



A Case Study of Amlı Lift Irrigation Cooperative Society

UMESH DESAI

Ph. D. Scholar,
Centre for studies in Rural Management (CSRM)
Gujarat Vidyapith Campus

DR. MAYURI FARMER

Professor & Research Guide,
Centre for studies in Rural Management (CSRM)
Gujarat Vidyapith Campus
Gujarat (India)

Abstract:

Amlı village is located at Mandvi block of Surat District, Gujarat state, India. Amlı Lift Irrigation cooperative was registered in year 1992. There are 100 percent tribal members in this irrigation cooperative. AKRSP (I) had completed the construction of lift irrigation project and started irrigation in year 2000. They had done series of trainings for the members of lift irrigation cooperative society for motivation.

Last five years analysis shows that, irrigate an acre land average expenditure was Rs.1000. If any farmer wants to irrigate his land, he should be sure to get additional production worth Rs.1000 due to irrigation. Due to these development work there were positive impact seen at Amlı village some them summarised:

- *Increased area under irrigation from 10 acres to 104 acres;*
- *Income increased per household: Rs.30, 600;*
- *Every month payment received for milk selling from milk cooperative: Rs.48,000;*

Amlı lift irrigation cooperative proved that the lift irrigation can play important role in enhancing livelihood of tribal people. This successful example can be replicate and scale-up in tribal area of South Gujarat.

Keywords: *Development, Gujarat, Income, Lift Irrigation, Tribal*

1. Introduction

“Irrigation development must confront the issues of governance and enlist human and other resources and procedures to arrange appropriate institutions and organizations in addition to appropriate irrigation technologies”

– E. Walter Coward, Jr. (Irrigation and Agricultural Development in Asia)

Amlı village is located at Mandvi block of Surat District, Gujarat state, India. Amlı dam had been constructed on the Ver River where people had displaced from the submergence and rehabilitate to forest land on the river bank. Amlı Lift Irrigation cooperative was registered in 1992, but not implemented the system, so the society was in inactive till 1995. There are 100 percent tribal members in this society. Irrigation department requested AKRSP (I) to implement the lift irrigation for Amlı villagers. AKRSP (I) had completed the construction of lift irrigation project in 1995. They had done series of trainings for the members of lift irrigation cooperative society for motivation. Slowly village people had taken the responsibility of water distribution and water charge collection.

Also the committee had agreed for operation and maintenance. The execution of the system completed in year 2000.

2. Amlı Lift Irrigation

Location: On the bank of Ver river at left side at village Amlı

Total Household in Amlı village: 140

Total member of irrigation cooperative: 123 (115 men, 8 women) (100 percent Tribal)

Name of lift irrigation cooperative: The Amlı Irrigation Cooperative Society, Mandı block, Surat district. Registration Number: Kh- 3244-5-5-92

Cost of Lift irrigation project: Rs. 13,31.881/-

Gross Command Area: 150 Acres, Irrigated Area: 120 acres (Kharif: 120 acres ; Rabi:120 acres; Summer:60 acres)

Lift Irrigation start irrigation: Year-2000 onward

Community based institution at Village Amlı:

- Amlı Lift Irrigation Cooperative Society
- Mahıla Vikas Mandal
- Milk Cooperative
- Forest Committee (van-samıtee)

3. Role of NGO

AKRSP (I) had successfully implemented another lift irrigation project at Ghanıkhut Lift irrigation project with Irrigation department. The Ghanıkhut village had similar story of Amlı village like people of Ghanıkhut was displaced due to Karjan Dam and they had rehabilitate on Karjan river where AKRSP (I) had done Lift irrigation with the finance from irrigation department. Ghanıkhut had also tribal people.

AKRSP (I) had focussed to capacity building of Amlı people. Amlı people for exposure to Ghanıkhut. They got confidence to the lift irrigation. AKRSP (I) had done series of various types of trainings which ultimately resulted to empowerment of Amlı people. Types of training were leadership training, account training, repair and maintenance of pumping machinery, laying of pipeline, committee training, agriculture training for various crop, water distribution etc.

4. Role of Government

Irrigation department had vision to do lift irrigation for Amlı village people. They had identified AKRSP (I) to implement Lift irrigation project in Amlı. They had provided fund to NGO to implement lift irrigation project. Forest department and Tribal Sub Plan (District Panchayat) also support the Amlı Lift Irrigation Cooperative as and when required. At the same time members and committee of Amlı Lift Irrigation Cooperative are enthusiastic and dynamic. They keep innovate and upgrade lift irrigation infrastructure.

