

# CHANGING GENDER SOCIO-ECONOMIC DIMENSIONS IN IRRIGATIONS SYSTEM IN NEPAL AND ITS IMPLICATIONS IN COLLECTIVE ACTION

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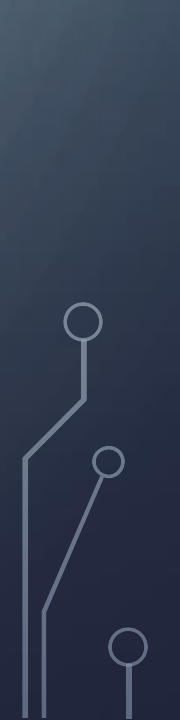
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# CONTENTS OF PRESENTATION

- Background, Objective and Methodology of Study
  - Findings of socio economic changes with gender lens
  - Implications of these in Collective action of Irrigation Systems
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# BACKGROUND, OBJECTIVE OF THE STUDY AND METHODOLOGY

- Follow up Rapid Qualitative Study to bring in the perspective of Changing Socio-economic (Education, Market, Land Ownership, Land Command Area, Cropping patterns and Inputs) and shocks (Natural Calamities like earthquake, floods) dimensions in Irrigation systems in Nepal after 10 years of previous study
- Qualitative Method for data Collection :PRA tool i.e FGDs with 10 Irrigation System User Committee and members inclusive of male and female members
- Data was collected for Changes over period of time on basis of recall, perception and Observations of the above mentioned different indicators

# GESI DEMOGRAPHIC COMPOSITION OF STUDIED SITES

- Sample Selection : 10 irrigation systems in Nepal
- level of cooperation index (observed in first round of study), physiographic region and proximity to the market.



## Overview of sampled irrigation systems in Nepal.

Name of the system	Geography	Proximity to market	Total number of total household		Distribution of households at present (2017)						
			2007	2017	Male-headed household	Female-headed household	Ethnicity	BCT	Janjatis - hill	Janjatis - terai	Dalit
Satrasay Andhimul IS	Hills	Closely connected	250	250	125	125		60%	30%		10%
Bijaypur IS	Hills	Closely connected	4800	6500	80-85%	15-20%		50%	45%		5%
Hemja IS	Hills	Closely connected	600	600	480	120		70%	15%		15%
Lamage IS	Hills	Connected	350	350	40%	60%		90%	5%		5%
Mulkulo IS	Terai	Connected	47	60	30	30		67%	30%		3%
Tamsariya IS	Terai	Connected	250	250	50%	50%		50%		50%	negligible
Pithuwa IS	Terai	Closely connected	2300	2300	50%	50%		50%	35%		15%
Pampa Kulo IS	Terai	Connected	130	130	110	20		45%	50%		5%
Andheri Karkitar IS	Mid-Mountains	Far from market	50	50	60%	40%		50%	40%		10%
Khahare Bhimtar IS	Mid-mountains	Farm from market	150	150	60%	40%		50%	40%		10%

# CHANGES IN LEVEL OF EDUCATION BY GENDER

Name of the system	Gender	Illiterate		Literate		Primary		Secondary		College level	
		2007	2017	2007	2017	2007	2017	2007	2017	2007	2017
Satrasay Andhimul IS	Male (%)										
	Female (%)										
Bijaypur IS	Male (%)	Less	-			100	100	100	100	100	100
	Female (%)	more	-			100	100	90	100	50	80
Hemja IS	Male (%)	Less	-			100	100	100	100	80	90
	Female (%)	More	-			80	100	80	100	50	90
Lamage IS	Male (%)	less	-			100	100	100	100	80	90
	Female (%)	30	-			100	100	90	100	50	100
Mulkulo IS	Male (%)	less	-			100	100	100	100	80	90
	Female (%)	30	-			100	100	90	100	50	100
Tamsariya IS	Male (%)	20	1			90	100	80	80	40	60
	Female (%)	50	1			90	100	80	90	20	60
Pithuwa IS	Male (%)	-	-			100	100	90	90	50	40
	Female (%)	-	-			100	100	90	90	40	50
Pampa Kulo IS	Male (%)	-	-	100	100	100	100	100	90	80	80
	Female (%)	-	-	100	100	100	100	95	90	70	80
Andheri Karkitar IS	Male (%)	less	-			100	100	100	100	80	90
	Female (%)	30	-			100	100	90	100	50	100
Khahare Bhimtar IS	Male (%)	less	-			100	100	100	100	80	90
	Female (%)	30	-			100	100	90	100	50	100

