

Exploring the Missed Opportunity of Moringa Marketing in Dire Dawa City Administration: An Empirical Based Analysis

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Abstract
The main purpose of the study is to explore the missed opportunity of Moringa Marketing potential in Eastern Part of Ethiopia especially in Dire Dawa Administration. Mixed approaches with 276 usable samples were used and collect a data from Dire Dawa city dwellers randomly and relevant data were gathered, presented and analyzed using descriptive and inferential statistical techniques. The findings revealed that there is a good awareness, perception, interest and willingness to pay for moringa and a demand for the processed moringa products is increasing though there is shortage of supply within the market with value added product.
Keywords: Dire Dawa; moringa marketing; missed opportunity ;value addition

I.Introduction

Moringa is a multipurpose and exceptionally nutritious vegetable tree with a variety of potential uses throughout the world (Nadeau and Zakaria, 2012; Vlahos et al., 2002). Different studies show that, it has very high nutritional properties that would be useful as a food supplement, especially in those relegated communities in addition to , it's nutritional and medicinal applications for both human and animals and in various industrial applications **(**J.P., etal... pp 253-54 , 2010; Mishra,S. et.al 2011 ; Patel,J.P., Bharat, G and Patel, K. 2010).

Studies have equally shown that it can provides excellent economic opportunities for agricultural producers, traders and processors thereby making it effective in tackling micronutrient insecurity while equally holding the promise of sustainable economic returns to the farmers (Nadeau and Zakaria, 2012). The tree crop of which leave, seed, bark, pods are of economic importance could be grown as a relatively cheap, all year round, high quality food for both humans and animals (Foidl, et. al., 2001). On this regard, the plant being the most widely cultivated species in Ethiopia and around the world (Bosch, C.H., 2004) and used as a nutritional and medical plant And the demand for the product are growing in the main cities of the country specially in Addis Ababa where the price per-kilo reach from 60 birr to 400 for imported Moringa powder though there is no such market demand studies are done still now and The demand are largely grown and provided indifferent form in Dire Dawa.

1.2. Statement of the Problem

With striking population change like Ethiopia supplemented with recurrent drought and shortage of rainfall, adopting of different nutritional plants become vital specially plants which can resist climate changes and grow with unsuitable and harsh environment i.e. moringa that can be used as foods and supplementary food (Foidl, et. al., 2001and Premi et al. 2010), and become a well-documented nutritional and medicinal properties that can provides excellent economic opportunities for agricultural producers, traders and processors thereby making it effective in tackling micronutrient insecurity while equally holding the promise of sustainable economic returns to the farmers (Nadeau and Zakaria, 2012). Study show that in an attempt to reduce hunger and improve nutrition and water supplies in order improve health conditions poor-peoples in developing countries use M. oleifera and other species as a source of food and coagulant aid. (Jahn, 1988 b, c; Evans, 1991; Olayemi and Alabi; Mayer and Stelz, 1993; Folkard and Sutherland, 1996; Panga, 2002) and further the plant is a remedy for the cure of various ailments such as diabetes, asthma, bronchitis, tuberculosis, dysentery (Ramachandran et al. 1980). in the meantime in Ethiopia i.e. Konso, Negelle ,Welita Sodo ,Somalia etc… it used as treatments for epilepsy , diarrhea, cure for malaria, stomach problems ,diabetes , water treatment, hypertension, retained placenta, asthma, colds, to induce vomiting and to promote wound healing (www.eziga.com). Showing the need for looking such type of plant is vital for the country in order to maximize the benefit for all users and producers (Abuye, C.etal). Though no deep investigation has been done on its production, marketing as well value chain potential and activities which can create job opportunity and sources of entrepreneurship (Abuye, C.etal). but According to preliminary analysis done by the researchers the price of Moringa powder in Dire Dawa for a kilo is 180 birr depending on the quality of the packaging and processing and currently the small amount produced in the city is commercialized informally which is also common in other countries too as shown by Orwa et al, 2009 and currently in Dire Dawa there is a bottlenecks in the value chain and awareness creation for consumer terms of it different vitalities. On this regard, , this study explore the missed opportunity of Moringa marketing potential in eastern part of the country specially in Dire Dawa and further expected to answer the following research question;

1. Are there consumer's awareness, perception and interest to use Moringa's for different benefits?
2. How consumers are willing to pay for perceived benefit of the plant?

