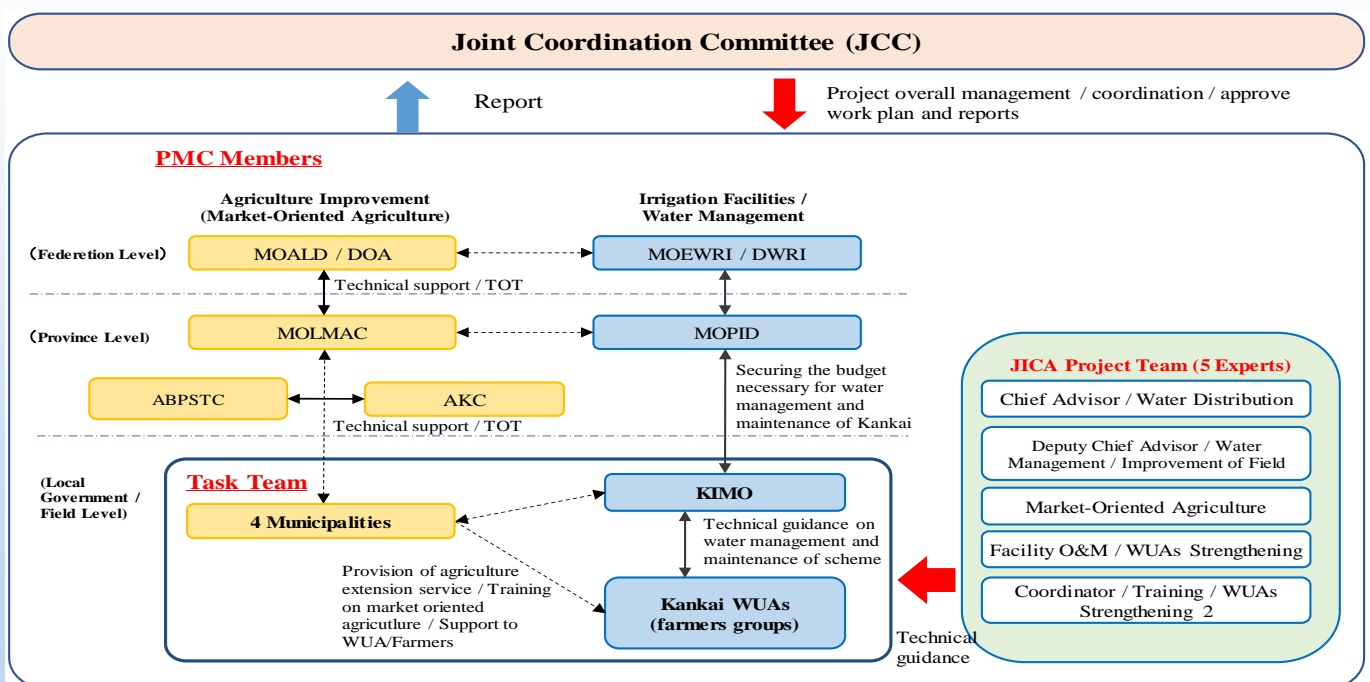


## Selection of Model SCCs and TCCs by Municipalities, WUA and KIMO

No.	Municipality	Selected Secondary Canal Block (SCC)	Selected Model Site (TCC)
1	Shivasatakshi	S-1	TC-6
2	Gaurigunj	S-10	TC-10/11
3	Kamal	S-15	TC-10/11
4	Gauradaha	S-17	TC-2

- Model SCCs and TCCs were proposed by Municipalities
- MoU for selection of Model SCCs and TCCs was signed among Municipality, WUA and KIMO in September 2021.

## 4. Implementation Structure (JCC-PMC-Task Team)



# Project Activities and Achievement

## Overall

### Activity Plan of Overall and Output 4

Output

Overall Activity

Output 4 -Establishment of Cooperation / Collaboration System among stakeholders for improvement of irrigated agriculture in KIS

Activity

[Act.2]Preparation of Work Plan (Completed)

[Act.3]Conduct JCC Meeting and PMC Meeting

[Act.5]Public Relation Activities

[Act.8]Baseline Survey

[Act.9]Counterpart Training in Japan

[Act.28]Periodical Monitoring for the Promotion of Irrigated Agriculture

[from 3<sup>rd</sup> year]Preparation of Guidelines Manual for Promotion of Irrigated Agriculture

[from 3<sup>rd</sup> year]Coordination with Grant Aid Project

[from 3<sup>rd</sup> year]Organization of Workshop for Promotion of Irrigated Agriculture