# CHANGES IN LANDOWNERSHIP BY GENDER, LANDHOLDING SIZE AND LANDLESSNESS

Name of the system	Gender	Land ownership		Landless household		Land holding size (area)	
		2007	2017	2007	2017	2007	2017
Satrasay Andhimul IS	Male (%)	100	80-85			0.5 – 10	0.5 – 10
	Female (%)	Negligible	15-20			ropani	ropani
Bijyapur IS	Male (%)	100	95	2-3	2-3	4-42	0.5-42
	Female (%)	-	5	2-3	2-3	ropani	ropani
Hemja IS	Male (%)	-	10	5	10	3-65	1-65
	Female (%)					ropani	ropani
Lamage IS	Male (%)	100	60			2-25	2-25
	Female (%)	-	40			ropani	ropani
Mulkulo IS	Male (%)	100	90	5	10	1-45	1-45
	Female (%)	Negligible	10	5	10	katha	katha
Tamsariya IS	Male (%)	100	95	2	2	10	10
	Female (%)	-	5	2	2	Katha	katha
Pithuwa IS	Male (%)	95	85	10	10	10	10
	Female (%)	5	15	10	10	Katha	katha
Pampa Kulo IS	Male (%)	100	95	15	15	15	15
	Female (%)	-	5	15	15	Katha	katha
Andheri Karkitar IS	Male (%)	95	85	10	10	1-15	1-15
	Female (%)	5	15	10	10	ropani	ropani
Khahare Bhimtar IS	Male (%)	95	85	10	10	1-15	1-15
	Female (%)	5	15	10	10	ropani	ropani



# CHANGES IN CROPS GROWN

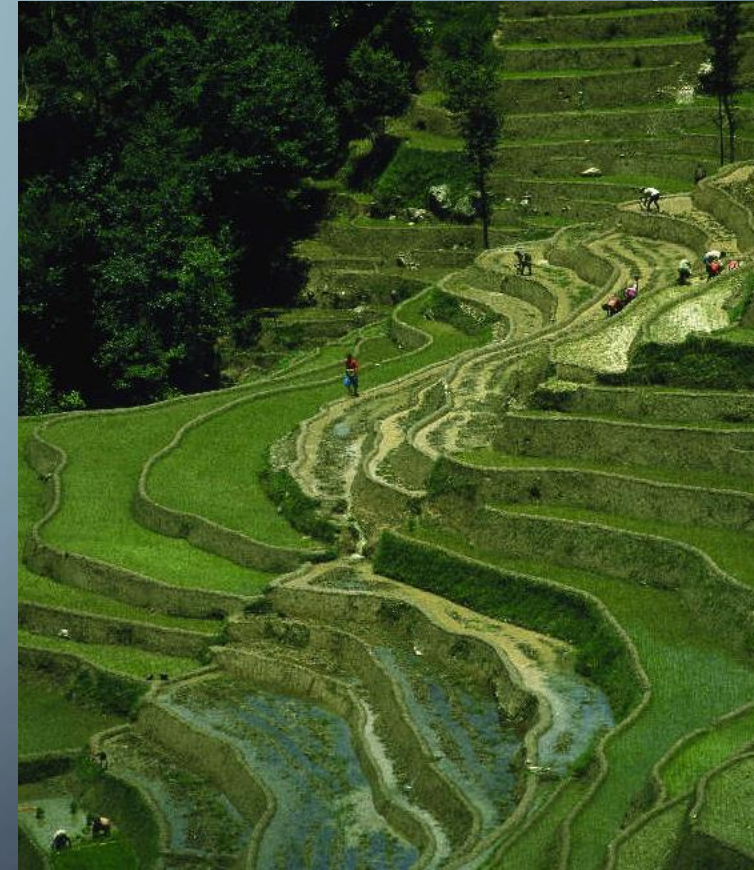
Name of the system	Seasons	Crops	
		2007	2017
Satrasay Andhimul IS	Monsoon	Paddy and maize	Paddy and vegetables
	Winter	Wheat and mustard	Vegetables in half of the area
	Summer	-	Increased market-oriented production
Bijaypur IS	Monsoon	Paddy and maize	Paddy and vegetables (2% of area)
	Winter	Wheat, mustard and buckwheat	Potato, vegetables, spring rice, mustard and buckwheat –market oriented production
	Summer	Mostly fallow	Vegetables and maize
Hemja IS	Monsoon	Paddy	Paddy and vegetable
	Winter	Wheat and potato	Potato and vegetable
	Summer	Fallow	Vegetable
Lamage IS	Monsoon	Paddy	Paddy (increased production – hybrid variety)
	Winter	Wheat, mustard, buckwheat, potato	Potato, mustard, maize and vegetables (commercial cultivation)
	Summer	Maize and spring rice	Maize and spring paddy
Mulkulo IS	Monsoon	Paddy	Paddy
	Winter	Wheat and mustard	Mustard (decline in wheat area)
	Summer	Maize	Maize
Tamsariya IS	Monsoon	Paddy	Paddy
	Winter	Lentil, linseed, peas, mustard	Potato, vegetables, maize, wheat, mustard and lentil
	Summer	Fallow	Spring paddy
Pithuwa IS	Monsoon	Paddy	Paddy, maize, banana (50% non-paddy)
	Winter	Wheat, mustard and lentil	Banana and vegetables; wheat and mustard in just about 5-7% area
	Summer	Maize	Maize and vegetables
Pampa Kulo IS	Monsoon	Paddy	Paddy, vegetable, forage/fodder and banana in large area (about 15 ha)
	Winter	Wheat and mustard	Wheat, mustard, maize, banana and vegetables
	Summer	Fallow	Maize and banana
Andheri Karkitar IS	Monsoon	Paddy	Paddy and vegetables (about 25% area)
	Winter	Mustard and vegetables	Mustard, Potato and vegetables (about 50% area)
	Summer	Fallow	Vegetables in about 30% area – market oriented
Khahare Bhimtar IS	Monsoon	Paddy, maize, millet, sesame	Paddy, maize, millet, sesame
	Winter	Wheat, mustard, vegetables and potato	Few vegetables – they don't grow wheat and mustard recent years
	Summer	Fallow	Fallow