3. How it can be sources of entrepreneurship to increase Socioeconomic Values of the plant?
4. What are the major constraints that become obstacle for marketing of moringa plant?

1.3. Objective of the Study

The objective of the study is to explore the missed opportunity of Moringa marketing potential in eastern part of the country especially in Dire Dawa and particularly it expected to

- ☆ Explore consumers awareness, perception and interest on Moringa's benefit
- ☆ identify willingness of consumers to pay for the product
- ☆ identify major constraint that become obstacle for marketing of marina plant
- ☆ Explore how it can be sources of entrepreneurship to increase Socioeconomic Values

II.Literature Review

2.1. Introduction to Moringa

Moringa stenopetala belongs to family Moringa cease that is represented only by a single genus Moringa. The genus is represented by 14 species to which Moringa stenopetala belongs. Northeast tropical Africa is a center of endemism plus diversity to the genus (Mark, 1998 and Edwards et al., 2000). And the species is known by different vernacular names in different country (Mark, 1998).

2.2. Benefit of Moringa Plants

Moringa stenopetala is often referred to as the African Moringa Tree because it is native only to Ethiopia and northern Kenya (Mark, 1998). It is reported that the edible parts are exceptionally nutritious (Rams, 1994). The leaves are one of the best vegetable foods that can be found in the locality and all parts of the tree except the wood are edible, providing a highly nutritious food for both humans and animals, are rich sources of calcium and iron, and good sources of vitamins A, B, and C (when raw) and of protein including goodly amounts of the sulfur- containing amino acids, methionine and cystine (Rams, 1994).), dry season fodder, mulch and fuel wood supply the flowers are a good nectar source for honey and can be eaten or used to make a tea,(S. Lalas et.al, 2003 ; FAO, 1988; Jahn, 1988c; D'Souza and Kulkarmi, 1993; Folkard and Sutherland, 1996; Makkar and Becker, 1997; Fuglie, 2001 and Panga, 2002 and the seed are rich oil sources for cooking and lubricant uses (Sutherland, 1996; Tsaknis et al., 1998 and Jahn, 1984). Even very muddy water can be cleared then crushed seeds are added (Gupta and Chaudhuri, 1992). Also other studies show by Ozumba (2008) outlined several medicinal uses of Moringa oleifera indicating that up to 81 remedies are produced from several parts of the tree.i.e. 22 remedies are produced from the leaves, 8 from the flowers, 3 from the pods, 14 from the roots, 17 from the root bark and stem bark, 9 from the gum, 4 from the seed and 4 from the seed oil and being incorporated into an ointment to treat common bacterial infections of the skin(Quisumbing, 1978; Morton, 1991; Limaye et al., 1995; Ezeamuzie et al., 1996; Folkard and Southerland, 1996; Palada, 1996 Fuglie, 2001 and Ramunze (2003). further study proves that it used as treatment and protection of tumor (Olson and Carlquist, 2001) Diabetes (Luchington, *et al.,* 2005;Ramalingam, 2010 and Ludington, 2005; Omoruyi and Adamson, 1994 and Judith, *et al.,* (2005).it is used in Siddha medicines, as sexual virility drug for treating erectile dysfunction in men and in women, for prolong sexual activity ;HIV/AIDS Management (Villarreal and Anyonge, 2006 and Buger and Herzing 2002)used as immune stimulant for HIV positive people, particularly for those who cannot afford good nutrition and medicine in Africa (Villarreal and Anyaonge, 2006). used for Livestock and Water Management (Okeke 2010).

Cultivation and Harvesting: Moringa stenopetala grows wild in elevations between 1,000 and 1,800 m (Mark, 1998) but it will grow as high as 2200m and as low as 300m in Ethiopia and It is an extremely fast-growing tree and continued to grow during the exceptionally long dry season (Ethiopian tree foundation fund, 2004). Moringa grows best in well-drained soils with pH of between 5.0 and 9.0 and in temperatures between 25 and 48°c. and -1to 3°c(Nautiyal and Venkataram, 1987; Coote et al., 1997). It can survive drought as well as frost (Crosby, 2007; Palada & Change, 2003). It prefers alluvial sandy soils though it will grow in a variety of soils apart from stiff clays (Coote et al., 1997) The tree grows even in marginal soils and with very little care (Morton, 1991; Folkard and Sutherland, 1996).

