AMBO UNIVERSITY

Analysis of *Teff* Value Chain in Becho and Dawo Districts of South West Shewa, Ethiopia

M.Sc. Thesis (Submitted to Jimma University)

By;

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1. INTRODUCTION

❖ *Teff* is believed to have originated in Ethiopia (Vavilov, 1951). The smallest grain in the world and lost in the harvesting and threshing because of its size (Piccinin, 2002).

✓ Teff accounts largest share of the cultivated area 28.5% in 2013 and second in terms of quantity of production. The second most important cash crop, generating 464$ million per year for farmers (CSA, 2013).

✓ Poor consumption of *teff* is due to the high prices of teff which are twice as high as the cheapest cereal, *i.e.* maize (Minten *et al.*, 2012).

✓ Great potential as an industrial crop, but processing grain into flour is limited to a small urban processors (Dekking and Koning, 2005).

1.2. Statement of the Problem

- Becho and Dawo districts have major potential in production of *teff*. Land cultivated for *teff* production in Becho and Dawo districts was 85% and 80% among the land cultivated in district respectively (Agriculture bureau, 2014).

- Despite teff, trade is highly profitable; little is known about the farm level competitiveness of teff production, and the distribution of the costs and value-added benefits between the chain participants.

- Although past studies in Ethiopia (Minten *et al.*, 2013; Fufa *et al.*, 2011) have looked at value chain analysis of teff, literature on quantitative value chain analysis that captures the cost build-ups along the chain is scarce.

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- Past study gives more emphasis on **production and marketing** of *teff* and without mentioning of other actors, financing aspects and supportive services provided to all actors of *teff* value chain.

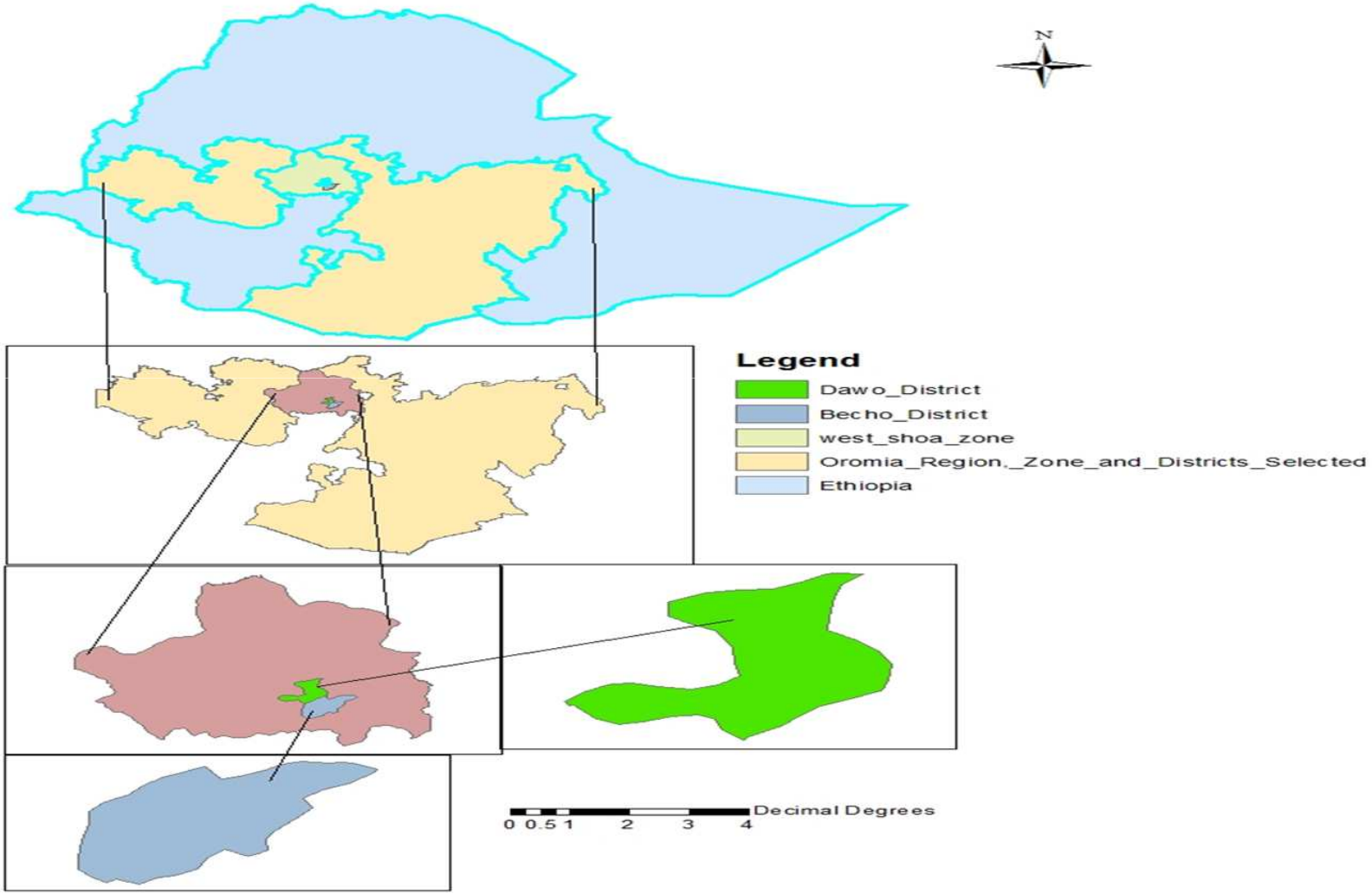
- General objective of the study is to analyze *teff* value chain in Becho and Dawo districts.

