

SUCCESSFUL NICRA INTERVENTION

(2015-16)

Jalkund: A boon for farmers in the mild hill slopes - A successful case in Andro village of Imphal East

Despite of heavy precipitation with more than 1400 mm and 1500mm average rainfall over the last decade and during 2011 respectively, erratic distribution pattern with 27 numbers of long dry spells of 7 days and above, during the year 2011 has affected the crop production and related activities under such situation in Imphal East district. Water harvesting has become one of the most important practices and prerequisite for any successful enterprise of agriculture and allied sectors under such erratic rainfall pattern.

The question of water harvesting is more critical in places/sites along the hill slopes due to high seepage/infiltration problem. The issue is more serious with small land holdings along the mild hill slopes due to presence of more undulated areas and unavailability of site for bigger pond construction.

Maringthel is one small hamlet located in the mid hill slopes of Andro village in Imphal East District. The place is situated at E 094°01.712' longitude and N 24°44.623' latitude. Considering the difficulties of water harvesting along the mild hill slope for the small holdings, Krishi Vigyan Kendra, Imphal East identified Jalkund of size 5m x 4m x 1.5m as a model unit for water harvesting along the mild hill slope of Maringthel with Mr. Thokchom Lukhoi Singh, age 40 year old as participating farmer in the demonstration. The cost sharing was Rs.3297/- for 250µ Black LDPE polyfilm by KVK, Imphal East and Rs.1350/- for 150m long lateral pipe (13mm dia.) and self labour by the farmer. The main source identified was a spring located 150m above the Jalkund area.

The model Jalkund developed during the month of September, 2012 started functioning during the same month by serving to various agricultural and allied activities with 30 cu. m volume of water available throughout the year irrespective of rainy/dry period.

The Scientific staff of Krishi Vigyan Kendra sensitized the farmer for effective and economic use of the harvested water. The intervention by KVK through the participating farmer and income generation during the last three and half years are detailed in the following table: **Table 1. Activities and Income of farmer before and after the intervention of Jalkund on 0.25 ha area of Mr. Lukhoi Singh at Maringthel village, Imphal East District.**

Crop/ Activities	Before	After							
		2012	2013		2014		2015		
		Rabi	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi	
AGRICULTURE	There were no crops grown during Rabi seasons except some seasonal vegetables like cowpea,bean s, <i>Alocassia</i> etc. during <i>Kharif</i> season for household consumption only	i) Tomato var. Suraksha, No. of plants=250, Area=50sq m, Spacing= 45cmx 45cm, Average no. of fruits/ plants = 31.5, Fruits weight/plant =2.5kg ,Selling price of tomato/kg = Rs.15/- ii) Cabbage var. Rareball, No. of plants=75, Area=15sq m, Spacing= 45cmx 45cm, Average weight/plant =2.5kg ,Selling price per kg = Rs.10/- (50 head) iii) Onion (multiplier), coriander, <i>Allium</i> spp. (<i>Nakupi</i> and <i>Napakpi</i>) (Used for household consumption)	i) Tomato var. Amitabh-003 (F1), No. of plants=250, Area=50sq m, Spacing= 45cmx 45cm, Average no. of fruits/ plants = 21.5, Fruits weight/plant =2.25kg ,Selling price of tomato/kg = Rs.25/- ii) Pumpkin var. Local, No. of plants =50, average number of fruit/plant=4, Selling price = Rs.20/fruit. iii) Local cowpea and Rajma 3 beds for cowpea produced 8 bundle/bed and 2beds of Rajma produced 5kgs/bed (Used for household consumption)	i) Cabbage var. Rareball, No. of plants=80, Area=16 sq m, Spacing= 45cmx 45cm, Average weight/plant =2.25kg ,Selling price per kg = Rs.8/- (55 head) ii) Local Chilli, No. of plants= 150 plants, Area=13 Sq m, Spacing = 30cm x30cm,Average fresh yield/plant= 250gm/plants and selling price= Rs.25/kg of fresh fruits.	i) King chilli, No. of plants=40, Area=10 sq m, Spacing = 50cm x 50cm, Average Yield= 60 marketable mature fruits/plant till August, 2014 and crop continuing. Selling price = Rs.10/5 fruits. ii) Turmeric (Local) No. of plants=200 Area=18 sq m, Spacing= 30cmx30cm (Standing Crop)	i) Cabbage var. Rareball, No. of plants=98, Area=20 sq m, Spacing= 45cmx 45cm, Average weight/plant =2.32kg ,Selling price per kg = Rs.10/- (70 head)	i) Tomato var. Amitabh-003 (F1), No. of plants=197, Area=40sq m, Spacing= 45cmx 45cm, Average no. of fruits/ plants = 19, Fruits weight/plant =2.10kg ,Selling price of tomato/kg = Rs.30/-	i) Cabbage var. Rareball, No. of plants=148, Area=30 sq m, Spacing= 45cmx 45cm, Average weight/plant =2.28kg ,Selling price per kg = Rs.10/- (126 head) ii) coriander, <i>Allium</i> spp. (<i>Nakupi</i> and <i>Napakpi</i>) , Local Chilli (Used for household consumption)	
Income generated(Rs.)	NIL	i)9375+ ii)1250+ iii)0 = Rs.10625/-	(i)14062 +ii) 4000+ iii)0 =Rs.18062/-	(i) 990 + ii) 937 =Rs.1927/-	(i)4800 + ii) 0 =Rs.4800/-	i)1624	i)12411	i)2872 ii) 0 =2872/-	
Total Income generated (A) = Rs.52,321/-									