2.3. Constraints for Marketing Of Moringa Plant

Although the markets for the alternative products are very different there is one constraint to development that is common to them all and that is that they are all considered to be 'new' products which influences the awareness perception and interest of to purchase the plant further Financial , Research and development awareness, perception and interest ,Regulatory approval are also significantly affect production and marketing of moringa. In addition to perishabilty of the plant ; Price /Quantity Risks; Seasonality; Product bulkiness (Non-necke, 1989 ; FAO, 1986, cited on Abay, 2007). further lack of market access, market information, and many biological factors (Weinberger and Lumpkin, 2005) lack of awareness on product packaging, handling, transport labeling

and processing equipment(Bezabih and Hadera (2007).

2.4. Empirical Findings in Ethiopia

In Ethiopia Jema (2008) indicated that limited access to capital markets, high consumer spending, and large family size attributable to lower economic efficiency for the marketed driven production like vegetables;Risk related to persishability and seasonality of supply, illiteracy, and client-buyer's type were found to be the significance factors causing contract breaches by the trader(Jema (2008), Bezabih and Hadera (2007). Million and Belay (2004) indicated that, lack of market outlets, storage and processing problems, lack of marketing information, capital constraints, high transportation cost and price variation are some of the important constraints in vegetable production Moti (2007).

III.Material And Method

3.1. Description of the Study Area

Dire Dawa is located between 9º27N and 9 º49 S longitude and Between49 38 E and 42 19 W latitude with the total land size of 1288 km, of which nearly 97.73% accounts for the land size of the rural areas, while the remaining 2.27% covers the land size of the urban areas of the administration with The total estimated population of 342, 827. And classified as 9 urban and 38 rural Kebele Administration.

3.2. Sampling method

The Study implemented mixed research approach to triangulate data and in order to map out the potential of moringa marketing in Dire Dawa city through identification of awareness ,perceptions and interest to produce and use the plant for different purposes. Meanwhile, in this study the target population were community of city administration and decided to consider only respondents who are over the age of 18-years-old. on this regard, There is estimated population of 130215 excluding age interval of 0-19 years old in all 9 Keble (CSA, 2012/13) and draw a sample referring to Krejcie & Morgan (1970), pp. 607-610) with predicted proportion margin of error of plus or minus 5.0 %, and based on this there were responses from 280 respondents as per the formulas where ,"n " refers sample size , X^2; chi square for specified level of confidences N ; population size ,p ; population proportion and ME ; margin of error.

$$n = \frac{x^2 \times N \times P(1-P)}{(ME^2 \times (N-1)) + x^2 \times P(1-P))}$$

n = $\frac{3.84^{2*}130215*.05(1-.05)}{.05^{2*}(130215-1) + (3.84^{2*}.05^{*}(1-.05)} = \frac{91204.66944}{325.571875} =$ 280

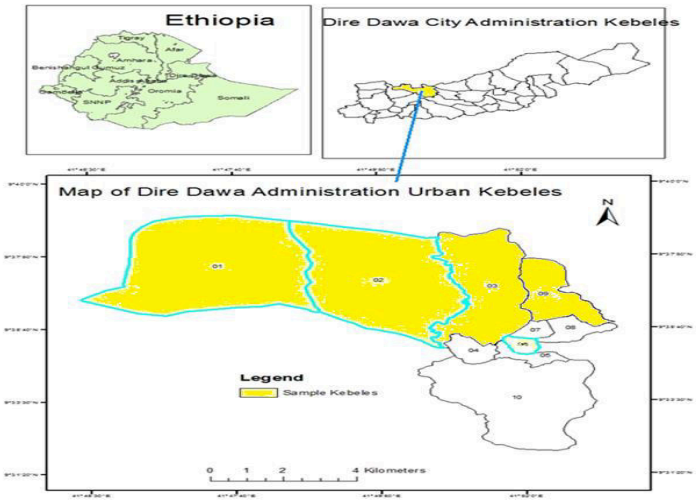

Figure map of the selected urban kebeles

3.3. Data collection procedure

a linkert scale questionnaire were developed and Data collection took place between May to June, 2016. Intercept survey approaches were used to collect data from consumers at kebeles personally by the researchers as well as helps were taken from data collectors and both descriptive and inferential statically techniques were used to analysis the data using the latest version of SPSS.

