

# **ECONOMIC LINKAGES OF SMALLHOLDERS IRRIGATION DEVELOPMENT AND ISSUES OF COMMUNITY MANAGEMENT**

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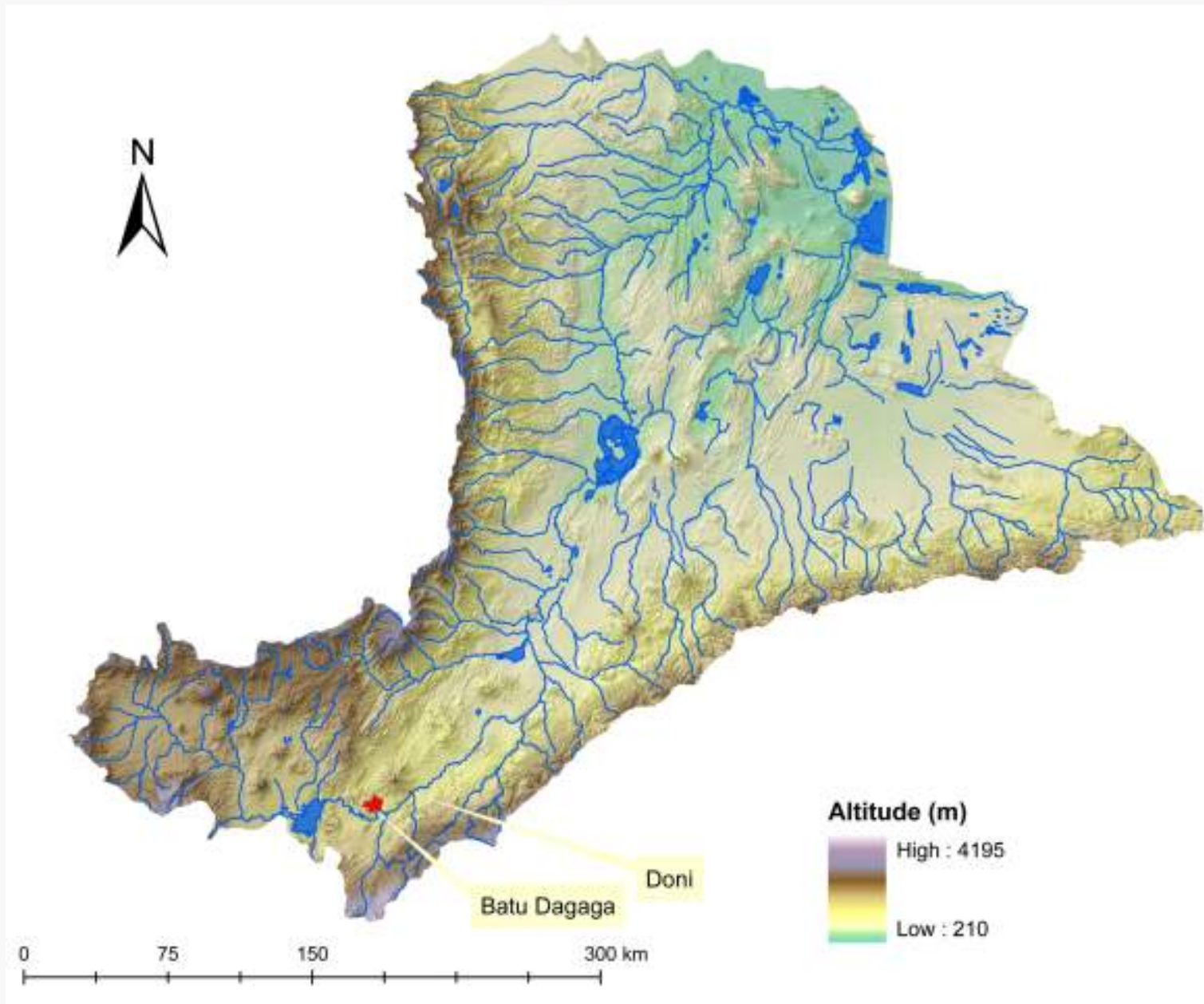
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# Justification for Site Selection

