TCP-PIAT NEWSLETTER

TECHNICAL COOPERATION PROJECT FOR
PROMOTION OF IRRIAGTED AGRICULTURE IN TERAI PLAIN

MAXIMUM USE OF WATER, GROW FOR SALE

No. 2 September 2022

Practical training to farmers of the first model site SC 17 on nursery bed preparation for winter vegetable

Training on CAP approach to agriculture extension officers of four municipalities

Brief Explanation of TCP-PIAT

Initiated on 6 February 2019 as per the record of discussions between the Government of Nepal and the Japan International Cooperation Agency (JICA), the goal of the TCP-PIAT is to form "the Model of Irrigated Agriculture" by the collaboration among the Federal, Provincial, Local Governments (municipalities) and Water Users Associations (WUAs). TCP-PIAT is currently in the second phase from April 2021. The project's activities are divided into 1) equitable water distribution and appropriate facility maintenance, which covers the whole Kankai irrigation scheme, and 2) on-farm development and market-oriented agriculture, which is undergoing in the selected secondary canal (SC) as the first model: SC 1/ TC6 (Ward 7 of Shivasatakshi), SC 10/ TC 10&11 (Ward 1 of Gaurigunj), SC 15/ TC 10&11 (Ward 1 of Kamal), and SC 17/ TC 2 (Ward 9 of Gauradaha).

The Selection of Second Model Sites is Completed.

In July 2022, Kankai Irrigation Management Office (KIMO) requested four municipalities and WUA to propose the candidate SCs for the second model sites, where the irrigated market-oriented agricultural activities will be started from this year's winter season based on TCP-PIAT concept.

Generally, based on the TCP-PIAT's criteria for the model site selection, four SCs are finally selected as the second model site, which are proposed by the four municipalities, one by each municipality, after the consultations with KIMO and WUA: SC04/ TC11&12 (Ward No.5, Shivasatakshi), SC07/ TC3&4 (Ward No.1, Gaurigunj), SC14/ TC-1&2 (Ward No.1, Kamal), and SC20/ TC5 (Ward No.9, Gauradaha).

Organizing General Meeting at the second model site SC 07 and interaction among farmers in the model site, MCC. KIMO. Gauradaha municipality and TCP-PIAT.

As per the lessons learned from the first model sites and the recommendations of the Project Task Team comprised of representatives from Municipalities, KIMO, WUA, and TCP-PIAT experts, a general meeting of water users and other key stakeholders including representatives of the municipality, local leaders, KIMO and WUA was held in all four model sites. The purpose of the general meeting was to explain the project activities, to confirm the role and responsibilities of water users (e.g., canal cleaning, ISF payment) in the selected model sites, and to receive commitments to participate in the project activities.

Market Survey is Crucial for Commercial Agriculture Promotion

Agricultural market survey is one of the vital components of CAP approach (commercial agriculture promotional approach, which is developed by other JICA technical cooperation project). The basic concept of this approach is that the assurance of market access establishes the motivational environment for the farmers for the sustainability of the commercial farming.

Mr. Tank Prasad Pokhrel (left) and Mr. Upendra Rijal (right) are also founder member of Uddhamshil Krishak Samuha, a farmer group registered with the Agriculture Section of Gauriganj Municipality

TCP-PIAT and 6 farmers of SC 10 from Gauriganj-1 (the first model site) conducted an agricultural market survey at the Damak vegetable market in August 2022. For all farmers, the market survey was the first experience. During the market survey at the vegetable market, they met many whole-sellers, retailers and also received the contact numbers of them. After a lot of discussions on vegetable production and marketing between farmers and traders, farmers purchased some vegetable seeds for winter cultivation.

TCP-PIAT had an interview with the two participants: Mr. Tank Prasad Pokhrel and Mr. Upendra Rijal, about their learnings on the market survey. After the market survey, they both have the same opinion that farmers should know about i) off-season when market demand and product price is high for specific due ii) market price fluctuates with product availability or supply in market). To get a better profit, it is a good way to produce product in off-season.