## JCC Meeting & PMC Meeting

	1 <sup>st</sup> JCC Meeting (every 6 months)	1 <sup>st</sup> PMC Meeting (every 3 months)
<b>Date</b>	31 <sup>st</sup> May 2021	25 <sup>th</sup> August 2021
<b>Venue</b>	Online Meeting by Zoom	Online Meeting by Zoom
<b>Chairperson</b>	Joint Secretary of MoEWRI	DDG, DWRI (PD of TCP-PIAT)
<b>Attendants</b>		
Federation	MoEWRI, DWRI, DoA	DWRI
Province	MoPID, MoLMAC, AKC, ABPSTC	MoPID, MoLMAC, AKC, ABPSTC
Local Level	KIMO, WUA, 4 Municipalities	KIMO, WUA, 4 Municipalities
Japanese Side	Embassy of Japan, JICA HQ & Nepal Office	JICA Nepal Office
<b>Agenda</b>	<ol style="list-style-type: none"> <li>1. Presentation of Work Plan (approved by JS after revision based on the comment from C/P)</li> <li>2. Confirmation of roles of each stakeholder</li> </ol>	Discussion on Project Monitoring Sheet Ver. 3 (Term: July 2021 to August 2021)

## Task Team Meeting (Monthly)

	Task Team Meeting
<b>Frequency</b>	Monthly Basis (Meeting was conducted 7 times)
<b>Venue</b>	Meeting Room of KIMO & Online Meeting by Zoom
<b>Chairperson</b>	Chief of KIMO (Project Manager of TCP-PIAT)
<b>Attendants</b>	
KIMO	Chief, Agri. Engineer
WUA	Chairman of MCC/WUA
Local Government	Focal Persons (2 nos. from each municipality)
	JICA Project Team
<b>Agenda</b>	<ol style="list-style-type: none"> <li>1) Confirmation and discussion on activities progress and further schedule</li> <li>2) Discussion on issues</li> </ol>

# Public Relations Activities

## Selection of Project Logo by Task Team



## Preparation of project introductory poster

To be distributed to all C/P and upload to website of KIMO: <http://www.kis.gov.np/jicaproject>



English



Nepali

# Baseline Survey

- Overall purpose of the baseline survey
  - To provide the basis for a "before" and "after" assessment to set an indicator of Project Design Matrix (PDM).
  - To get the basic data and analysis of the Project area.
- Target for Interview
 

KIMO, MCC/WUA, 22 SCCs/WUA, Individual Farmers (334 nos.)



Activities	Main Actor	Schedule
Online interview to KIMO	KIMO, JICA Project Team	June to July 2021
Online interview to MCC/WUA	MCC/WUA, JICA Project Team	June to July 2021
Preparation of questionnaire (SCC and Farmers)		May to July 2021
Field interview to SCCs/WUA		Aug. to Sep. 2021
Field interview to Individual Farmers	Task Team, JICA Project Team	Aug. to Sep. 2021
Data Input , cleaning and analysis		Oct. to Nov. 2021
Preparation of baseline survey report		Dec. 2021 to Jan. 2022

Baseline survey results will be presented in the next presentation.

## **Review of Overall Work Schedule**

1. Overall work schedule stated in the approved Work Plan was reviewed and revised in October 2021 by Task Team considering affect of COVID-19 and lockdown.
2. Further revision of work schedule is required considering the period of stoppage of canal water due to the rehabilitation of headworks and WUA election.
3. Revised work schedule has been shared with JCC members prior to the meeting for review and approval.

