ISSN: 2319-6505

Available Online at http://journalijcar.org

International Journal of Current Advanced Research
Vol 5, Issue 4, pp 811-816, April 2016

International Journal of Current Advanced Research

ISSN: 2319 - 6475

RESEARCH ARTICLE

FACTORS AFFECTING TEFF AND WHEAT MARKET SUPPLY IN DENDI DISTRICT, WEST SHOA ZONE, ETHIOPIA

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A R T I C L E I N F O

Article History:

Received 16th January, 2016
Received in revised form 24th February, 2016
Accepted 23rd March, 2016
Published online 28th April, 2016

Key words:

Factors Affecting Market Supply, Teff, Wheat.
Abbreviations: HH - Household, HHH - Household Head, GDP-Gross Domestic Product, PA-Peasant Association.

A B S T R A C T

In Ethiopia, Cereal production and marketing are the means of livelihood for millions of smallholder households and it constitutes the single largest sub-sector in economy.Out of the total grain crop area, 79.69 per cent (8.7 million hectares) was covered by cereals. Teff and wheat covered up 23.42 per cent (about 2.6 million hectares) and 13.01per cent (1.4 million hectares) of grain crops area respectively. Agricultural production and productivity is very low and the growth inagricultural output has barely kept pace with human population growth. Supply of agricultural crop in the study area is subjected to seasonal variation where surplussupply at harvest is the main feature. There is lack of sufficient studies which tries to lookinto the factors affectingthe supply of teff and wheat in Dendi district.This study helps in the understanding of factors affecting teff and wheat supply in the district. For the purpose of this study, Dendi district was selected purposively. In the second stage, out of the 48rural Peasant Associations of Dendi district , 4 Peasant Associations each for teff and wheat were selected randomly by using simple random sampling technique. From the available 23 Teff producing Peasant Associations, three were selected randomly.From these 23Peasant Associations, 80 households of Teff producers and 80 households of wheat producers were selected randomly.Interview schedule was used to collect the data. Two types of analysis, namely descriptive and econometric analysis were used for analyzing the data collected from farmers and traders in the study area.Eleven explanatory variables were hypothesized to affect the household level marketable supply of Teff and Wheat. Among these variables, only five variables namely (quantity produced, age and market access, experience and price) were found to be significant while (education, quantity produced and extension access) were found significant for Wheat. The quantity of Teff and Wheat produced at the farm level affected marketable supply of Teff and Wheat positively and significantly. Introduction of improved varieties, application of chemical fertilizers, using of modern technologies, disease and pests control measures should be promoted to increase production. Education has improved the producing household's ability to acquire new idea in relation to market information and improved production, which in turn enhanced productivity and there by increased marketable supply of Teff and Wheat. Therefore, there is a great need to make information available to farmers at the right time.

INTRODUCTION

Cereals are the most important food crop of the world and it provides the world with amajority of its food calories. They are staple foods in the diets ofmost population.According to FAO (2007), the world cereal production inthe year 2007 was increased by 4.8 per cent from previous year production. In the same yearAfrica's contribution to the world output was 6.35 per cent (about 133.1 million tons).In Ethiopia, Cereal production and marketing are the means of livelihood for millions of small holder households and it constitutes the single largest sub-sector in economy. Cereal accounts for roughly 60 per cent of rural employment, 80 per cent of total cultivated land, more than 40 per cent of atypical household's food expenditure, and more than 60 per cent of total calorie intake. The contribution of cereals to national income is also large. According to available estimate, cereal production represents about 30 per cent of gross domestic product (GDP). This calculation followsfrom the fact that the contribution of agricultureto nation's GDP is 48 per cent (World Bank,

2007), and thatcereals' contribute to agricultural GDP is 65 per cent (Diao *et al*. 2007).

In Ethiopia, cereals are the major staple food crops taking a significant share of area cultivated and volume of production obtained. Out of the total grain crop area, 79.69 per cent (8.7million hectares) was covered by cereals. Teff and wheat covered up 23.42 per cent (about 2.6million hectares) and 13.01 per cent (1.4 million hectares) of grain crops area respectively. Cereals also contributed to 85.11 per cent (about 137.1 million quintals) of the total grain production. Thecontribution ofteff and wheat was 18.57 per cent (29.9 million quintals) and 14.36 per cent (23.1 millionquintals) of the total summer cereals produced in the same order (CSA, 2007).