IV.Data Presentation Analysis and Interpretation

4.1. Demographic Profile of Respondents

Based on the findings in the table 4.1, the majorities (56.9 %) of the survey's participants were male and the rest 43.1% were female where as 58.7% (162) were aged in between 35-44, 16.3% (45) were aged 25-34, and 25% (69) were aged 45-54 and of 276 respondents, 34 respondents (12.3%) have school leaving qualification, while 106 respondents (38.4%) were university/college students, 100 of the respondents (36.2%) have bachelor degree, and 36 respondents (13.0%) have second degree.

Table 4.1.Demographic Profile Of Respondents

		Frequency	Percent
Gender	Female	119	43.1
	Male	157	56.9
	Total	276	100.0
Age	25-34	45	16.3
	35-44	162	58.7
	45-54	69	25.0
	Total	276	100.0
Education	high school complete	34	12.3
	University / college students	106	38.4
	first degree	100	36.2
	second degree and above	36	13.0
	Total	276	100.0

Sources:-own survey questionnaire 2016.

4.2. Statistics Indicating the Levels of awareness, perception and interest to use moringa

Liker scale was used to measure the level of awareness, perception and interest to use, either the process or raw moringa for different purpose. The higher the score, the more the level of awareness, perception and interest are the variables as evaluation criteria. Five point scales were used to measure the level of awareness, perception and interest of factors in such a way that mean score could be calculated to determine the level of factors in the use of the plant for different purpose. With five point scales, the intervals for breaking the range in measuring each variable are calculated as follows:

$$\frac{\text{Max.-Min.}}{5} = \frac{5-1}{5} = 0.8 = \text{high awareness, perception or interest Level}$$

It means that the scores falling between the following ranges can be considered as: Score 1.00 – 1.80 Means low Awareness, perception or interest Level Importance, Score 1.81 – 2.60 Means low Awareness, perception or interest Level ,Score 2.61 – 3.40 Means medium Awareness, perception or interest Level , Score 3.41 – 4.20 High Awareness, perception or interest Level 4.21 – 5.00 very high Awareness, perception or interest Level best and Seven statements were developed for each variable i.e. awareness, perception and interests and two for willingness to use the plant and pay for moringa variables were used to determine the market demand.

Table 4.2. Statistics Indicating the Levels of awareness, perception and interest to use moringa

Attributes	Mean	Std. D.	Degree
Level of Awareness			
on the benefit of moringa plant for food and nutrition	4.2065	.92879	Very high
on the benefit of moringa plant for Disease Prevention	2.6978	1.36496	medium
on the benefit of moringa plant for Erosion and wind Barrier	2.7029	.89369	Medium
on the benefit of moringa plant for Water Purification	2.5471	1.55667	Low
on the benefit of moringa plant for Insecticide and fungicide	3.1848	.86461	Medium
on the benefit of moringa plant as Traditional medicine	4.4529	.89927	Very high
on the benefit of moringa plant for Ornamentation & Shade	1.5942	1.02079	Very low
Level of Perception			**Degree**
on the benefit of moringa plant for food and nutrition	4.6848	.65941	Very high
on the benefit of moringa plant for Disease Prevention	4.3080	.54213	Very high
on the benefit of moringa plant for Erosion and wind Barrier	3.1449	.40989	Medium
on the benefit of moringa plant for Water Purification	3.0616	.68743	Medium
on the benefit of moringa plant for Insecticide and fungicide	4.3261	.80148	Very high
on the benefit of moringa plant for Traditional medicine	4.2645	.66522	Very high
on the benefit of moringa plant for Ornamentation & Shade	2.9022	.96174	Medium
Level Of Interest			**Degree**
to use the plant as supplementary food and nutrition	4.4167	.56916	Very high
to use the plant for Disease Prevention	4.4686	.53570	Very high
to use the plant for Erosion and wind Barrier	3.1594	.46313	Medium
to use the plant for Water Purification	2.8696	.55695	Medium
to use the plant or Insecticide and fungicide	3.0036	.33573	Medium
to use the plant as Traditional medicine	4.2826	.83548	Very high
To use the plant as Ornamentation & Shading plant.	3.2500	.76693	Medium
Willingness to buy the processed moringa plant.	4.2210	.49550	Very high
willingness to pay for moringa's perceived benefits	4.4167	.71117	Very high
Valid N (list wise) 276			

Sources:-own survey questionnaire 2016.