## ***Project Activities and Achievement***

***Output 2: Establishment of Equitable Water Distribution /  
Improvement of O&M of Facilities***

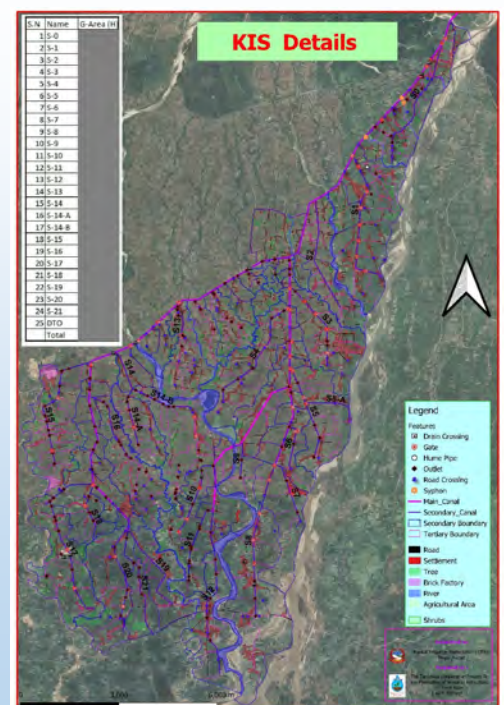
## Activity Plan of Output 2

### Output 2: Establishment of Equitable Water Distribution / Improvement of O&M of Facilities

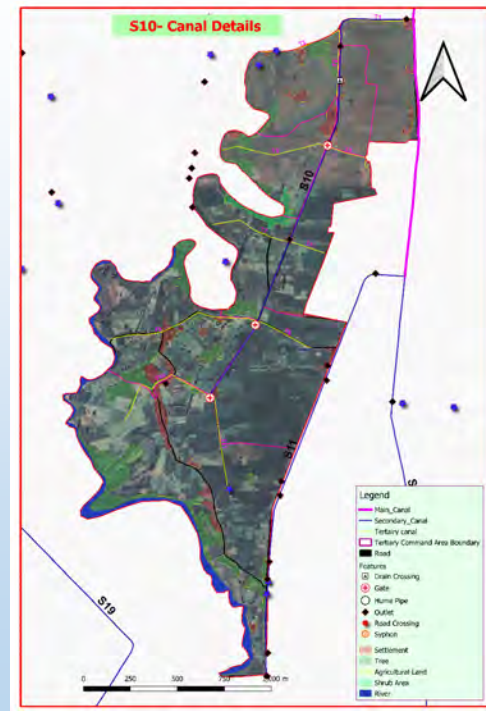
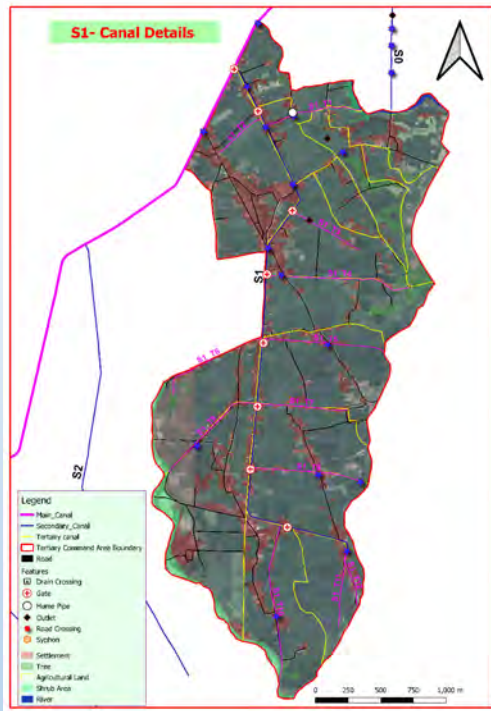
Output	(1) Improvement of Water Distribution Planning and Its Implementation	(2) Implementation of Appropriate Facility Maintenance	(3) Construction of Field Channel etc.
Target Area	Whole Kankai Irrigation Scheme: 7000 ha		Selected 4 Model Sites
Activity	[Act 10] Updating of KIS command area by GIS	[Act 17] Preparation of ledger of irrigation facilities (MC, SCs, TCs, level)	[Act 23] Survey, planning and design of division box (DB), field channel (FC) etc.
	[Act 12] Preparation of water distribution plan	[Act 18] Evaluation of irrigation facilities Formulation of annual facility maintenance plan	[Act 23] Construction of DB and FC etc.
	[Act 14] Calibration and installation of water measuring device	[Act 19, 20] Improvement on system for ISF	[Act 24] Land leveling
	[Act 15] Supply of irrigation water based on distribution plan	[Act 22] Repair of existing facility	
	[Act 16] Monitoring and evaluation of water distribution		
Training	[Act 11, 13] Training on preparation of water distribution plan and diversion discharge measurement	[Act 21] Training on maintenance of irrigation facility	[Act 21] Training for construction of DB and FC and land leveling

## [Act. 10] Update of Command Area of Kankai Irrigation Scheme

1. Draft map for command area was prepared using Q-GIS based on existing documents and google earth and gross command area in secondary and tertiary canal wise was calculated.
2. Net command area is under confirmation based on draft map with reduction of settlement area, forest, road area, etc.
3. Field verification survey with KIMO/WUA/Farmer are planned to confirm actual irrigated area (from model SC and TC).