Maize, teff, Sorghum and wheat are the leading cereal crops grown inthe Oromia state. Based on the report of Bureau of Oromia Agriculture and Rural Development in 2007, West Shoa and East Shoa are the major cereal producing areas in the region. Although the region has ample production potential and market access, it has never reaped the opportunity as it would supposed to exploit (Muhammed, 2011).

Dendi district is one of the eighteen districts in the West Shoa Zone. The district isendowed with favorable climatic and natural resource conditions that can grow diverse annual and perennial crops required for household consumption and the market. Despite the fact that, rain-fed agriculture is predominant in the district, according to the report of Office of Agriculture and Rural Development of the District (2004/5), the major cereals crops grown in the district include maize, teff, wheat, sorghum, and oats.

In Ethiopia, small-scale subsistence farmers depend on low input, rain-fed mixed farming agriculture dominated with traditional technologies which accounts for about 95 per cent of the output (Pender et al. 2004). Agricultural production and productivity is very low and the growth in agricultural output has barely kept pace with human population growth.

Agricultural marketing is a very important factor in economic development and lack of awell-functioning agricultural market and marketing system severely hinders the improvement of social welfare, income distribution, and food security of developing countries. More over markets and marketing system do not develop simultaneously with economic growth. Markets and marketing system should be organized deliberately to enable economic development (Wolday, 1994).

Improved information and marketing facility enables farmers to plan their production more inline with market demand, to schedule their harvest at the most profitable time, to decidewhich market to sell their produce to and negotiate on a more even footing with traders and it also enables traders to move their produce profitably from a surplus to deficit market and tomake decisions about the economics of storage. Thus the market information is critical to the law of one price and to the price discovery process (Khols and Uhl, 2002).

Supply of agricultural crop in the study area is subjected to seasonal variation where surplus supply at harvest is the main feature. The nature of the product on the one hand and lack of properly functioning marketing system on the other, often resulted in low producers' price. Maize, teff, wheat and Faba bean are the major cash crops grown in the study areamainly for market. However, marketing aspects of teff and wheat, which have potential production volume and marketability, are unresolved.

Yet there is lack of sufficient studies which tries to look into thefactors affecting the supply of teff and wheat in Dendi district. This study helps in the understanding of factors affecting teff and wheat supplyin the district. This study is designed to address the prevailing information gap on the subject and contribute to proper understanding of the challenges and assist in developing improved market development strategies for the benefit of smallholder farmers, traders, and other marketparticipants.

RESEARCH METHODOLOGY

For the purpose of this study, Dendi district was selected purposively. In the second stage, out of the 48ruralPAsof Dendi district, 4 PAs each for teff and wheat were selected randomly by using simple random sampling technique. From the available 23 Teff producing PAs, three were selected randomly. Then by employing Probability Proportional to Size (PPS) the number of farmers to be taken from each PAs was determined at the third stage. Finally based on the sampling frame collected from each PAs, Systematic Random Sampling was used at the fourth stage to select the sample of Teff producing farmers. Before selecting the household heads to be included in the sample, teff and wheat growing household heads of each rural PA were identified in consultation with experts in the department of grain production and protection of Dendidistrict, PA leaders, key informants and development agents of therespective rural PA. From these 23PAs, 80 HHs of Teff producers and 80 HHs of wheat producers were selected randomly. Moreover, 40Teff and wheat traders (farmer traders, urban assemblers, urban retailers, whole salers, regional retailers) from different Dendi district markets were selected randomly to capture all possible representative and comprehensive data.

Enumerators who have college diploma and working as development agents were recruited and trained for data collection. Before data collection, the interview schedule was pre-tested on five farmers and three traders to evaluate the appropriateness of the design, clarity and interpretation of the questions, relevance of the questions and time taken for an interview. Hence, appropriate modifications and corrections were made on the interview schedule. Data were collected under continuous supervision of the researcher.

Focus group discussions were held with three groups based on pre-determined checklists and a total of 20 key informants were interviewed from 6 different organizations and institutions. The time allotted for each discussion was 2 to 4 hours; but extended in some locations. Suitably, the data generated at various levels were supported by field observations and triangulated with other data.Two types of analysis, namely descriptive and econometric analysis are used for analyzing the data collected from farmers and traders in the study area.