The mean scores show that there is very high level of awareness on moringa benefit for food and medical plant with mean of 4.20 and 4.45 score respectively whereas with the mean of 2.69 and 3.1 respondents have a medium awareness level on the use of the plant as disease prevention and wind barrier . in contrary there is high interest by respondents to use the plant for food , disease prevention , traditional medicine and insect side with the mean of 4.6 ,4.3 ,4.2 and 4.3 respectively . Finally, the interest to use the plant as food, disease prevention, and traditional medicine were very high and the willingness to buy processed moringa and willingness to pay for perceived benefit of moringa is very high showing there is high demand for the product.

4.3. Reliability Testing

To assess reliability and internal consistency of the variables, Cronbach's 'alpha' was calculated. A benchmark alpha of .70 was set as an acceptable measure of reliability (Cronbach, 1951). The value of Cronbach's alpha for level of awareness on moringa benefit was .839, level of perception on moringa benefit dimension was an alpha of .858, and interest to use moringa for different purpose were having of an alpha of .892. The reliability of the variables used is summarized in the table 4.6.

Table 4.3: Variables Reliability

Variables	*Item*	*Reliability(Cronbach's alpha)*
Awareness	7	.839
Perception	7	.858
Interest	7	.892
Total	21	

Sources:-own survey questionnaire 2016.

4.4. Correlation Analysis on Level of Awareness Perception and Interest to Use moringa

As shown in table 4.4, the levels of awareness on the overall benefit have positive correlation with perception on its effectiveness and interest to use the plant for different reasons and purposes. According to Field's (2005) classification, the perception toward the benefit and its effectiveness to ward moringa (r=.680**), and interest to use the plant for different purpose have correlation of (r=.536**) showing there is appositive and strong relationship between awareness, perception and interest to use the plant.

Table 4.4. Correlation Analysis between Level of Awareness Perception and Interest to Use the Product for Different Purpose

		awareness on the benefit of moringa	perceptions on the benefit of moringa	Interest to use the plant
awareness on the benefit of moringa	Pearson Correlation	1	.680**	.536**
	Sig. (2-tailed)		.000	.000
perceptions toward the benefit of moringa	Pearson Correlation	.680**	1	.931**
	Sig. (2-tailed)	.000		.000
Interest to use the plant	Pearson Correlation	.536**	.931	1
	Sig. (2-tailed)	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed). where n =276

Sources:-own survey questionnaire 2016.

4.5. Factor Analysis on level of perception to ward moringa benefit.

To investigate the influence of awareness of moringa benefit on perception toward the plant benefits ,7 questions are forwarded as shown in Table 4.5 analysis of the obtained matrix, it appeared that a considerable number of correlation coefficients are greater than 0.3. Secondly, the KMO value of level of perception is 0.726 and the Bartlett's test reaches statistical significance (p=.0000). These results suggest that the factor analysis that can be set up for further investigation.

Table 4.5. KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.726
Bartlett's Test of Sphericity	2115.567	2162.306
	28	28
	.000	.000

Sources:-own survey questionnaire 2016.

As shown in Table 4.6. Two factors identified which explain 81.608 % of level of perception on the benefit of moringa and after rotation the distribution of the variance explained has been adjusted. The first two components having eigen-values 1, are (5.498 and 1.316) this portray that the first component takes the largest portion of the variation: 64.407 %, while the second component accounts for 17.201% variance. The results explain that the first component is the first-best summary of linear relationships shown in the data.

Table 4.7: Total Variance Explained of Awareness

Total Variance Explained[a]

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.498	68.725	68.725	5.153	64.407	64.407
2	1.316	16.446	85.172	1.376	17.201	81.608
3	.575	7.187	92.359			
4	.315	3.934	96.292			
5	.201	2.514	98.807			
6	.048	.599	99.405			
7	.048	.595	100.00			

Extraction Method: Maximum Likelihood.

Sources:-own survey questionnaire 2016.

The result in table 4.7. shows only factor loading that equals or greater than $\pm$ 0.55 are considered as "good", while loadings that less than that are regarded as "fair" to "poor". Based on these results, we can conclude that the high factor loadings obtained are relatively significant.