## Samples of Detail Q-GIS Map (Closeup Model SCC & TCC)



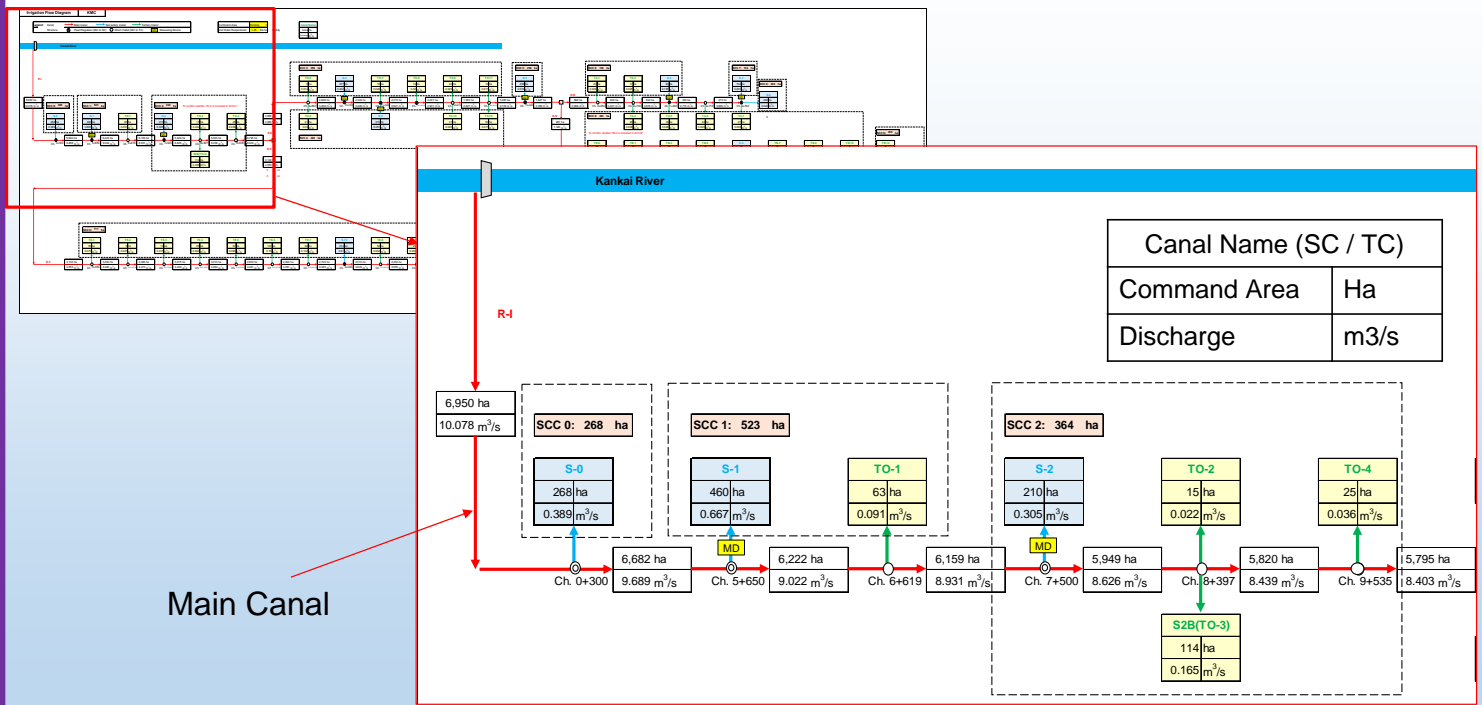
## [Act.11&12] Preparation of Water Distribution Plan

1. Draft detail activity plan for preparation of water distribution plan was prepared and discussed between KIMO and JICA Project Team
2. Draft Irrigation Flow Diagram along MC was prepared and to be verified with Q-GIS Map
3. Training program will be discussed with KIMO

### Step of Preparation of Water Distribution Plan and Execution of Water Supply

No.	Step	Main Actor
1	Preparation of Cropping calendar	WUA MCC/SCC/TCC
2	Calculation of Crop Water Requirement and Diversion Water Requirement	KIMO
3	Preparation of Water Distribution Plan from MC to SC / Direct TCC	KIMO / WUA MC
4	Preparation of Water Distribution Plan from SC to TC	WUA SCC / TCC
5	Calibration / Installation of Measuring Device	KIMO / WUA
6	Execution of Water Distribution	Headworks/MC to SC: KIMO SC to TC: WUA SCC Inside of TC: WUA TCC
7	Monitoring and Evaluation	Committee (newly formed)

# Draft Irrigation Flow Diagram along Main Canal



## [Act. 14] Installation, Calibration and Maintenance of Division Works and Measuring Devices

1. In current condition, measuring facilities (i.e. Parshall Flume) are not installed at some of beginning point of SC.
2. Basic policy for installation of measuring device was discussed between KIMO and JICA Project Team.
3. Based on discussion, parshall flume will be installed for all SCs and all Model TCs as 1<sup>st</sup> priority works in this fiscal year 2021/2022.
4. Inventory survey for existing parshall flume along SC and DTO was carried out.
5. Design & cost estimate will be completed by end on Jan. 2022.