Econometric model specification

Following Green (2003), the multiple linear regression models is specified as

$Yi=F(X_1, X_2, X_3, X_4 X_5 X_6 X_7 X_8 X_9, X_{10}, X_{11})$

Where Y_i= quantity of teff and wheat supplied to market

X_1= Sex of HH
X_2= Age of HH
X_3= Education level of HH
X_4= Family size
X_5= Market access
X_6= Experience of the HH
X_7= Price of teff and wheat in 2013/14
X_8= Extension access
X_9= Information access
X_{10}= Credit access
X_{11}= Size of output

Econometric model specification of supply function in matrix notation is the following.

$$Y_i = \beta X + U \quad (1)$$

Where: Y_i = Teff and wheat supplied to the market

β = a vector of estimated coefficient of the explanatory variables
X = a vector of explanatory variables
U_i = disturbance term

Specification of errors

Before fitting important variables into the regression models for analysis, it was necessary to test multicollinearity problem among continuous variables and check associations among discrete variables, which seriously affects the parameter estimates. According to Gujarati (2003), multicollinearity refers to a situation where it becomes difficult to identify the separate effect of independent variables on the dependent variable because of existing strong relationship among them. The two measures that are often suggested to test the existence of multicollinearity are Variance Inflation Factor (VIF) and Contingency Coefficients (CC). Thus, Variance Inflation Factor (VIF) is used to check multicollinearity among continuous variables. As a rule of thumb, if the VIF is greater than 10 (this will happen if $R^2$is greater than 0.90), the variable is said to be highly collinear (Gujarati, 2003). A measure of multicollinearity associated with the variance inflation factors is computed as:

$$VIF(Xi) = (1 \quad R_i^2)^{-1}$$

Where, $R_i^2$is the multiple correlation coefficients between explanatory variables, the largerthe value of R_i^2 is, the higher the value of VIF (X_i) causing higher collinearity in the variable (X_i).

Contingency coefficient is used to check multicollinearity or association between discrete variables. The value ranges between 0 and 1, with 0 indicating no association between the variables and value close to 1 indicating a high degree of association between variables. A popular measure of multicollinearity associated with the CC is defined as:

$$CC = \sqrt{\frac{x^2}{N+x^2}} (2)$$

Where, CC is contingency coefficient, $\chi 2$ is chi-square test and N is total sample size. If the value of CC is greater than 0.75, the variables are said to be collinear.

Conversely, test for heteroscedasticity was undertaken for this study. There are a number of test statistics for detecting heteroscedasticity; According to Guiarati (2003) there is no ground to say that one test statistics of hetroscedasticity is better than the others. Therefore, due to its simplicity, Kroenker-Bessett (KB) test of heteroscedasticity was used for this study.Similar to other test statistics of heteroscedasticity, KB test is based on the squared residuals u^2.

However, instead of being regressed on one or more regressors, the squared residuals are regressed on the squared estimated values of the regressorsand the original model is written as,

$$Y_i = \beta_0 + \beta_1 \ X_{1i} + \beta_2 X_{2i} + \quad + \beta_k X_{ki} + u_i (3)$$

u_i Is obtained from this mode and then u_2 isestimated as $u_i^2 = \alpha_0 + \alpha_1 Y_i^2 + u_i$where Y_i are the estimated values from the original model. The null hypothesis is α1 = zero.If this is not rejected, then, one can conclude that there is no heteroscedasticity. The null hypothesis can be tested by the usual t-test.

FINDINGS AND DISCUSSION

Factors Affecting Teff and Wheat Market Supply

Teffand Wheat areproduced mainly for market and are important cash cropsin Dendi Districtfor the farmers in general and for the three PAs in particular. According to theresearch report, all sample households are good suppliers of the commodity to the market.Analysis of factors affecting farm level marketable supply of Teffand Wheat was foundto be important to identify factors constraining Teffand Wheat supply to market. In thisrespect, 11 variables were hypothesized to affect farm level marketable supply of Teff and Wheat. Multiple linear regression models were employed to identify the factors. For theparameter estimates to be efficient, assumptions of Classical Linear Regression (CLR) modelshould hold true. Hence, multicolliniarity and heteroscedasticity detection test wereperformed using appropriate test statistics as follows.