Discussion between farmers and whole seller in the market survey

Now they have decided to grow off-season vegetable production to receive better price for their products and focus on cash crops as well. They are planning to sow potato and prepare nurseries of eggplant and chili in October to meet the off-season sale. Farmers have learned that they will get better price if vegetables are produced before 15 to 20 days of their normal season. This can be achieved by changing just a small duration of sowing time profit. They understood not only that market survey is a never-ending process but also that they themselves can conduct market surveys by visiting markets, through telephone calls, and utilizing market information.

CAP Approach -Necessity for Agriculture Development

Ms Sanita Rai, a junior technician, is working as an extension worker in Agriculture Section of Gauradaha Municipality for the last five and half years.

Ms. Sanita Rai, Junior Technician of Gauradaha Municipality

After TCP-PIAT activities started, she visited model site SC 17 at Gauradaha-9 and support the farmers. By working at the TCP-PIAT model site in TC 2, she observed several changes in farmers' mind set. Specifically, she noted that farmers wanted more training, knowledge and skills in modern agriculture farming instead of government subsidy or grant as before. She says, "Technical knowledge of extension officer is necessary and supportive when farmers introduce new product for the commercial farming (sowing time, seed raising, land preparation, insect pest management, post harvesting, etc.)". Earlier, she has been performing various tasks like providing technical advice and onsite training, but the training menu was ready-made and fixed in advance. Now she says that ready-made and prefixed training menu will not work out. Therefore, she is planning to provide the technical advices and onsite training based on farmers' demand.

She has joined the agriculture market survey organized by TCP-PIAT in the Damak market. She highly appraised this activity as a best practice in understanding market features and assisting farmers in preparing their cropping plans. She reiterates that CAP approach effectively motivates farmers to grow cash crops, usually vegetables, based on market price and demand. The CAP approach, according to her, can be a milestone in increasing farmers' income.

New Model Site with New Hope

Mr. Suryanarayan Rajbanshi, chairperson of SC 07

Mr. Suryanarayan Rajbanshi, 68 years old, is the chairman of SC 7. Recently, this canal has been selected as the second model site under TCP-PIAT activities. He feels good to be selected as the model site and expressed willing to give his best for the model.

In the discussion with the expert of TCP-PIAT, he stated that the farmers of the model site are pursuing rice cultivation in rainy season. Many fields are left fallow during winter and spring seasons. Despite some farmers grow other cereal and cash crops, they are not getting reasonable price for their products.

Mr. Rajbanshi knows that TCP-PIAT project is working in the Kankai Irrigation Scheme with the objective of increasing the income of farmers through commercial agricultural farming and equitable water distribution to benefit the farmers. He is hopeful that farmers will pursue the commercial agriculture. This will improve their economic and social conditions of the farmers in the area.

Parshall flume-a supportive structure for equitable water distribution

In Kankai Irrigation Scheme, Parshall Flume, a hydraulic structure to measure the amount of irrigation water, is usually constructed at the beginning point of each SC. By using this Parshall flume, gatekeepers, who have a crucial role in water distribution from the main canal to the secondary canals, can easily measure how much water is released to each SCs. However, TCP-PIAT's field monitoring revealed that gatekeepers rarely use the Parshall flume to measure water flow, obviously resulting in some SCs getting more water than required and others less. Effective utilization of Parshall flume enables the gatekeepers to report the daily water volume released in each SC so that KIMO and WUA can monitor and adjust water delivery for equitable water distribution. KIMO, WUA and TCP-PIAT has started calibrating parshall flume for remobilization (see below for calibration method). Also, KIMO is installing Parshall flume to SCs where it has not constructed yet.

A Parshall flume constructed at starting point of SC 0 with Mr. Sunil Sheling, a gate keeper.

In SC 0, a new Parshall flume construction and its mobilization was completed and then its gate keeper, Mr. Sunil Sheling uses the Parshall flume in gate operation. As shown in the picture above, there is one measuring scale and a water level indicator with red coloured sign written as "100%" and "Rainy Season". During the calibration, KIMO and TCP-PIAT calculated the correlation between water level and irrigation water volume and drew the red line showing 100% water level. The 100% water level indicates the water volume on that marked level is enough to irrigate SC 0 farmland in rainy season. Subsequently, KIMO and TCP-PIAT are planning to put the water level line for winter and spring seasons, respectively.