Two factors identified which explain 68.683 % of awareness dimension and after rotation the distribution of the variance explained has been adjusted. The first two components having eigenvalues 1, are (2.869 and 1.939) this portray that the first component takes the largest portion of the variation: 37.681%, while the second component accounts for 21.484% variance. The results explain that the first component is the first-best summary of linear relationships with 59.165% variance.

Table 4.8: Total Variance Explained perception

Total Variance Explained[a]

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.869	40.984	40.984	2.638	37.681	37.681
2	1.939	27.699	68.683	1.504	21.484	59.165
3	.906	12.944	81.627			
4	.718	10.262	91.889			
5	.286	4.079	95.968			
6	.218	3.114	99.082			
7	.064	.918	100.000			

Extraction Method: Maximum Likelihood.
Sources:-own survey questionnaire 2016.

As shown in the table 4.8 factor loadings that have high loading values that indicating strong association between the variables and the respective items have clear association with the component that they are clustered into: factor 1. For the other loadings indicate lack of association.

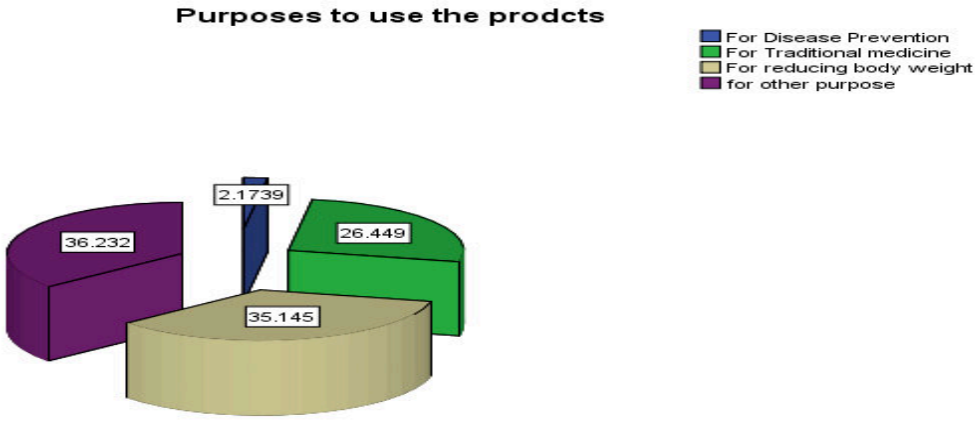

Figure 4.1. Major Purpose to Use the Plant by City Resident

Sources: Survey questionnaire 2016.

As the above table shows , among the respondents majority of them are using the plant as erosion controlling and wind barrier(36.2%) , reducing ,body Weight(35.1%) , for traditional medicine(26.4) , diseases prevision(2.2%) respectively . showing there is utilization but gaps are still exist on using the pant for different purpose.

Table 4 .9.Respondents classification based on Age * purpose to use the product Cross tabulation

		For what purpose do you use the product?				Total
		For Disease Prevention	For Traditional medicine	For reducing body weight	for other purpose	
Respondents classification based on Age	25-34	2	15	11	17	45
	35-44	3	40	56	63	162
	45-54	1	18	30	20	69
Total		6	73	97	100	276

Sources:-own survey questionnaire 2016.

The cross tabulation shows, majority of the responded form age group of 35-44, 56 of them were used for reducing weight , whereas , 66 respondents form this age category were used the plant for differ purpose

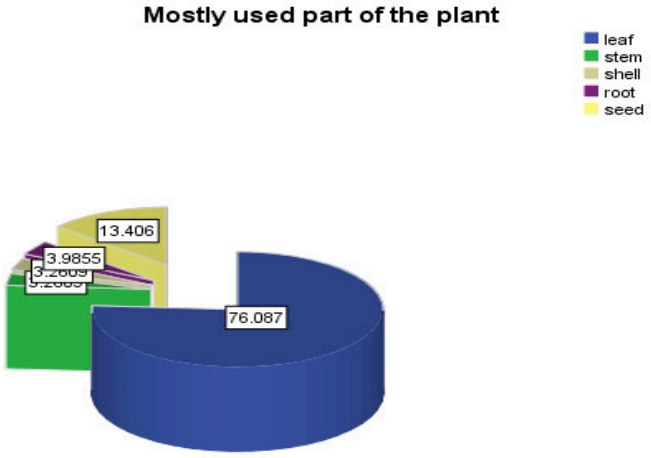

figure 4.2 ; Most used part of the plant
Sources:-On Survey questionnaire 2016.