Table 1 Sample distribution of traders of Wheat and Teff

DendiDimtu Burka	Cheleleka				Total			
Traders	Popn.	Sample	Popn.	Sample	Popn.	Sample	Popn.	Sample
collectors	31	12	10	3	15	5	56	20
Wholesalers	15	4	10	2	5	3	30	9
Retailers	75	7	17	1	21	0	113	8
Processors	5	3	0	0	0	0	5	3
Total	126	26	37	6	41	8	204	40

Source: District Agri. & RD Office and PA administrations, 2010 and own computation

Test for multicollinearity

All VIF values were less than 10. This indicated absence of seriousmulticollinearity problem among independent continuous variables. Contingency coefficient results indicated absence of serious multicolliniarity problem among the independent dummy variables. Since there is hetero scedasticity problem in the data set, the parameter estimates of the coefficients of the independent variables cannot be true. Therefore, to overcome the problem, Robust Ordinary Least Squares analysis with hetero scedasticity consistent covariance matrix was estimated (Table 2).

Table 2 Factors Affecting Teff quantity Supplied to the market

Variables Coefficients Robust Std. Err. t-ratio	P-value
(Constant)	-3.7922.705-2.2770.399
Sex of HHH	0.501* .3162.0660.059
Age of HHH (in years)	0.0130.0190.9220.517
Education level of HHH	0.0470.0411.2560.415
Total family size of HHH	0.0630.0720.8010.513
Market Access in km	0.2330.2041.1070.465
Teff quantity produced in quintal	0.995*** .25017.9820.000
Years of experience in Teffproduction	2.0182.721 2.1300.053
Price of Teff in 2013/14 (Birr/quintal)	-0.0070.021-0.4420.672
Extension access	0.533*0.3721.9900.086
Information access	0.788**0.4322.5090.061
Credit access	-0.0630.3520.4220.847

Note: Dependent variable - Teff quantity supplied to the market
*** Significant at 1 percent ** Significant at 5 percent * Significant at 10 percent
N=160R2 = 99.7, Adjusted R2 = 0.99.5

Table 3 Factors Affecting Wheat Quantity supplied

Variables Coefficient Robustt-ratio Std. Err.	p-value
(Constants)	3.544 5.9620.5220.714
Sex of HHH	-0.2761.656-0.2310.976
Age of HHH in years	-0.0040.067-0.1140.938
Education level of HHH	0.2370.311-0.7310.533
Total family size of HHH	-0.0390.364-0.1410.972
Market Access	0.0410.5630.0790.967
Wheat quantity produced in quintal.	0.822***0.07613.7250.000
Years of experience in wheat production	0.0280.0241.4880.391
Price of teff in 2013/14 (in Birr/qts.)	-0.012*0.008-1.5050.097
Extension access	0.8111.7920.9710.699
Information access	2.8662.4511.0350.528
Credit access	5.378**1.8953.535 0.019

Note: Dependent variable- is wheat quantity supplied to the market
N=160 R2=88.5, Adjusted R 2 =0.886:*, ** and *** are significant at 10 percent, 5 percent and 1 percent, respectively: Source: Survey result, 2014

Eleven explanatory variables were hypothesized to determine the household level market able supply of Teff and Wheat. Among these variables, only four variables namely (quantityof Teffproduced, Sex of HHH, access to market information, access to extensionservices) were found to be significant for Teff while (quantity of wheat produced, access to credit and price of other crops) were found significant for Wheat.

Teff

Quantity of Teff produced

As hypothesized, the multiple linear regression result revealed that marketed surplus was significant at 1% level. Thepositive coefficient indicated that a unit increase in quantity of Teff produced will increase the marketable supply of farmers. It indicates that households who produce more quantity of teff had also suppliedmore to the market.

The result shows that one quintal increase in the teff production causes a0.995 quintal increase in the volume of marketable supply of teff.

This is in line with the findings of Muhammed (2011), Wolday (1994), Wolelaw (2005), Rehima (2006) and Kindie (2007)who illustrated an increase of grain, wheat, rice, red pepper, sesame, cotton production by farming households has augmented marketable supply of the commodities significantly.

Access to market information

Market information access is also anotherfactor, which positively affects quantity of teff supply at 5% significance level. The positiveand significant relationship between variables indicate that as farmers accessed market information, the quantity of teff sold at market also increases. The coefficient also confirmed that accessing market information to farmers will tend to increase the market supply of teff by 0.504 quintals. The implication is that obtaining and verifying information helps tosupply more quantity of teff.