### [Inventory Survey for Existing Parshall Flume at BP of SC]



Parshall Flume is already installed (S-1)



Parshall Flume is not installed (S-0)

## [Act. 17] Preparation of Ledger of Irrigation Facility

1. Ledger of irrigation facility was drafted based on existing documents (asset management plan by IWRMP).
2. It will be updated based on Walk-Through Survey to reflect actual site condition.
3. KIMO / WUA will be main actor of Walk-Through Survey. However, work volume of Walk-Through Survey is too big (1 MC, 22 SCs, 185 TCs, and DTOs) .
4. Work plan and method will be discussed with KIMO and WUA. It is planned to start from model SC and TC at first.

Ledger of Irrigation Facilities: Kankai Irrigation Scheme

Form-1(IRC)

Serial No.	Division	Sub-Division	Channel Name	Type	Status	Remarks	General Information			Structural Details				Remarks				
							Date	Station	Gate	Material	Type	Design	Structure		Remarks			
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Draft Form of Ledger of Irrigation Facility

## [Act. 22] Repair of Existing Irrigation Facility with Budget of KIMO, Rural Government & WUA

1. 11 packages of construction work in total contract amount of Rp. 82 million are under implementation by KIMO's budget.
2. Other 2 packages are under tendering stage.
3. Construction supervision is undergoing by KIMO and JICA Project Team.  
KIMO: Main Actor  
Project: Support and/or Advice



[Photo of Contractor's Work at Head Works]  
Rehabilitation of Undersluice of Kankai Headworks

## [Act. 23] Survey and Design for Division Box and Field Channel & Support for Construction by KIMO and WUA

1. Based on site condition & WUA's request/opinion, survey, design and cost estimate were conducted for On Farm Development (OFD) by KIMO with support of JICA Project Team.
2. Contract agreement for OFD was signed between KIMO and WUA (MCC) on 29 Nov. 2021 (90% cost share by KIMO, 10% cost share by WUA)
3. Construction supervision is undergoing by KIMO supported by JICA Project Team.  
KIMO: Main Actor  
Project: Support and/or Advice



Construction of Field Outlet from TC-2 to Existing Field Channel (Model Site of S-17, T-2)



Canal Profile Survey by KIMO and WUA Member with TCP-PIAT Expert (Model Site of S-17, T-2)

## [Act. 24] Land Levelling

1. For Land Levelling and maintenance of irrigation facilities, procurement for following equipment is planned.
  - 1) Backhoe: 1 nos
  - 2) Tractor: 1 nos
  - 3) Land Leveller: 1 nos
2. KIMO, WUA, and JICA Project Team discussed about specification for equipment and roles of procurement and operation and maintenance. Draft MoU was prepared.
3. JICA Project Team submitted procurement plan with draft MoU to JICA. Procurement will start after approval of JICA and signing of MoU.



Image\* of Equipment  
\*: Equipment image for illustration purposes only. Implementor & spec are under discussion & confirmation.

# *Project Activities and Achievement*

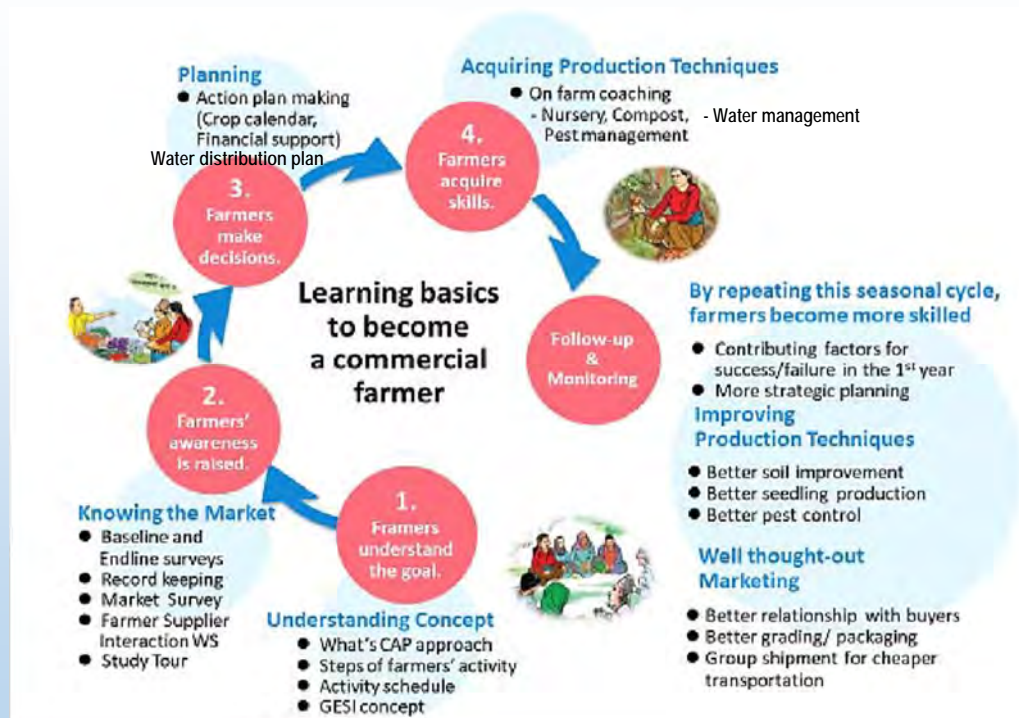
## *Output 3: Practice of Market-oriented Agriculture*

