

Improve awareness on proper irrigation method of specific water sensitive crops

Intervention Brief: Irrigation



Background

Irrigation is a vital issue in agricultural production and it constitutes a significant portion of farmers' production cost. Katalyst and International Development Enterprises (IDE), co-facilitator for irrigation, jointly conducted an assessment to understand the effectiveness of irrigation as a cross sector e.g. effect of irrigation on productivity of potato, maize and vegetables and simultaneously to understand the dynamics of the irrigation market system itself. The study also included that irrigation in rice production is a critical decision making factor for rice producers.



The study indicated that farmers are bearing high irrigation costs due to excessive water usage and also due to water conveyance loss. The average irrigation cost of the relevant crops can be indicated as follows: 13.5% in vegetables 27% in potato, and 23% in maize. Moreover farmers' ignorance regarding timely irrigation and proper irrigation methods result in a significant percentage of yield loss. Excess irrigation also causes several changes in the soil and plant resulting in reduced growth and in some cases death of plants.

Target Beneficiaries

The beneficiaries of this intervention are the small and medium size vegetables, maize and potato farmers. The ways to benefit them are to reduce irrigation cost and increase yield by applying proper and timely irrigation.

Location

The current geographic area coverage of this intervention is Bogra, and Gaibandha. The visit will be to a vegetable demonstration farmer, Md. Ashrafur Islam at Shahebganj village under Gobindhaganj upazilla, Gaibandha. The team will also meet other farmers who were present in the farmer's field day (FFD) and will meet Lal Teer Seed Ltd company staff.

Major activities

Katalyst and IDE signed MoU with three leading national seed companies to promote the irrigation related information for vegetable, maize and potato farmers. These companies were Lal Teer Seed Ltd. (for vegetables), Auto Crop Care Ltd. (ACCL) (for maize) and Ejab Group (for potato). These companies were already providing information to farmers on cultivation practices. However, Katalyst identifies that the information regarding irrigation was less emphasized. Katalyst then facilitated these companies to train their field staffs on crop specific (mainly potato, maize, and vegetable) irrigation information. The employees of these companies were then able to disseminate more detailed information on efficient water requirements to the farmers in demonstration plots and field days.

Under the program, Katalyst facilitated training to 54 staffs of these companies and provided technical paper on proper irrigation method and water requirement of the selected crops. Katalyst further facilitated setting up of 16 plots to demonstrate proper irrigation method and efficient water management for vegetables, maize and potato. The companies also arranged 7 FFDs where around 700 farmers attended.



Key achievements

Under the supervision of the trained company staff the demonstration farmers applied proper irrigation for the crops including other inputs. The company staff regularly monitored the farmers' activity and collected data on irrigation related costs and the yield. As shown in table-1 the results of those demo fields bring an increase of 7%, 4%, & 8% and cost reduction of 18%, 17% and 17% in maize, potato and vegetables respectively.

	<u>Maize</u>	<u>Potato</u>	<u>Vegetable</u>
Yield Increase %	7%	4%	8%
Irrigation cost decrease %	18%	17%	17%

Table 1: Yield increase and cost reduction in maize, potato and vegetables.

Experiencing the result first hand, these companies have realized the significance of providing information on irrigation and they have planned to update their training module by incorporating the field learning. Among the three companies, ACCL has already shown '*sign of change*' regarding the importance of irrigation in crop cultivation. They have included irrigation information in maize seed leaflet to be distributed to farmers and its field staffs. It has been also confirmed Lal Teer is disseminating irrigation information in some of their self-financed demonstration plots.

1000 famers have been reached till date through this intervention. Some of the positive environmental impacts of this intervention were as follows: a) average water saved was about 22% in these crops through using proper water management techniques, thus decreasing the environmental impact on the depreciation of ground water; b) average fuel saved was 20% leading to reduction in carbon dioxide emission.

Synergy

The findings from the activities at field level shows that the impact of proper irrigation techniques and scheduling have significant impact on the yield of the selected crops. Moreover a signifact reduction in irrigation cost was accounted in the demo plots. These findings have been be shared with Katalyst core sectors namely potato, maize and vegetables teams. Apart from the mentioned sectors, seed team has been always updated regarding irrigation activities especially on the activities where seed companies are involved. In collaboration with seed team the irrigation team has planned to capitalize the Seed Association as a leverage point to disseminate the crop specific water management information to farmers. Besides, to ensure greater synergy between other Katalyst sectors, Irrigation and information communication and technology (ICT) team are working together to explore opportunities to develop an 'Irrigation Recommendation Software'. Upazilla BMOs

can be another channel through which irrigation information can be disseminated. With this thought both irrigation and Improving Local Government Services (ILGS) teams are mulling the options of working together in this regard.

Way forward

Katalyst envisions these three companies as scale agents for promoting irrigation based information to farmers as they have national coverage. It is expected that they will incorporate the mechanism in their sales strategy and thereby more farmers will be reached with the information. It is further expected that other input companies will crowd in seeing the adoption of irrigation related recommendations by the major market players of the seed industry. To trigger crowding in, Katalyst this year is working with CP and Blue Moon (Maize) Supreme (Potato) and Namdhari (Vegetables) in Rangpur to include irrigation information in their different strategic tools e.g. training modules for staffs and retailers, demos and FFDs, promotional tools like leaflets, packaging etc.

Input retailers were not a focus of last year activities. This year activities will include plans to ensure that input retailers/mobile seed vendors of seed companies are knowledgeable on irrigation information so they can promote and provide these information to their client farmers. Katalyst irrigation team in association with seed team will work with BSA to ensure more outreach. As mentioned earlier irrigation team would also closely work with ICT and ILGS team to scale the opportunity.

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