- **Both schemes are located in drought affected regions where rain fed farming is a high risk to ensure stable production**
- **Reports show that these schemes played great role as a coping mechanism**
- **There are success and failure stories that can be learned from both schemes**

# Location of the Two Schemes in the Awash Basin



# Study Significance

- There are usually little doubts on the need to use water for agriculture since rain fed farming is a high risk enterprise to ensure stable production
- Smallholders irrigation development are therefore highly encouraged as a key measures to mitigate the problem of food security and as a vehicle for the development of the local economy.
- The international donor communities are also in support of these efforts
- As a result, many traditional irrigational schemes were upgraded and new modern community managed schemes also developed in the country.
- However, performance and impact evaluation of community managed schemes is very important to learn why there have been successes or failures and provide useful information to policy makers and executioners.

# Research Methodology

- **This research is basically a survey case study that focused on two community-based irrigation schemes**
- **Primary data that covers the periods from 2001-2003 were collected by way of:**
  - **Interviewing 60 sample households using standard questionnaire**
  - **Discussion with focus group and key informants**
  - **Personal observations**
  - **Searching to available relevant documents**
- **Secondary data were also used to supplement the analysis of the field data.**

# Social Aspects of Smallholders Irrigation Development

- This study emphasizes on the social aspects of smallholders irrigations and there needs to provide a conceptual frame as a back-up for the analysis
- Irrigation is not simply a technical task of delivering water to crops
- (Hopper- (1989, in Mollinga 2002)
- Any farm system is a mixture of concrete and abstract elements
- (Dillon- (1992 in FAO 2003)
- The interaction and interdependence of technical and social subsystems are the building blocks to form a purposeful whole in farm activity - Freeman and Lower Milk (1991)
- However, the fact that there is high tendency of giving strong emphasis to technical aspects and less emphasis to managerial and institutional factors greatly challenged the performance of smallholders irrigation development - Dejene and Yilma (2001)

## Smallholders Irrigation Projects Developed by the Regional Government from 1993-2004

<b>Admi. Zone</b>	<b>Number of Scheme</b>	<b>Developed Area (ha.)</b>	<b>Total Beneficiaries (Households)</b>	<b>Total Investment (Birr)</b>	<b>Sources of Fund</b>	<b>Basin</b>
<b>Arsi</b>	25	2216	6594	16,737,398	Gov., IFAD ADF	-Rift valley Lakes -Awash -Shebele
<b>Bale</b>	16	2581	6830	19,121,791	Gov., IFAD ADF	-Genale-Dawa -Wabi Shebele
<b>Borena</b>	4	180	281	4,023,760	Gov., IFAD	-Genale-Dawa
<b>East Hararge</b>	26	1636	6796	16,803,930	Gov., IFAD ADF	-Wabi Shebele -Awash
<b>East Shoa</b>	26	1911	4761	14,597,451	JICA, IFAD N. Korea, EEC, Gov., ESRDF Self Help	-Rift valley Lakes -Awash
<b>East Wellega</b>	18	1106	3169	9,313,171	Gov. ESRDF	-Gibe -Nile
<b>Iluababora</b>	3	192	624	3,797,130	Gov.	-Nile
<b>Jimma</b>	8	785	2669	6,799,794	Gov., ESRDF	-Gibe
<b>North Shoa</b>	5	399	1559	1,999,473	Gov., ADF ESRDF	-Nile
<b>West Hararge</b>	10	895	2905	6,829,310	Gov., IFAD	-Wabi Shebele
<b>West Shoa</b>	10	968	2655	15,415,167	Gov., EEC ESRDF	-Nile -Gibe
<b>West Wellega</b>	10	602	1908	7,250,127	Gov. ESRDF	-Nile -Baro
<b>Total</b>	<b>161</b>	<b>13471</b>	<b>40607</b>	<b>122,688,682</b>		