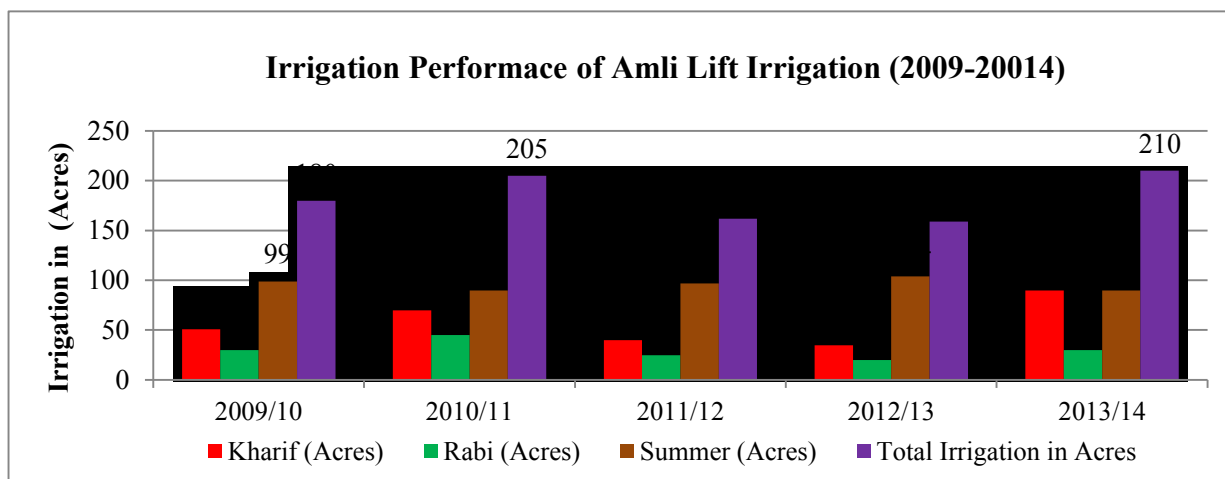
5. Performance of Lift Irrigation

5.1 Irrigation performance

Increase area under irrigation by lift irrigation cooperative from 11 acres to 210 acres (Umesh, 2015).

Amlı Lift Irrigation : Irrigation Performance (2009-2014)									
Sr. No.	Year	Kharif (Acres)	No's of farmers	Rabi (Acres)	No. of Farmers	Summer (Acres)	No. of farmers	Total Irrigation in Acres	Total Farmers
1	2009/10	51	70	30	35	99	114	180	219
2	2010/11	70	87	45	60	90	110	205	257
3	2011/12	40	65	25	36	97	112	162	213
4	2012/13	35	46	20	35	104	117	159	198
5	2013/14	90	114	30	47	90	117	210	278
Total		286	382	150	213	480	570	916	1165

The performance during last five years has more or less maintained. Almost 200 acres of irrigation took place.



(Amlif Lift Irrigation Cooperative, 2014)

Amlif Lift irrigation main focus to save kharif crop and if required give one or two support watering which helps to increase agriculture production. Second most important is to have summer irrigation that will ensure the green fodder for their animal.

5.2 Expenditure

Sr. No.	Year	Electricity bill (Rs.)	Administrative expenditure of Irrigation society (Rs.)	Repairing - (Rs.)	Total Expenditure (Rs.)
1	2009/10	47845	70917	26772	145534
2	2010/11	35465	77474	13852	126791
3	2011/12	44742	102779	31851	179372
4	2012/13	67680	126674	42264	236618
5	2013/14	37634	144854	25267	207755

(Amlif Lift Irrigation Cooperative, 2014)

During last five years' expenditure minimum expenditure was Rs. 1.25 lakh to maximum Rs.2.37 lakh. These include all of expenditure for electricity, administrative expenditure and repairing work.

5.3 Expenditure Analysis per Acre expenditure incurred for various purpose at Amlif Lift Irrigation

Sr. No.	Year	Per Acre Electricity Expenditure	Per Acre Administrative expenditure	Per Acre repairing expenditure	Per Acre Total Expenditure
1	2009/10	266	394	149	809
2	2010/11	173	378	68	618
3	2011/12	276	634	197	1107
4	2012/13	426	797	266	1488
5	2013/14	179	690	120	989
Average of five years		264	579	160	1002

(Amlif Lift Irrigation Cooperative, 2014)

Last five years analysis shows that, irrigate an acre land average expenditure was Rs.1000. If any farmer wants to irrigate his land, he should be sure to get additional production worth Rs.1000 due to irrigation.