Mr. Dilli Ram Khanal, working as gatekeeper for the last 12 years, is one who observed effectiveness of Parshall flume while operating SC 0 gate. Though his duty station is Sardare intake, he often operates SC 0 gate as well. Before the Parshall flume construction, he often had to work under the pressure of SC 0 farmers to open the gate to release more than 100% water level as there was no visible indicator. Nowadays, he has received instruction from KIMO to release up to 100% water level to avoid excess water taking. And he could easily explain to SC 0 farmers that 100% water level is enough to irrigate all SC 0 farmland. It should be noted that SC 0 farmers are supportively following 100% water level as they understand the importance of equitable water distribution.

Gate keeper Mr. Diili Ram Khanal

Parshall flume provides visible and apparent evidence for water release. The remobilization/construction of parshall flume and KIMO instruction to gatekeepers is a great help to those farmers facing problems due to insufficient water. In case farmers feel the necessity of more than 100% water level, they shall contact KIMO directly (Gate keeper has the vital role for distributing water from canal but KIMO need to take a water distribution balance among all SCs). KIMO, WUA and TCP-PIAT will continue to calibrate the remaining parshall flume and construct new parshall flume to SCs.

Outline of TCP-PIAT

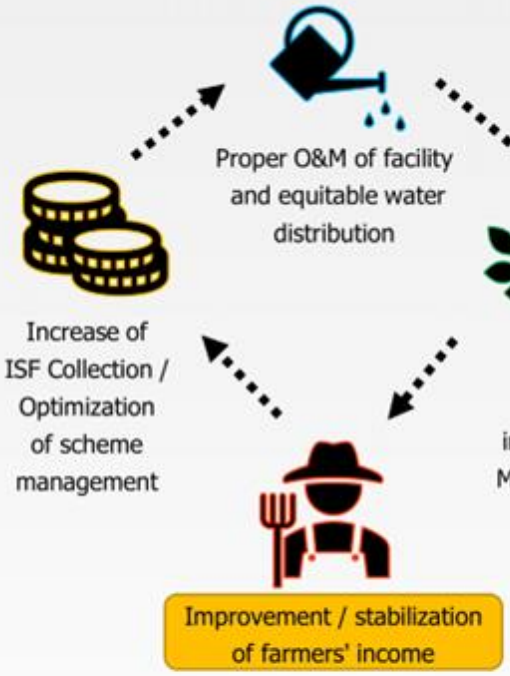
The Technical Cooperation Project for the Promotion of Irrigated Agriculture in Terai Plain

Project Goal

The Model of Irrigated Agriculture is formed by the collaboration among the Federal, Provincial, Local Governments and Water Users Associations.

What is "Model of Irrigated Agriculture" ?

This model is **a four-step problem solving cycle** for irrigation scheme, which aims to increase farmers income **by raising awareness and motivation to operate and maintain the irrigation scheme by themselves.**



Both irrigation and agricultural activities are necessary to increase farmers' income.

- Improvement in the water distribution contributes to the increase of irrigable area and its productivity.
- In irrigable areas, farmers profit from market-oriented agriculture, which encourages to build farmers' capacity to undertake farming as a business.
- Through this activity, farmers get more income and feel self-reliance and motivated.
- **These activities enable farmers to pay ISF, which, in turn, provides necessary funds to the Water Users Association for the daily operation of water distribution and rehabilitation of the irrigation facility.**

Major Objectives to establish Model of Irrigated Agriculture

i. The issues regarding the Irrigated Agriculture in Kankai Irrigation Scheme are analysed and shared by the stakeholders themselves. **In February 2020, the four-year action plan (2021 to 2024) was formulated by all stakeholders of Kankai Irrigation Scheme.**

ii. Equitable and efficient water distribution system is established by the improvement of water distribution planning and its implementation up to tertiary level, appropriate operation & maintenance of facilities and constructions of field channels, etc.

iii. The income and technical capacity of farmers in target scheme are increased through the practice of market-oriented agriculture.

iv. The Activity Execution Cooperation System for improvement of irrigated agriculture among stakeholders of Kankai Irrigation Scheme is established, and **the results of the cooperation activities are disseminated to other irrigation schemes in Terai area through the training and other related activities.**

Project Information: Kankai Irrigation Management Office (http://www.kis.gov.np/)
Kankai Canal Water Users Association (https://www.facebook.com/kankaiwua)