PIGGERY						
	Before	After				
		1 st Batch (Sept.,2012- May,2013)	2 nd Batch (May, 2013 - Jan, 2014)	3 rd Batch (Jan.,14 - Sept.,14)	4 th Batch (Sept.,14- May, 2015)	5 th Batch (May,2015-Jan,16)
	Piggery activities only for household consumption	4 pigs (Local breed) (3:1,Femal:male) , Total Weight = 118kg , Average weight = 29.5kg/pig , Selling price =Rs.180/kg, Retained =3piglets on rotation for 6-8 months and excess pigs used for household consumption	3 pigs (Local breed) (2:1, Female: male), Total Weight = 93 kg , Average weight = 31kg/pig , Selling price =Rs.180/kg, Retained =3piglets.	3 pigs (Local Breed)) (2:1, Female: male), Total Weight = 106 kg , Average weight = 35kg/pig , Selling price =Rs.200/kg, Retained =4piglets.	4 pigs (Local breed) (3:1,Femal:male) , Total Weight = 113kg , Average weight = 28.25kg/pig , Selling price =Rs.200/kg, Retained =3piglets	3 pigs (Local breed) (2:1, Female: male), Total Weight = 92 kg , Average weight = 30kg/pig , Selling price =Rs.220/kg, Retained =3piglets.
Income generated	NIL	Rs.21,240/-	Rs.16,740/-	Rs.21,200/-	Rs.22,600/-	Rs.20,240/-
Total Income generated (B) = Rs. 1,02,020/-						
POULTRY						
	Before	After				
		1 st Batch (Oct.,2012-April,2013)	2 nd Batch (May, 2013 - , Nov.,2013)	3 rd Batch (Dec.,2013- June,14)	4 th Batch (June, 14-Dec,14)	5 th Batch (Dec.,2014- June,15)
	No poultry activities	7 Birds (Local), Total Weight = 8.4 kg, Average weight = 1.2kg/bird, Selling price =Rs.220/kg.	16 Birds (Local), Total Weight = 12.5 kg, Average weight = 0.8kg/bird, Selling price =Rs.220/kg.	21 birds (local) Total Weight = 21 kg, Average weight = 1kg/bird, Selling price =Rs.220/kg.	12 birds (local) Total Weight =18 kg, Average weight = 1.5kg/bird, Selling price =Rs.230/kg.	18 birds (local) Total Weight =23.4 kg, Average weight = 1.3kg/bird, Selling price =Rs.230/kg.
Income generated (Rs.)	NIL	Rs.1848/-	Rs.2750/-	Rs.4620/-	Rs.4140/-	Rs.5382/-
Total Income generated (C) = Rs.18,740/-						
FISHERY						
	Before	After			Total Income Generated	
	No fishery activities	(2012-14)		(2015-16)	Used for household consumption	
		Anabas = 150 nos., Tilapia =100 nos. and Rohu =5 nos.		Anabas = 80 nos.		



Grand Total Income Generated = (A+B+C) = (Rs.52,321/-+ Rs. 1,02,020/-+ Rs.18,740/-) =Rs.1,73,081/- for 3½ years.

Annual Income/year = Rs.49451/- / 0.25ha.

The participating farmer Mr.Th.Lukhoi Singh term the Jalkund as boon for him, the reason being he could raised from household consumption to income generation upto Rs.1,73,081/- within 3½ years period.One remarkable achievement with the Jalkund during the dry spell of 2013-14 was that the household water requirement was met by the Jalkund for at least 15 household of Maringthel during December, 2013 to March, 2014. Had the Jalkund not been there, these 15 families were to suffer by walking upto 150m for fetching water from the main source in the difficult terrain. The family member of the fifteen households also expressed the Jalkund as a boon as the structure has given life support to them by providing continuous water availability in such a situation when one of the largest river “Imphal river” even got dried up (photo no.5) during March-April,2014

Factors contributing to the success

- Main source being spring thereby able to maintain the full water volume throughout the year irrespective of dry / rainy season main source type become important factor.
- Farmer’s positive attitude for proper use of the technology which has been exhibited through raising/ taking up suitable crops and allied activities.
- Active participation by contributing the lateral pipe of 150m length and self labour for digging, which in turn contributing towards the ownership feeling to the farmer. This has fulfilled one of the most important criteria for participatory approach which is essentially required for successfulness and sustainability.

	
<p>1) Perennial source (spring) of Water for Jalkund.</p>	<p>2) Water harvested through small lateral pipes from the perennial source.</p>



3) Utilization of Jalkund water on *Rabi* season



4) Utilization of Jalkund water on *Kharif* season



5) Condition of Imphal river on 25th April, 2014



6) Condition of Jalkund at Maringthel on 25th April, 2014



7) Different activities after implementation of the Jalkund
(Crop production, fishery, piggery and poultry)