### **Activity Plan of Output 3**

Output	Output 3: Increase of Income of Farmers through Practice of Market-oriented Agriculture
Target Area	Selected 4 Model Sites (One TCC per Municipality)
Activity	<Act.25> Training of trainer (TOT) in CAP (Commercial Agriculture Promotion) approach for JT and JTA from Local Governments
	<Act. 26>Farmer Training and Activity in CAP approach
	<Act.27>Study Tour of SRC-CAP site

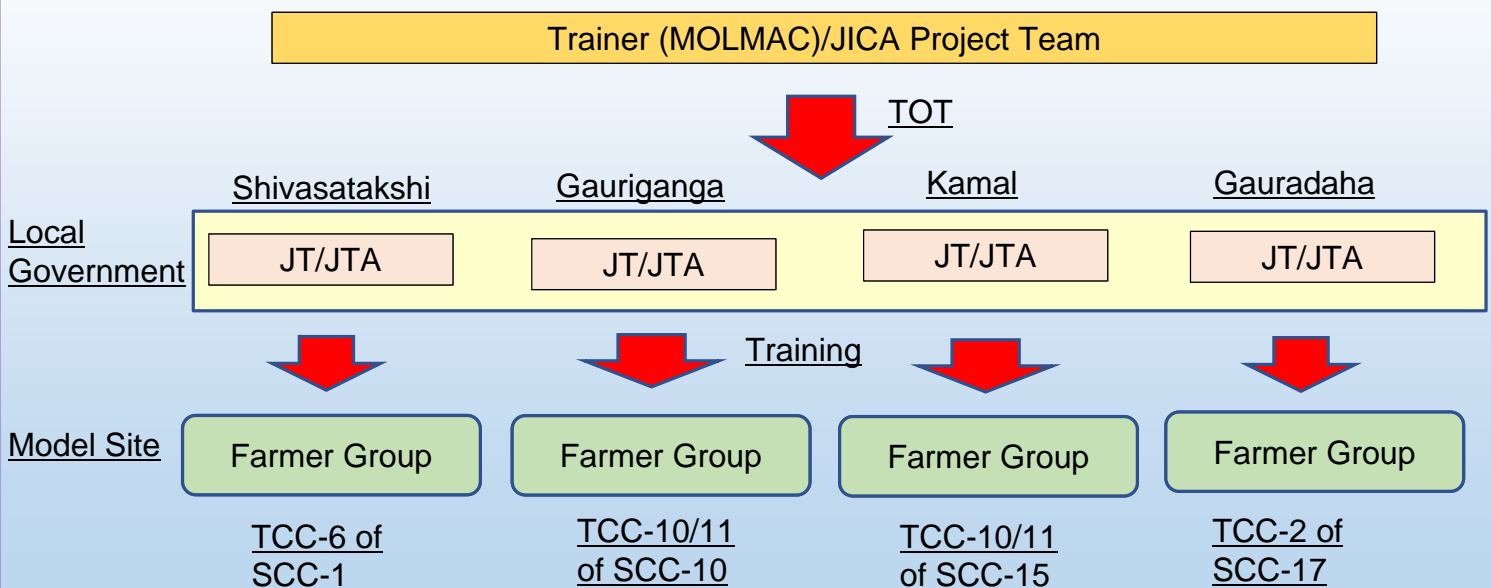
## Methodology of Practice of Market-oriented Agriculture

- ◆ The Project apply "CAP approach", which realizes "Market-Oriented Agriculture" and converts farmers mind from "grow and sell" to "grow to sell".



## Output-3 Activities Training on CAP Approach

- ◆ Training is being conducted as below:



<Act 25>TOT in CAP Approach JT / JTA from Local Government on 28 to 30 September 2021

### 3days TOT Programme in CAP Approach

- Schedule: 28 to 30 Sep. 2021
- Participants: 8 JT/JTA from Municipality
- Facilitator: KIMO, MoLMAC, AKC

Day	Programme
Day 1 28 Sep.	Overview of CAP Approach
Day 2 29 Sep.	CAP Approach Orientation / Applying CAP Approach to KIS
Day 3 30 Sep.	Baseline Survey / Making Activity Plan for each LG