5.4 Financial Sustainability

Amli Lift Irrigation - Irrigation Fees and its recovery (2009-2014)					
Sr. No.	Year	Irrigation Total Bills (Rs.)	Recovery of irrigation fees (Rs.)	Total Expenditure (Rs.)	Net Income (Rs.)
1	2009/10	231415	222770	145534	77236
2	2010/11	193370	193370	126791	66579
3	2011/12	235255	235255	179372	55883
4	2012/13	300185	300185	236618	63567
5	2013/14	208755	208755	207755	1000
Total		1168980	1160335	896070	264265

(Amli Lift Irrigation Cooperative, 2014)

In last five years Amli lift irrigation cooperative had net income of Rs. 2.64 lakh, which shows that the financial sustainability.

5.5 Income before and after lift irrigation project

(Information collected from 29 members of lift irrigation cooperative society)

5.6 Income and Expenditure before project

Income			Expenditure		
Details	In Rs.	In %	Details	In Rs.	In %
Agriculture	19150	8	Food	75400	34
Animal Husbandry	23760	10	Health	45850	20
Migration (Labour work)	141230	57	Social	8180	4
Other income	64320	26	Cloths	26540	12
Total	248460	100	Education	3620	2
			Others	65040	29
			Total	224630	100

(Patel, 2006 & Field work, 2015)

5.7 Income and Expenditure after project

Income			Expenditure		
Details	In Rs.	In %	Details	In Rs	In %
Agriculture	149210	19	Food	137660	30
Animal Husbandry	232980	30	Health	50000	11
Migration (Labour work)	182520	23	Social	15800	3
Other income	214280	28	Cloths	58750	13
Total	778990	100	Education	111700	24
			Others	85600	19
			Total	459510	100

(Patel, 2006 & Field work, 2015)

5.8 Impact due to Lift Irrigation

- Increased area under irrigation from 10acres to 104 acres.

- Income of irrigation cooperative: Rs. 0.75 lakh
- Income increased per household: Rs.30, 600.
- Every month payment received for milk selling from milk cooperative: Rs.48,000
- Increased assets: 65 bicycles, 2 tractors, 7 motorcycles, 7 televisions,
- Increased rice production from 300kg/acre to 570kg/acre.
- Increased sorghum production from 60kg/acre to 80kg/acre.
- Animal husbandry by household increased from 3% to 40%. - (Patel, 2006 & Field work, 2015)

5.9 Views of Community

- **Manchibhai Nawabhai Vasava:** Before irrigation project he had done farming in 1.25 acres of land and he had only one buffalo. The main source of earning was from agriculture, produce 500kg of rice and 120kg of kidney bean, while Rs.5500 from buffalo milk selling. Thus he was earning Rs.12000/- in a year. After irrigation, he had developed his land for irrigated agriculture and now he had done farming on 2.25 acres. He is now doing three seasons farming and had 2 buffalo. Now he is earning Rs.45000 annually. He had constructed his house, constructed biogas, planted 20 mango grafts, purchased one motorcycle, one cupboard and also gives education to all three sons.
- **Huniya Holiya Vasava:** He had rain fed farm before project. He was produced 100kg pigeon pea (tuvar), 300kg sorghum and 400kg rice, which comes to Rs.5500. They had to migrate for earning livelihood. After lift irrigation, he had done three season farming and produced 800kg rice, 200kg pigeon pea, 400kg groundnut and fodder. He is now earning Rs.21250/-. He had purchased three buffalo, one cupboard, and one tape recorder. He is member of lift irrigation cooperative and forest committee. His wife is member of Mahila Vikas Mandal and milk cooperative.

6. Conclusion

Amla lift irrigation cooperative proved that the lift irrigation can play important role in enhancing livelihood of tribal people. This successful example can be replicate and scale-up in tribal area of South Gujarat. Irrigation need assured supply of water. Capacity building of community will play very important role for maintain and manage lift irrigation project. Committee member has to play very active role in management of cooperative. The financial sustainability need to address from day one. Distribution of benefit to all members of cooperative lift irrigation will be governing factor to create ownership. Regular maintenance and up gradation of infrastructure ultimately sustain benefit for longer period. The five myths were recognized by Australia and later on every country about water which is described below that needs to accept and internalized.

1. Water is a free good
2. Water can be managed in isolation
3. The desert can be made to bloom
4. Social values will not change.
5. Water management is mainly a technical matter.

-(Smith, 1998)

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