210 respondents who said they use leaf of the plant, 73.6% of there were using in the form of powder whereas, 26.45 of using the raw leaf for different purposes

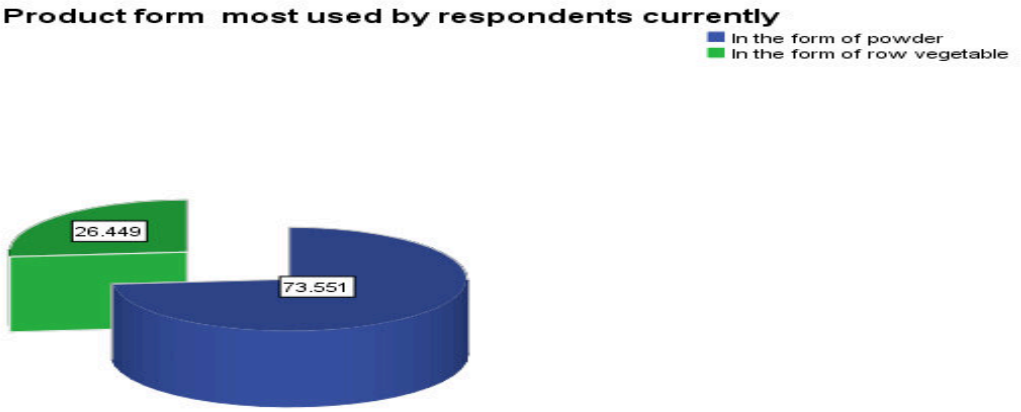

Figure 4.10.product form mostly used by the consumers
Sources:- survey questionnaire 2016.

With regarding to the sources where they get the processed powdered moringa, of 155 respondents who use moringa powder, 77 of them were accessed the product form other places, where as 63 of them were get the product from dire Dawa small and medium enterprises that engaged in processing and packing of the product and the rest 15 respondents were accessed the powder form shops located in different part of the city .see fig4.11.and table 4.21.

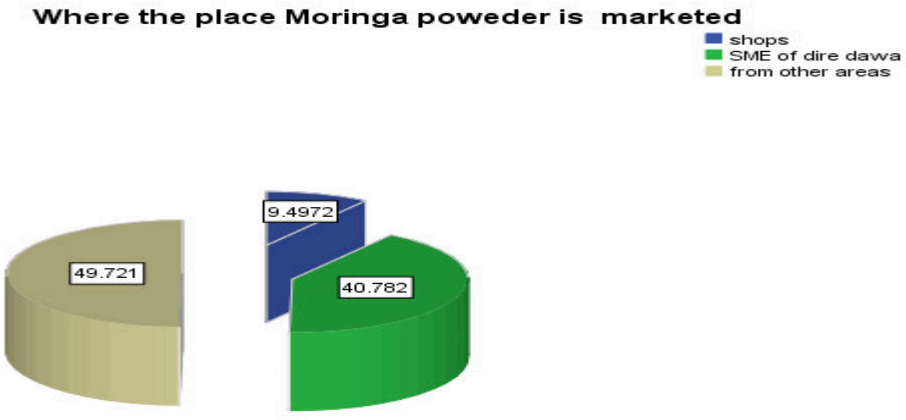

Figure 4.3:-.market accessibly to the plant
Sources:-won Survey questionnaire 2016.

Table 4.10. For which reasons have you used the product /plant you can have multiple answer

Attributes	Frequency	Percent	Ranks
Treatment of headaches and fever	94	34.05	6
For treatment of, Diarrhea and intestinal worms	145	52.53	5
For treatment of wound healing	24	8.69	7
for treatment of skin infection and prevision	12	4.34	8
Blood pressure	272	98.55	2
Chest congestion and Respiratory disorders	241	87.32	3
Diarrhea and intestinal worms	232	84.1	4
Diabetes	276	100.0	1

There were 27 potential benefit of the plant were presented in the questionnaire, of which the following are only selected, as it shows of total respondents

As table 4.32 shows, majority of the city dwellers are using for diabetes treatment followed by blood pressure, chest congestion and Diarrhea and intestinal worms as shown in the table.

Analysis of data collected from Interview

Under this section, the analysis is conducted on the data collected through interview based on ten semi-structured questions with the bureau of agriculture and forestry and themes were identified to categorize these data in light of the aims and objectives of the research. This section, therefore, explores and describes the degree of support and working to promote and repent the plat soc-o economic benefit of the plant for the community as whole there practice to support SME and investors who are willing to invest on the area.