“Four Steps of CAP Approach” by Mr. Pashupati Pokharel, MoLMAC



“Linking Production to Market” by Mr. Shaligram Bhattarai, AKC

### <Act 26> Farmer Training and Activity in CAP approach

CAP Approach Step	Shivasat akshi	Gauriganj	Kamal	Gaurada ha
<b>Step 0- Group Selection</b>	Finalizing	Complete	Finalizing	Finalizing
<b>Step 1-Farmers understand the goal</b>	Complete	Complete	Complete	Mid of Jan
1.1 CAP Approach Workshop				
<b>Step-2- Farmers' awareness is raised</b>		January – February		
2.1 Matching Forum (Trial)		January		
2.2 Market Survey by Farmers		January – February		
2.3 Farmer-Supplier Interaction Workshop		February		
2.4 Participatory Baseline Survey		End of January		
2.5 Study Tour		February		
<b>Step 3-Farmers Make Decision</b>		February		
3.1 Action Plan Making				
<b>Step 4-Farmers Acquire Skills</b>		February - May		
4.1 On-site Coaching				



CAP Orientation to farmers in Gauriganj



CAP Orientation to farmers in Gauriganj

## <Act 26> Farmer Training and Activity in CAP approach

### Step 0: Selection of Farmer Group

	Shibasatakshi	Gauriganj	Kamal	Gauradaha
Location in KIS	TCC 6 of SCC-1	TCC10/11 of SCC-10	TCC10/11 of SCC-15	TCC2 of SCC-17
Target Farmers	12 HH	21 HH	11 HH	41 HH
Total Planted Area	1.5 ha for the Winter Crops	11.4 ha for the Winter Crops	9.4 ha for the Winter Crops	28 ha for the Winter Crops
Selected Winter Crops	Major crops: Cabbage, Bitter gourd Other crops: Kidney bean, Cauliflower, Chili, Tomato, Brinjal, Pumpkin, Cucumber	Major crops: Buckwheat, Mustard Other crops: Potato, Maize, Linseed	Potato, Maize	Mustard, Buckwheat
Candidate Crops for Spring Cultivation	To be discussed	To be discussed	Cowpea, Okra, Bitter gourd, Cucumber, Bottle gourd, Sponge gourd	To be discussed

## <Act 26> Farmer Training and Activity in CAP approach

### Experience Sharing Workshop and Technical Training in Spring Rice

- Schedule: 11 to 12 Jan. 2022
- Participants: 4 JT/JTA from Municipality  
9 Farmers from target farmers group
- Venue: Chandradangi Agriculture Development Farm (CADF)
- Facilitator: CADF, JICA Project Team

<http://www.kis.gov.np/jicaproject>



Explanation of objective of the workshop by Senior Crop Production Officer



Guidance to apply CoVID-19 protocols

Day	Programme
Day 1 11 Jan. 2022	Experience sharing to increase production and marketing in spring rice Technical session
Day 2 12 Jan. 2022	Field practical - Nursery preparation - Selecting of bold & healthy rice

## Establishment and Operation of Agriculture Machinery Custom Hiring Service Center

1. Concept paper on AM-CHSC- Joint Partnership Approach- was discussed and agreed among KIMO, WUA, JICA Project Team as follows, and presented to the MoLMAC as well:

**1) The objective of the establishment of AM-CHSC are to :**

- (a) enhance access of WUA members, specifically small and marginal farmers to agricultural machinery
- (b) decrease cost of production and address key problems of labor shortage, specifically during the key cropping seasons
- (c) increase crop productivity and
- (d) assist to apply market-oriented commercial agriculture approach in KIS area to increase income.

**2) Major role of stakeholders:**

Organization	Key Roles
WUA	<ol style="list-style-type: none"><li>1. Establish, operate and manage CHSC centre under the WUA main canal committee (MCC) by forming a CHSC Operation and Management committee.</li><li>2. Establish and ensure transparent financial management system</li><li>3. Keep acquired machinery in good and usable condition</li></ol>
KIMO	<ol style="list-style-type: none"><li>1. Construct appropriate shed for the machinery in the area allocated by the WUA for CHSC-Centre</li><li>2. Inspect, supervise and monitor the performance of the CHSC operated and managed by the WUA</li><li>3. Retain the ownership of the agricultural machine under it to ensure</li><li>4. Provide necessary guidance and instructions</li></ol>

2. Proposal for purchasing of agriculture machinery will be prepared and submitted to MoLMAC by the first week of February 2022.
3. KIMO started design and cost estimate for shed for machinery, and a Task Force Team has been formed to accomplish this task comprises of WUA, KIMO with technical assistance of TCP\_PIAT.