*Source: Oromia Agricultural and Rural Development Bureau*

## **Formal Mandate of OARDB to Support Smallholders Irrigation Development**

- **Initiate and submit policies, strategies, laws and regulations related to smallholders irrigation development.**
- **Study and design Community irrigation development projects and implement the Construction directly using the capacity of the Bureau or by giving contract to individual contractors and/ or to Oromia water works construction Enterprise.**
- **Re-commission Completed irrigation Schemes to the beneficiaries, follow-up and Supervise safety of the schemes in collaboration with NGOs, Zones, Districts and kebeles administrative Organs and Conduct the rehabilitation and maintenance of the same where it is found to be beyond the capacity of the beneficiaries.**
- **Study and design soil and water Conservation activities related to Community irrigations.**
- **Provide quality of extension services to irrigation farmers to help them enhance their production and productivity.**
- **Assess environmental impacts of irrigation in Collaboration with the concerned bodies and take measures as recommended.**
- **Effect compensation payment for those displaced farmers because of irrigation construction etc.**
- **Organize beneficiaries in water user's associations and strengthen their self-management Capacity.**



## Farmland Cultivated by Rain fed and Irrigation 2001-2003

Schemes	Year	Rain fed Farmland Cultivated to grow grain Crops		Irrigated Farmland Cultivated to grow grain Crops		Irrigated Farmland Cultivated to grow Vegetables	
		Hectare	Percent	Hectare	Percent	Hectare	Percent
Doni Kumbi	2001	1.04	52	0.43	22	0.52	26
	2002	1.01	52	0.42	22	0.51	26
	2003	1.02	52	0.44	22	0.52	26
Bato Degaga	2001	1.30	100	0.00	0	0.00	0
	2002	2.05	72	0.39	14	0.40	14
	2003	1.87	70	0.47	18	0.33	12

*Source: Study Results*

## Types of Cash Crops Grown and Production Concentration (2001-2003)

Crop Type	Doni Kumbi			Bato Degaga		
	2001	2002	2003	2001	2002	2003
1. Onion	83%	91%	93.7%	-	95.5%	95%
2. Tomato	17%	9%	7%	-	2.4%	-
3. Pepper	-	-	-	-	2.1%	5%

*Source: Study Result*

# Why Farmers Prefer Producing Onion

- **The local seed of onion is easily obtained**
- **Less perishable, easy to harvest and to transport**
- **Withstands diseases and relatively do not incur high chemical cost**

# Why Farmers Prefer Producing Maize

- **It is staple food crop**
- **Irrigation water application is easier**
- **Provides large stock of animal feed**

## Comparison of Average Household's Sources of Income (2001-2003)

Schemes	Household Sources of Income				
	Irrigation Cultivation	Rain fed Agriculture	Livestock and Livestock Products	Non Agricultural Sources	Total
Doni Kumbi	74%	14%	6%	6%	100%
Bato Degaga	52%	21%	12%	15%	100%