Specific objectives;

- Identify the value chain actors, their roles and relationships in the value chain;
- Analyze the market structure of *teff* in the value chain and
- Identify factors affecting market participation and intensity of marketed surplus

3. METHODOLOGY

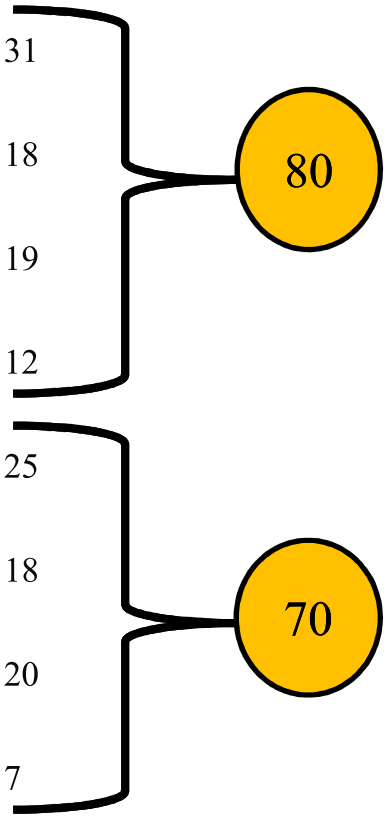
3.1. Description of Study Area



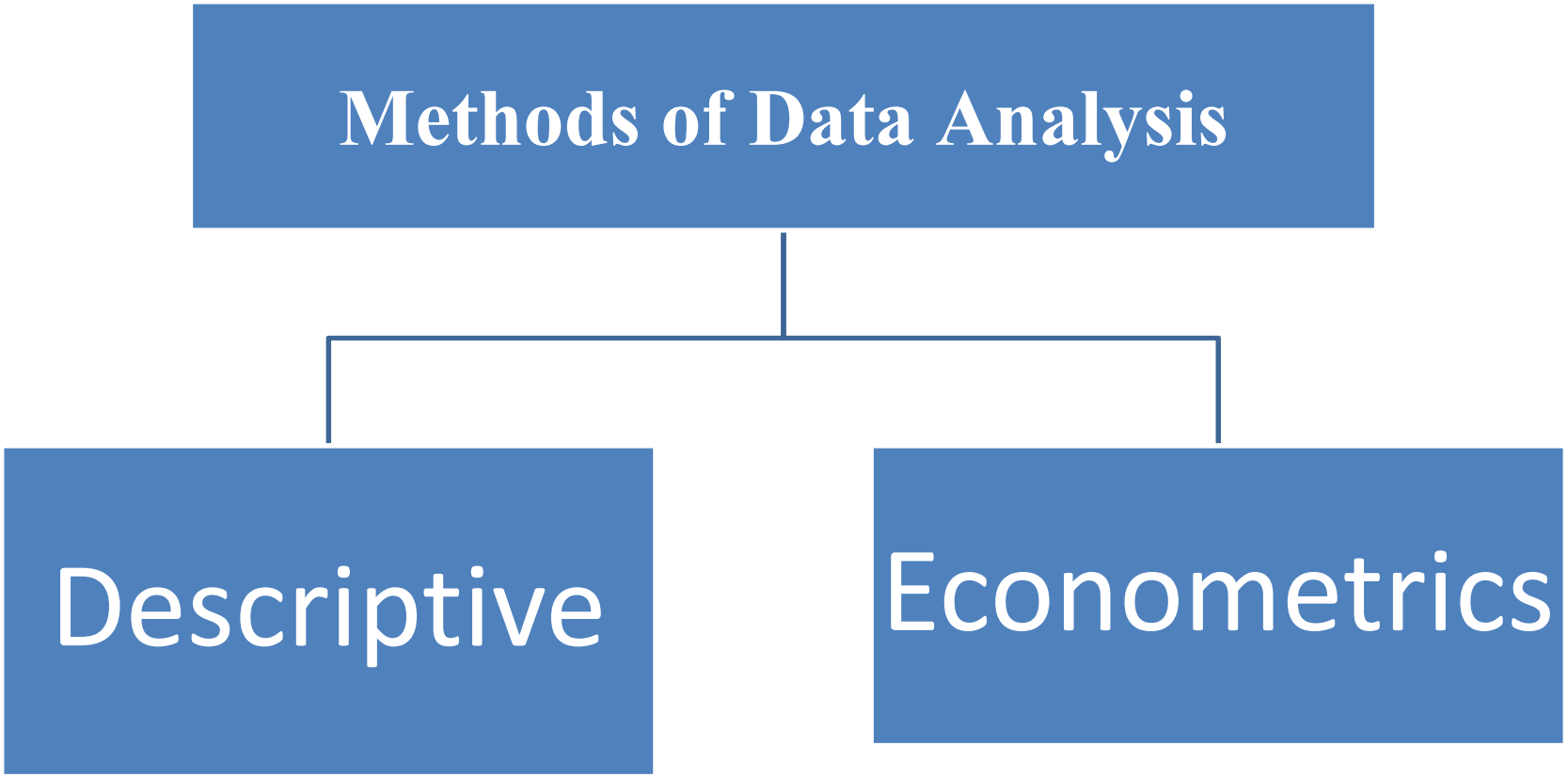
3.3. Methods of Sampling and Sample Size Determination

Table 1: Distribution of sample households across districts and sample kebeles

District	*Kebeles*	Number of households	Proportion	Sample households
Becho	Awash Bune	1615	0.21	31
	Jato	965	0.12	18
	Simbiro Ciracha	958	0.12	19
	Boji	600	0.08	12
Dawo	Neno Gabriel	1298	0.17	25
	Kersa Bombi	929	0.12	18
	Makit Suntare	1047	0.13	20
	Dawo Saden	347	0.04	7
Total		7759	1.00	150



