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EASTERN ETHIOPIA

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Abstract

The study sought to empirically analyse the socioeconomic vulnerability of street vendors in Dire Dawa city, Eastern Ethiopia. A cross-sectional survey was conducted with 198 vendors who were selected using multi-stage Time-Location Sampling procedures from six street vending cluster sites and included the itinerant vendors in the city. Data were analysed using Dabir-Alai's (Dabir-Alai, 2004) and Brata's (Brata, 2010) vulnerability analysis frameworks; but with little modification. This study; however, departs from the above two as it included more elements of vulnerability, has used descriptive statistics such as mean and standard deviation to determine the level of vulnerability and inferential statistics i.e. Chi-Squares to test whether vulnerability is associated with some physical, demographic, and socioeconomic characteristics of vendors. The results showed that vulnerability was higher for street vendors as higher proportion of vendors lay on the high end of the spectrum of vulnerability. However, it was varied with sex, type of goods vended, frequency of attendance of vending cluster sites and type of goods; but, not with the location of vending. At the end, the article discusses the need for proper understanding of vulnerability of vendors and implementation of inclusive and participatory approaches in management and governance of urban public spaces upon which the livelihoods of vendors largely depend in the city.

Keywords: street vending, livelihoods, vulnerability, time-location sampling, Dire Dawa

1. INTRODUCTION

Research on the urban informal economy has relatively long tradition in cities of the global south. Since its discovery by Keith Hart in a study conducted in urban Ghana (Hart, 1973); and the International Labour Office (ILO) study of the sector in Kenya (ILO, 1972), it has received a considerable attention and hence extensive studies have been published since then (For Example, Portes, 1985; De Soto, 1989; Brown, 2006; Bhowmik, 2010; Chen, 2012; Neuwirth, 2012; William & Youssef, 2014). For almost five decades, one of the most popular concerns in urban informality literature is the vulnerability of workers in the sector (Steel, 2008; Etzold, 2015; Dasgupta & Lloyd-Jones, 2018). Recent developments have revealed that the

sector is an integral element of and a positive force in the overall urban socioeconomic development (Bhowmik, 2010; Neuwirth, 2012). Nevertheless, the illegal and informal status of workers in the sector makes their working condition precarious and their livelihood more vulnerable in cities of the developing countries (Njaya, 2014).

There are numerous studies that documented the vulnerability of the informal sector workers, in general, and street vendors, in particular, in cities of the developing countries (Suharto, 2002; Dabir-Alai, 2004; Amis, 2005; Kayuni & Tambulasi, 2009; Brata, 2010; Njaya, 2014; Etzold, 2015; Nzeandibe, & Mbah, 2015; Dasgupta, & Lloyd-Jones, 2018). For example, a pioneer empirical study by Dabir-Alai (2004) on the economics of vulnerability of street vendors in Delhi in the late 1990s came up with an interesting quantitative analysis of the vulnerability of vendors. This study has found various levels of vulnerability for different groups of street vendors selling various goods and services. Similarly, a study based on survey of food vendors, non-food vendors and service providers by Brata (2010) in Yogyakarta, Indonesia, was another step forward in the analysis of the vulnerability of street vendors. This study has revealed that most of street vendors in Yogyakarta experienced moderate level of vulnerability. But, vulnerability of food vendors tend to be higher than other vendors and it varied among the locations of vending in Yogyakarta.

Çarkoglu and Eder (2006) have found that many factors could determine the informality and economic vulnerability of the informal sector. For instance, as to Africa Centre for People Institutions and Society [ACEPIS] (2018), the vulnerability of the sector in Nairobi was a reflection of neglect of the sector and exclusive social and economic policies. In line with this, Asiedu and Agyei-Mensah (2008) have explored the vulnerability of street vendors where most of them were continuously 'on the run' to escape harassment, assault and seizure of goods by the city authorities in Accra. In Tanzania, confrontations between street traders and local authorities was common which has more often led to the loss of the vendor's products and money, making them vulnerable to income poverty (Mramba, 2015). In Malawi, the vulnerability of vendors was associated with political transitions where political transitions (for example, election times) make them more vulnerable than other times (Kayuni & Tambulasi, 2009). Jimu (2004) acknowledges that the street vendors were vulnerable to income irregularities and other socioeconomic shocks, social dislocation, sexual violence and crime. Unlike some Asian researches (For example, Dabir-Alai, 2002; Brata, 2010), the existing studies on African cities largely focused on describing the vulnerability of vendors.