*Source: Study Result*

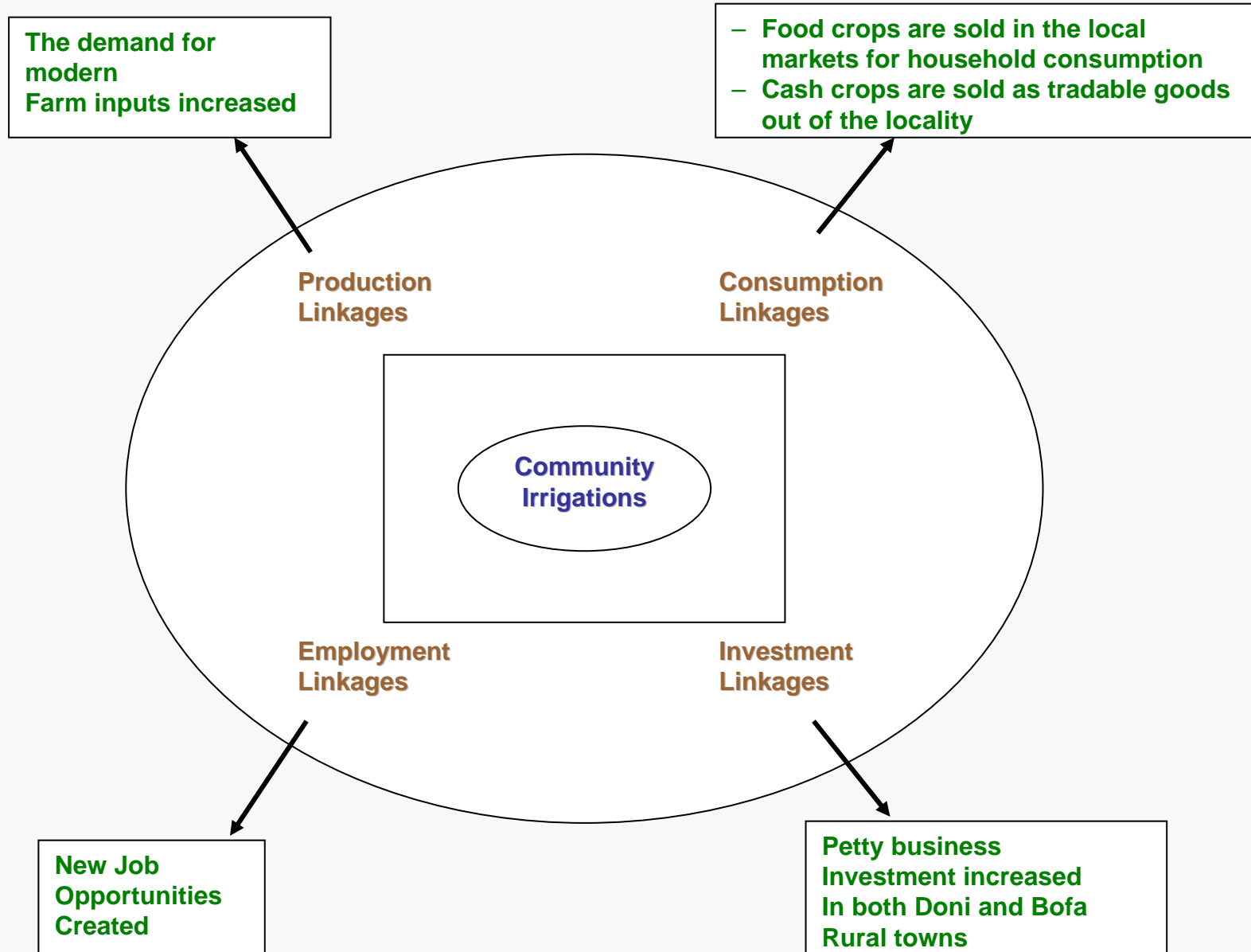
## **10. Irrigation Cultivation As Evaluated By Farmers**

- **33.33% responded that irrigation highly increased their access to basic needs**
- **66.57% responded that irrigation highly increased their access to basic needs**

# Conditions of households Food Security

Conditions of households Food Security	Doni Kumbi		Bato Degaga	
	Frequency	Percent	Frequency	Percent
Excess Production	1	3.3	1	3.3
Sufficient for one year	3	10	8	26.7
Sufficient for six months only	15	50	19	63.3
Sufficient for less than 6 months	11	36.7	2	6.7
<b>Total</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>

# Linkages of Irrigation Development





# Performance of irrigation Management

## Agronomic

- **Cropping intensity is below expectation**
- **Absence of intercropping**
- **Lack of market driven cropping pattern**
- **Fertilizer application is below rate of recommendation**
- **Very poor on farm management**

# Water Users Associations

- **Inability to enforce the byelaws**
- **Tendency of considering irrigation infrastructure as government's property**
- **Lack of organizing farmers to combat with the adverse effects of market**
- **Labor contribution for the maintenance of irrigation canals is not equitable**
- **Farmers lease out their irrigation plots**
- **There is high irrigation water loss**

# Institutional and Policy Issues

- **Frequent organizational restructuring**
- **Extension workers /experts/ are not motivated**
- **Absence of credit facilities to farmers**
- **Low level of extension service**
- **Absence of private or government institutions responsible for the multiplication of and distribution of improved seeds**
- **Absence of training for irrigation farmers**

# Conclusion

**This study concludes that community irrigation practices that integrate food crop, cash crop and livestock production can help to tackle the existing chronic food security problem and can become sources of employment and income generation for the local people.**

# Recommendation

- **Establish effective market information system that link farmers with consumers**
- **Proper extension service can reach farmers by improving the condition of transportation**
- **Create horizontal linkages between the agro-processing plant and the two irrigation schemes**
- **The benefit of irrigation should properly address the livestock sector too**