Methods of Data Analysis



4. RESULT AND DISCUSSION

4.3. Market Structure in *Teff* Value Chain

4.3.1. Degree of market concentration

Table 11: HHI of seller concentration in the markets

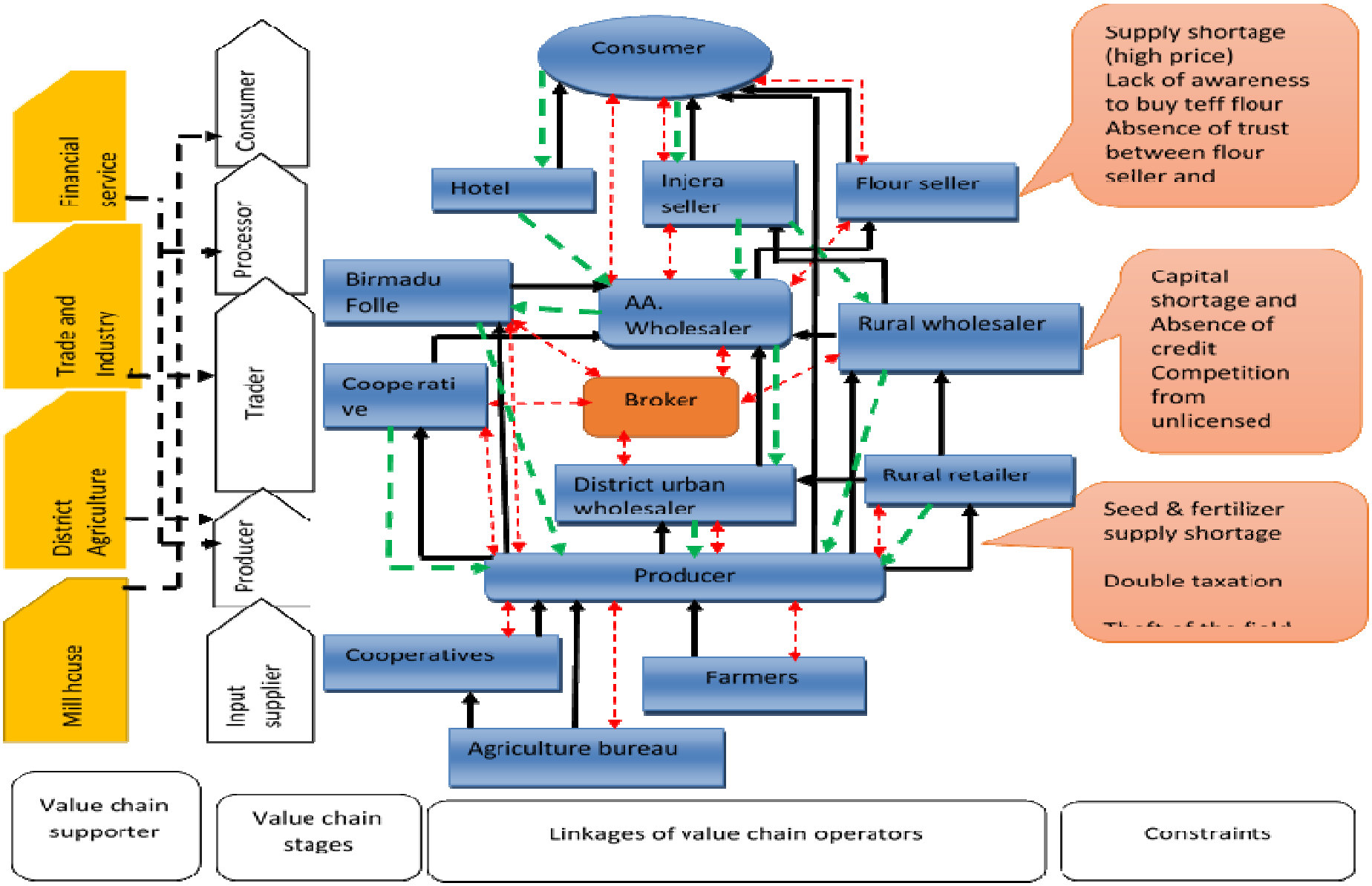
Name of market	HH Indices
Busa	0.65
Tulu bolo	0.87

4.4.1. *Teff* value chain actor's roles and linkages

Table 13: Services provision to farmers from various service providers

Variables		District				χ^2
		Becho		Dawo		
		N	%	N	%	
Sources of input	Agricultural office	5	6.25	2	2.86	
	Cooperative/Union	75	93.75	65	92.86	4.35
	Market	0	0.00	3	4.28	
Market information	(Yes)	65	81.25	53	75.71	0.68
Sources of market information	From teff traders	22	33.85	18	32.73	23.72***
	Radio	17	26.15	12	21.82	
	Telephone	3	4.62	11	20	
	Neighbor	23	35.38	14	25.46	
Sources of credit	Microfinance	53	96.36	52	94.54	2.92
	Relative	3	3.64	3	5.46	
Access to training (yes)		64	80	57	81.43	11.74**

Value chain map of Teff



4.4.2. Value share of actors

Table 14: Distribution of value added of teff across actors and district

Becho	Sales price	Intermediate	Value added	Value added by	% share of	% share of
Actors		cost	by actor	actor at AA	district	at AA
Producer	1100	645	455	455	33.58	27.33
Rural retailer	1350	1115	235	235	17.34	14.11
Rural wholesaler	1450	1360	90	90	6.64	5.41
District urban wholesaler	1570	1470	100	100	7.38	6.01
Injera seller *	2075	1600	475		35.06	
AA wholesaler	1650	1600		50		3.00
Flour seller	1860	1700		160		
Injera seller	2275	1700		575		34.53
Dawo						
Producer	1090	686	404	404	34.71	26.42
Rural retailer	1300	1120	180	180	15.46	11.77
Rural wholesaler	1420	1315	105	105	9.02	6.87
District urban wholesaler	1500	1445	55	55	4.73	3.60
Injera seller *	1950	1530	420		36.08	
AA wholesaler	1650	1600		50		3.27
Flour seller	1860	1700		160		10.46
Injera seller	2275	1700		575		37.61