Sex of the household head (SEX)

Since both men and women take part in production and management of crops, previously the likely sign of the coefficient of sex on sales volume wasnot hypothesized. However, sex of the household head influenced the marketable supply of teff positively and statistically significant at 10% level. The positive sign impliesthat if the household is male headed the probability of teff to be marketed increased by 50.1 per cent.This can be explained by the fact that males have relatively better labor (ME) advantage toproduce and supply more volume. Secondly, males are subjected to different expenditures. The need of cash for expenditure made them to supply higher volume of teff to the market. Earlier study by Dawit (2010) also revealed that sex of the household head is one of the factors that affect the probability of marketable supply of poultry positively in Alamata and Atsbiwomber taworedas of Tigray.

Access to extension

Result of the finding indicated that access to extensionservice was positively and significantly related to the volume of teff supplied to the market at10% significance level. If the extension contact increases by one unit, the amount ofteff supplied to the market increases by 0.533 quintal. It is inferred that access to extensionservice helpsin availing the information regarding the technology which improves production. The result of this study goes along with the findings of many authors. Forinstance, Yishak (2005), Rehima (2006), and Rahmeto (2007) found that access to extensionservice on improved maize seed, red pepper and improved haricot bean respectively affectedmarketable supply of each of the commodities significantly and positively.

Wheat

Quantity of wheat produced

This is one of the important variables hypothesized to affect volume of marketable supply of wheat in the study area and it was found to influencethe volume of wheat supplied to the market positively and significantly at less than 1%probability level. A positive coefficient implies that an increase in quantity of wheat producedincreases volume of marketable supply of wheat by farmers. It indicates that household's whoproduce more quantity of wheat had also supplied more to the market. The result shows that aone quintal increase in the wheat production causes a 0.822 quintal increase in the volume ofmarketable supply of wheat. This is also in agreement with previous studies conducted by Wolday (1994), Wolelaw (2005), Rehima (2006), Kindie (2007), Bosena (2008), Assefa (2009), and Muhammed (2011) which found that the amount of grain, rice, red pepper, sesame, cotton and honey, respectively, produced by household

affected marketable supply of each of the commodities significantly and positively.

Access to credit

As the multiple regression model result indicates, thevariable access to credit had positive and significant influence on volume of wheat supply at5% significance level. From this result it can be stated that those farmers who have access toformal credit, are more probable to supply marketable wheat than those who have no access toformal credit. In the study area, access to credit is determined by availability of cash on hand.

As indicated in the descriptive part, the agricultural Office that distributes improved seed andfertilizer on credit requires a down payment to provide credit. In this case, only those farmerswho possess cash on hand can benefit from formal credit. On the other hand, farmer's whohave no cash on hand will be devoid of the opportunity. Earlier study also reveals that creditis one of factors that affects the probability of adoption of improved varieties, the quantity offertilizer farmers apply and haricot bean respectively (Legesse, 1992; Tesfaye and Shiferaw, 2001 and Rahmeto, 2007).

Price of other crops (Teff)

Here price of Teff was taken for comparison since it isthe predominant cash and competent substitute crop grown in the study area. As hypothesized previously price of teff influenced volume of wheat marketed negatively and significantlyat 10% level of significance. The implication is that the increase in price of Teff by one birrreduces marketable supply of wheat by 0.012 quintal. The increase price of other crops (Teff) made producers to shift and engage in the production of Teff that have betterprice.

CONCLUSION

The quantity of Teff and Wheat produced at the farm level affected marketable supplyof Teff and Wheat positively and significantly. However, farmers are working under limited plots of land by nature without using improvedtechnologies and agricultural inputs.

Teff and Wheat producers in Dendi district usedlittle inputs. Hence, increasing production and productivity of Teff and Wheat per unit area of land is better alternative to increase marketable supply of Teff and wheat. Introduction of improved varieties, application of chemical fertilizers, using of modern technologies, disease and pest control practices should be promoted to increase production.

Education has improved the household's ability to acquire new idea in relation tomarket information and improved production, which in turn enhanced productivity and there by increased marketable supply of Teff and Wheat.Therefore, there is a great need to make information available to farmers at the right time andplace in response to this challenge; it is also good to develop an integrated agricultural marketing information system that will be linked to district information center, and to link them to government's program.

Recommendations

Based on the research findings of this study, the following points are recommended to improve marketing chains of teff and wheat: Introduction of high yielding and disease resistant varieties, improving access to credit to apply fertilizers, strengthening extension service, facilitating access to reliable and timely market information for the farmers, enhancing bargaining power of teff and wheat producers through cooperatives and creating lowering transaction costs, and reducing the level of oligopolistic market type by creating competitive market.