*Further Schedule*

## Overall

Act. No.	Activity	Further Schedule
3	JCC Meeting and PMC Meeting	<ul style="list-style-type: none"> <li>➤ 3<sup>rd</sup> JCC meeting will be held after 6 month (May or June 2022)</li> <li>➤ Target value of indicator in PDM will be discussed and approved in 3<sup>rd</sup> JCC meeting.</li> </ul>
5	Public Relation Activities	<ul style="list-style-type: none"> <li>➤ Issuing newsletter (English and Nepalese)</li> </ul>
8	Baseline Survey	<ul style="list-style-type: none"> <li>➤ Baseline survey report will be finalized based on the comments from C/P in JCC meeting and submission to all C/Ps and JICA (English and Nepalese)</li> </ul>
-	Budget preparation for FY2022/2023	<ul style="list-style-type: none"> <li>➤ To be discussed among C/Ps based on the revised work schedule.</li> </ul>

## Output 2 Activities: Establishment of Equitable Water Distribution / Improvement of O&M of Facilities

### (1) Improvement of Water Distribution Planning and Its Implementation

Act. No.	Activity	Further Schedule
10	Updating of KIS command area by GIS	<ul style="list-style-type: none"> <li>➤ Field verification will be conducted in Model SCCs to confirm canal alignment, boundary of SCC/ TCC area and actual command area with KIMO and WUA</li> </ul>
11&12	Training on preparation of water distribution plan and preparation of water distribution plan	<ul style="list-style-type: none"> <li>➤ Training materials will be prepared and training will be conducted with KIMO / WUA</li> </ul>
13&14	Calibration and installation of water measuring device	<ul style="list-style-type: none"> <li>➤ New parshall flume will be constructed at BP of secondary canals and model site tertiary canals in this fiscal year</li> <li>➤ Start calibration of existing parshall flume after starting irrigation</li> </ul>
16	Monitoring and evaluation of water distribution	<ul style="list-style-type: none"> <li>➤ To form the committee of monitoring and evaluation of water distribution in WUA</li> </ul>

## Output 2 Activities: Establishment of Equitable Water Distribution / Improvement of O&M of Facilities

### (2) Implementation of Appropriate Facility Maintenance

Act. No.	Activity	Further Schedule
17	Preparation of ledger of irrigation facilities (MC, SCs, TCs level)	➤ Start to conduct walk through survey with KIMO and WUA at Model 4 SCCs
18	Evaluation of irrigation facilities and formulation of annual facility maintenance plan	➤ Based on the results of walk through survey, functionality of irrigation facilities will be evaluated and annual maintenance plan for MC, SC and TC level with responsible organization will be prepared.
19&20	Improvement on system for ISF	➤ Based on the results of baseline survey to WUA MCC and SCC, improvement plan of ISF collection system will be discussed with WUA MCC/SCC.
21&22	Repair of existing irrigation facilities with Budget of KIMO, LGs, WUA and provide training	<ul style="list-style-type: none"> <li>➤ To continue repair works (13 packages) and supervision works especially headworks repair works.</li> <li>➤ Demarcation of role of repair works for irrigation facilities (headworks, MC, SC and TC) will be discussed among KIMO, WUA, LGs considering the technical and financial capability.</li> </ul>

## Output 2 Activities: Establishment of Equitable Water Distribution / Improvement of O&M of Facilities

### (3) Construction of Field Channel etc.

Act. No.	Activity	Further Schedule
23	Survey, planning and design of division box, field channel etc.	<ul style="list-style-type: none"> <li>➤ Complete construction works of division box, field channel and other on farm development works at 4 model sites.</li> <li>➤ Standard design and quantity calculation for on farm development will be prepared.</li> </ul>
24	Land leveling	<ul style="list-style-type: none"> <li>➤ Procurement of heavy equipment and handing over to WUA for operation and maintenance.</li> <li>➤ Selection of demonstration farm for land leveling works</li> <li>➤ Provide training on land leveling works to WUA and farmers</li> </ul>

## Output 3 Activities: Practice of Market-oriented Agriculture

Act. No.	Activity	Further Schedule
25	Training of Trainer (TOT) in CAP (Commercial Agriculture Promotion) approach for JT and JTA from Local Governments	➤ To modify Training Guideline on CAP approach to KIS considering the water management point of view.
26	Farmer Training and Activity in CAP approach	➤ To modify and fine tune of CAP training manual to KIS ➤ Continue farmers training according to the CAP Training Manual for Spring Season Cultivation <ul style="list-style-type: none"><li>- Market survey by farmers</li><li>- Selection of market oriented commercial crops for spring season</li><li>- Preparation of crop cultivation action plan</li><li>- Collection of baseline data</li><li>- Field onsite coaching to selected crops farming</li></ul>
27	Study Tour to pilot sites of SRC-CAP and other model sites	➤ To conduct study tour at model site with JT/JTA from municipalities and target farmers

THANK YOU VERY MUCH  
COMMENTS AND SUGGESTIONS PLEASE