4.4.5.1.Constraints of teff producers

Table 17: Production and marketing problems of farmers by market participation

Variable	Proportion			t/x^2-value
	Total	Participant	Non-participant	
Shortage of fertilizer (yes)	20.67	18.64	28.13	1.38
Shortage of seed supply(yes)	39.33	38.14	43.75	0.33
Occurrence of disease(yes)	18.67	16.95	25	1.08
Price setting(yes)	80.67	83.05	80.67	2.02

4.4.5.2. Constraints of traders

Table 18: Marketing problems of traders

Variable	Mean/proportion			χ^2
	Total	Becho	Dawo	
Double taxation(yes)	9.8	19.23	0.00	5.33**
Absence infrastructure(yes)	78	82.14	68.18	1.38
Absence of storage facility(yes)	63.83	60.87	66.67	0.17
Information flow problem(yes)	11.11	7.14	15.38	0.92
Capital shortage(yes)	64.81	78.57	50	4.16**
Access to credit(yes)	9.26	10.71	7.69	0.15
Absence of government support(yes)	75.93	71.43	80.77	0.64
Lack of demand(yes)	3.70	7.14	0	1.66
Farmer reluctance to sell(yes)	88.68	92.59	84.62	0.84

4.5. Factor Affecting Market Participation and Marketed Surplus

Table 20: Regression result for double hurdle model

	Probit			Truncated		
Variables	Coefficient	Robust Std. Err.	Marginal	Coefficient	Robust Std. Err.	Marginal
Sex of the household head	-1.45	-1.15	-0.08	-0.19	-0.13	-0.19
Perception on current Medium	0.11	5.40	0.01	0.50**	0.24	0.48
Perception of lagged Medium	-1.39*	-1.10	-0.07	0.14	-0.11	0.14
On/off-farm income	-0.06	-0.22	-0.01	0.13***	-0.04	0.12
Livestock owned	0.09	-0.08	0.01	-0.03**	-0.01	-0.02
Constant	-12.13*	-6.74		-0.78*	-0.42	

- ✓ This finding is in line with Omiti and Mccullough, (2009) that showed negative relationship between family size and amount of marketed surplus in case of rural and peri-urban areas of Kenya.
- ✓ The soybean market participation by smallholder farmers in Zimbabwe in which distance to the market
- ✓ Abayneh *et al*. (2013) which showed a positive significant relationship between land size and extent
- ✓ Gebreselassie and Sharp (2008) also discussed that last year prices of teff had a strong positive and high significant effect on the probability of market participation as a seller.
- ✓ It is consistent with the finding by Kabeto (2014) that showed ownership of transport equipment lowers the Siziba and Diagne (2011) determinants of cereal market participation by sub-Saharan Africa smallholder farmer and positive relationship between off farm income and extent of market participation.

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

- ✓ The market structure of *teff* in *Tulu bolo* and *Busa* Town were imperfect market based on HHI.

- ✓ Dawo districts the value share from the total value added are 34.71%, 15.46%, 9.06%, 4.73% and 36.08% for producers, rural retailers, rural wholesalers, district urban wholesalers and district injera sellers in teff value chain for Dawo district teff.

- ✓ Value share of producers, rural retailers, rural wholesalers, district urban wholesalers and district *injera* sellers in the *teff* value chain for *Becho* districts are 33.58%, 17.34%, 6.64%, 7.34% and 35.06%respectively.

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- Market participation was influenced positively by farm size, access to credit, ownership of transport equipment and agro ecology whereas farmers perception on lagged price of *teff* and family size are negatively affect participation decision.

- Intensity of participation are negatively influenced by family size, TLU and distance to the nearest market while farm size, agro ecology, perception on current price and on/off income positively influence marketed surplus of *teff*.

5.2. Recommendation

- Farmers should be encouraged to form marketing groups so that they can minimize the infiltration by traders. Strengthen market linkages between farmers and consumers through provision of market information and promote collective marketing.

- Districts agriculture bureau and unions should increase the capacity of cooperatives to reduce the price determination power of traders. Organize the urban *teff* consumers in cooperatives to reduce the price of teff product.

- Farmers should also consider venturing into value addition practices such as processing and packaging their *teff* for the local supermarkets.


THANK YOU