In over all, pertaining to the concept of moringa multi benefit .i.e. as food (both for human and animals) medical values, environmental protection and other benefits; agricultural bureau of the administration , environment and climate change resilience office , and the administration small and medium enterprise claimed there organization knows the overall benefit of the plant though they are not working in promotion and expanding the plant benefit to community increasing its value as economic and social cases. Also the agricultural bureau manager the plant is growing in all thirty eight rural kebeles and nine urban kebeles of the administration because the agro ecological zone is suitable for production of this plant though there is no such special emphasis given to the specious but as any plant the bureau were distributing the plant during plantation season but no such strong special cases were given to the plants because The first reason is still know there is no such strong strategic guide line and emphasis given to the plant depending to the benefit second there is luck of human power and disintegration and luck of organized work on its area are the major problem also Still now there is no such ruling guideline developed by both at national or administration level and the consideration regarding to the utilization of the plant benefit is not such attractive.

Still now no government plan is develop to exploit the plant but recently self initiated investors were asking the bureau to help them to provide plant species to engage in commercial production similarly with the initiation of non government organization there was training providing for SME on how to cook and process moringa focusing on value adding activities but not continuing as planed because of luck of strong follow up ware is done by the bureau but, in some rural area they are using it as food for their animals and in the city resident are consuming in the form of moringa tea but not as such.

In all kebeles the plant is available and the community are using the plant for different purpose and also they have stated the different benefit of the plant form food to medial form disease prevision to environmental protection but the effort to plant to promote even in degraded part of the area where there is shortage of water is very low is low despite the plant nature that have high drought resistance and suitable for such environment. but there is a plan under the community based forestry development project that aims benefiting the community through environmental protection and ensuring economic benefits since the demand is increasing in main city of the country and have international demand **by** utilizing the regional advantage of growing such plant for different purpose were the area largely expose to drought and water shortage.

In terms of converting the plant in to economic benefit only two city small and medium were engage in moringa production and packaging

Discussion and recommendation

The findings shows, majorities (56.9 %) of the survey's participants were males and 58.7% (162) were aged in between 35-44, 16.3% All of them were educated. Majority of the respondents (97%) consider as a potential market for the plant and have knowledge on the benefit of the plants however when we triangulate the data from the benefit of the plant there knowledge toward the plant is limited to 10 elements though more than 27 moringa benefits are provided for choices and majority of them were knew the benefit of the plants from 119 (43.1%)

friends, relatives family and others and only.

On the benefit of the plant vs. willingness to pay The mean scores show that there is very high level of awareness on moringa benefit for food and medical plant with mean of 4.20 and 4.45 score respectively whereas with the mean of 2.69 and 3.1 respondents have a medium awareness level on the use of the plant as disease prevention and wind barrier . in contrary there is high interest by respondents to use the plant for food , disease prevention , traditional medicine and insect side with the mean of 4.6 ,4.3 ,4.2 and 4.3 respectively . Finally, the interest to use the plant as food, disease prevention, and traditional medicine were very high and the willingness to buy processed moringa and willingness to pay for perceived benefit of moringa is very high showing there is high demand for the product.

Also the levels of awareness on the overall benefit have positive correlation with perception on its effectiveness and interest to use the plant for different reasons with (r=.680**p= .000),(r=.931** p=.000) and (r=.536** p=.000) showing there is appositive and strong relationship between awareness, perception and interest to use the plant.

in terms of using of the plant parts in the city, (36.2%) use the plant for shading in there yard,, reducing ,body Weight(35.1%) , for traditional medicine(26.4) , diseases prevention (2.2%) respectively . showing there is utilization but gaps are still exist on using the pant for different purpose. and 76.1% of the respondents were mostly use leaf of the plant were as 13.4% of the respondents were using the seeds of the pant. meanwhile ,Of 76.1 % of respondents who use the leaf , 73.6% of there were using in the form of powder whereas, 26.45 of using the raw leaf for different purposes. in terms of product accessibility in the market fir processed moringa, of 155 respondents who use moringa powder, 77 of them were accessed the product form other places, where as 63 of them were get the product from dire Dawa small and medium enterprises 15 respondents were made by themselves.

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