MIGRATION PATTERN OVER THE PERIOD OF 2007-2017 (IN %)																
Name of the system	Extended Family with seasonal migration		Nuclear family with seasonal migration		Extended family with long-term migration		Nuclear family with long-term migration		Male population – short term migration		Female population – short term migration		Male population – long term migration		Female population – long term migration	
	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017
Satrasay Andhimul IS	10	-	-	-	-	25	-	50	-	-	-	-		95		5
Bijyapur IS	-	-	-	-	10	10-15	-	10-15	-	-	-	-	-	12-13	-	2-3
Hemja IS	-	-	-	-	-	80-90	-	80-90	-	-	-	-	-	90	-	10
Lamage IS	-	-	-	-	-	20	-	20	-	-	-	-	-	19	-	1
Mulkulo IS	-	Neg.	-	Neg.	10	60	-	60	-	-	-	-	-	95	-	5
Tamsariya IS	-	-	-	-	20	95	20	95	-	-	-	-	-	95	-	5
Pithuwa IS	-	-	-	-	50	50	50	50	-	-	-	-	90	80	10	20
Pampa Kulo IS	-	-	-	-	15	65-70	15	65-70	-	-	-	-	-	90-95	-	5-10
Andheri Karkitar IS	-	10	-	5	20	80	20	80	-	10	-	-	20	80	-	10
Khahare Bhimtar IS	-	10	-	5	20	80	20	80	-	10	-	-	20	80	-	10



# CHANGES IN INPUT USAGE

- Access to input increased over time, Timely availability still concern along with the high and fluctuating prices of inputs
- Increased usage of fertilizers , pesticides for commercial production