References

AbayAkalu, 2007. Vegetable Market Chain Analysis: The Case of Fogera District in ANRS of Ethiopia. An MSc Thesis Presented to the School of Graduate Studies of Haramaya University.

Adugna Gessesse, 2009. Analysis of Fruit and Vegetable Market Chains in Alamata, Southern.

Zone of Tigray: The Case of Onion, Tomato and Papaya. An MSc Thesis Presented to the School of Graduate Studies of Alemaya University.

Astewel Takele, 2010. Analysis of Rice Profitability and Marketing chain: The Case of Fogera District, South Gondar Zone, Amhara National Regional State, Ethiopia. An MSc Thesis Presented to School of Graduate Studies of Haramaya University. 76p.

AyelechTadesse, 2011. Market Chain Analysis of Fruits for GommaWoreda, JimmaZ one, Oromia National Regional State. An MSc Thesis Presented to School of Graduate Studies of Haramaya University.

Bureau of Oromia Agricultural and Rural Development Office report, 2007. Unpublished report.

CSA, 2007. Area and Production of Crops. Country Level, Part II, Addis Ababa. pp. 261-323.

CSA (Central Statistical Authority), 2008. Federal Democratic Republic of Ethiopia, Central Statistical Agency, Agricultural Sample Survey, 2008, Volume 1, Report On Area and

Production of Crops, (Private Peasant Holdings, Summer Season), Addis Ababa, June, 2008, Statistical Bulletin 417.

CSA (Central Statistical Authority), 2009. Area and Production of Major Crops. Sample Enumeration Survey. Addis Ababa, Ethiopia.

Diao X., Belay F., Steven H., Alemayehu S., Kassu W., Bingxin Y. (2007), Agricultural Growth Linkages in Ethiopia: Estimating using Fixed and Flexible Price Models. IFPRI discussion papers no 00695, Addis Ababa. pp. 28-30.

FAO STAT, 2007. Statistical Data base- Livestock. Available from: htt: //faostatfao. Org/ default.aspx [Accessed on 21 October r 2009].

Greene, W.H., 2003. Econometric Analysis. 5th Edition. Prentice Hall. Inc, London. 1026p.

Green, H, W. 2008. Econometric Analysis: sixth edition, Prentice-hall Inc.Upper Saddle River, New Jersey.

Gujarati, D.N., 2003. Basic Econometrics. 4th Edition. Mc Graw-Hill, New York. Pp.563-636.

Gujarati, D, N. 2003. Basic Economics. 4th (Ed), McGraw Hill, New York.

Holloway, G and S. Ehui, 2002. Expanding Market Participation among Smallholder Livestock Producers: A Collection of Studies Employing Gibbs Sampling and Data from the Ethiopian highlands. Socio-economic and Policy Research Working Paper 48. ILRI, Nairobi, Kenya. 85p.

Kohls, R, L and J.N. Uhl, 1985. Marketing of Agricultural Product. Fifth Edition. Mc Millan Publishing Company, NewYork, USA 624p.

Muhammed Urgessa, 2011. Market Chain Analysis of Teff and Wheat Production in Halaba Special Woreda, Southern Ethiopia. An MSc Thesis Presented to School of Graduate Studies of Haramaya University.

Office of Agriculture and Rural Development of the District, 2004/5 report. Unpublished.

Pender, J., Ruben, R., Jabbar, M and Eleni, Gebre-Medhin, 2004. Policies for Improved Land

Management and Agricultural Land Management and Agricultural Market Development in the Ethiopian Highlands.

Summary of Papers and Proceedings of a Workshop Held at the Ghion Hotel, Addis Ababa, Ethiopia. February 19 -20, 2004, IFPRI.

World Bank Group, 2006. Ethiopia: Developing Competitive Value Chain http:/siteresources.

World Bank, 2007. Explaining Sources of Food Price Inflation in Ethiopia: "A Just in Time Policy Note", World Bank (Draft) pp. 14-28.

Worldbank. Org/ INTAFRSUMAFTPS/ resources? Aftps note 29 F0610-17.pdf Accessed on 17th, December. 2009.

Wolday Amha, 1994. Food Grain Marketing Development in Ethiopia after Reform 1990. A Case Study of AlabaSiraro. The PhD Dissertation Presented to Verlag Koster University.

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