# IMPLICATIONS IN IRRIGATION MANAGEMENT –COLLECTIVE ACTION

- **Education :** Changing dynamics of education has led to Youth (male and female) to explore service as occupation rather than pursuing agriculture as an occupation. Male and Youth Migration long term has implications in participation and labor.
- **Migration:** Shortage of labor by migration and alternative livelihood options has resulted into abandonment of land (keeping fallow), Leasing or Contracting farm. In majority cases cultivated by marginalized local people(landless, less educated). But, in some systems, outsider people also rented and cultivated the land (commercial). In case of leased land, irrigation management is Landowners are less interested in management of IS compared to the past. Due to commercialized or cash crops farming (leased out), the contribution by user group HH member has declined for maintenance.
- **Change in Cash Crops :** Commercialization has resulted in increased need of assured water supply and thus increased interest in irrigation management. But collective contribution has declined. Outmigration and involvement of outsiders in farming has negative impacts on contribution due to lack of ownership feeling. In addition, land fragmentation has also negative impact on contribution in collective action
- **Gender Participation:** Female participation in management specifically maintenance and meetings have increased due to youth migration and male members' migration . The executive positions still dominantly under senior male members. 30 % of executive female members' position is pushed by mandatory requisite of Policy in Nepal. Gender constraints (capacity ) and reproductive gender roles at hh level hampered female's active participation at leadership positions who are interested .

# IMPLICATION IN IRRIGATION MANAGEMENT AND LEADERSHIP BY GENDER

Name of the system	Male membership in Irrigation Groups		Female membership in Irrigation Groups		Male participation in meeting of Irrigation management		Female participation in meeting of Irrigation management		Male executive members in Irrigation Committee FMIS		Female executive members in Irrigation Committee FMIS	
	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017	2007	2017
Satrasay Andhimul IS	100	20	20	100	100	20	20	80	80	80	20	20
Bijyapur IS	70	70	30	30	70	70	30	30	70	70	30	30
Hemja IS	10/13	10/13	3/13	3/13	Regular	Regular	Less	Less	10/13	10/13	3/13	3/13
Lamage IS	4/7	4/7	3/7	3/7	Regular	Regular	Less	Regular	4/7	4/7	3/7	3/7
Mulkulo IS	8/11	8/11	3/11	3/11	Regular	less	Less	Regular	8/11	8/11	3/11	3/11
Tamsariya IS	7/11	7/11	4/11	4/11	Regular	less	Less	Regular	7/11	7/11	4/11	4/11
Pithuwa IS	31/34	31/34	3/34	3/34	Regular	less	Less	Regular	70%	70%	30%	30%
Pampa Kulo IS	7/9	7/9	2/9	2/9	Regular	less	Less	Regular	7/9	7/9	2/9	2/9
Andheri Karkitar IS	8/11	8/11	3/11	3/11	Regular	less	Less	Regular	8/11	8/11	3/11	3/11
Khahare Bhimtar IS	-	-	-	-	Regular	less	Less	Regular	-	-	-	-

# IMPLICATIONS IN INVESTMENT IN FMIS AND SUSTAINABILITY

Usage of Remittances : mainly in purchase of land and build house, to support the education expenses as well. They rarely used such income to support agriculture/ irrigations systems . Only Hemja and Tamasariya reported to support agriculture

Name of the system	Description
Satrasay Andhimul IS	People use the money earned from remittances mainly to purchase land, construct house and the education expenses of children.
Bijaypur IS	Purchase land, construct house, education, and other luxurious non-productive expenses.
Hemja IS	Purchase land, construct house, education, and support commercial agriculture.
Lamage IS	Purchase land, construct house, education, and other luxurious non-productive expenses.
Mulkulo IS	Purchase land, construct house, education, and other luxurious non-productive expenses.
Tamsariya IS	Purchase land, construct house, education, and support commercial agriculture.
Pithuwa IS	Purchase land, construct house, education, and other luxurious non-productive expenses. Not used in agriculture, some even left agriculture.
Pampa Kulo IS	Purchase land, construct house, education, and health expenses.
Andheri Karkitar IS	Purchase land, construct house, education, and health expenses.
Khahare Bhimtar IS	Repay loan, household consumption and purchase of other household goods such as TV.



# A FOOD FOR THOUGHT ?

Collective Action is leveraged until there are benefits/ trade-off associated with individual or ?

More Evidence needed, Research Studies to understand the Gender interactions of Collective action along side Socio, Ecological and Economic

Local monitor in FMIS



The background is a dark blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles representing nodes.

# THANK YOU

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