In Ethiopia, informality is rampant in almost all sectors in the urban areas (Fransen and Van Dijk, 2008; Central Statistical Agency (CSA), 2018). However, there are few studies that documented the types of risks and the vulnerability of street vendors in larger urban centres, like Addis Ababa, Hawassa, Mekele, Dessie and Jimma (For example, Jonga, 2012; Bizuneh, 2012; Sebsib, 2015). Jonga (2012) has observed

that though street vending was pervasive at *Megenagna Square*, one of the sites of street vendor agglomerations in Addis Ababa; vending was found to be precarious informal activity. This is because of municipal regulations governing public spaces and business. Consequently, vendors have always been harassed by the police, established businessmen and subjected to confiscation of their merchandises and frequent evictions from vending spaces. In line with this, Bizuneh (2012) has pointed out the neglect of informal sector in the national development policies, strategies and initiatives that consider street vending as an illegal and unproductive activity. Nevertheless, there is limited understanding of the level of vulnerability of vendors in the context of the cities and towns of Ethiopia. The extent of vulnerability of street vendors, for example in Addis Ababa, was observed and well explained in *The Reporter* Newspaper as follows:

....at certain moment you would notice that all street vendors have collected their goods on display and running in different directions, that is when they have sighted security people coming. Those who caught beg for mercy or even offer bribes to the security officers to have their seized merchandise released while the rest of them are trying to hide. The street vendors will do anything to escape from the security; they even jump in front of a moving car because they want to make it home with their merchandise safe with them. But, once the security people have left, the vendors return to their places and start calling out for buyers (The Reporter, 16 May, 2015).

The Reporter's observation clearly demonstrates the day-to-day vulnerability of vendors and strategies they employ to sustain their livelihood by earning from vending on the streets of the city. As it is true in many cities of the global south, this is due to "their position is often fragile, dependent not only on uncertainties of passing trade but also vulnerable to exploitative behaviours of those with power to enforce oppressive regulations" (Amis, 2005:145). This is a clear indication that their livelihoods are vulnerable almost daily. This is due to the fact that, most of the time; they are on the move when confronting with city agents, the police and code enforcement personnel. In Ethiopia, there remains little understanding of the livelihood trajectories of vendors and their needs and challenges remain unaddressed as no empirical study has attempted to analyse the level of vulnerability of vendors in Ethiopian cities.

This article therefore analyses the socioeconomic vulnerability of street vendors in Dire Dawa city, Eastern Ethiopia. In order to empirically determine their socioeconomic vulnerability, the researcher has followed Dabir-Alai's (Dabir-Alai, 2004) and Brata's (Brata, 2010) frameworks of vulnerability analyses but with little modification. This article attempts to reveal the level of vulnerability of street vendors to livelihood risks, insecurities and adversities. Following Yatmo (2008), we argue that though street vendors make

significant contributions to the urban economy, being treated as *out of place urban elements*, they largely remain highly vulnerable as individual economic agents and group of people. It is hypothesised that their vulnerability partly may emanate from their overall condition (social, economic, personal characteristics) and partly from the institutional and legislative frameworks which is reflected in governance and management of public spaces and businesses of the city. This study attempts to address this gap by empirically analysing the level of vulnerability of vendors in Dire Dawa city.

2. STUDY CONTEXT AND METHODOLOGY

2.1. Context

The study was conducted in 2016 in Dire Dawa city, with a follow-up field work during March 2019 as part of Urban Studies Foundation (USF) International Fellowship Programme, at about 505kms to East of Addis Ababa. The city was founded as a railway station following the completion of Ethio-Djibouti railway line in 1908 (Baldet, 1970). It is the second largest city next to Addis Ababa having a total population of about 465,592 (CSA, 2013, forecast for 2017). It is a multiethnic city where no single ethnic group constitutes more than half of the total population of the city (Asnake, 2014) and has cosmopolitan nature as people from different backgrounds including foreign nationals used to live in peace (Shiferaw, 1989). Most of the people of the city are migrants from different parts of the country (Dire Dawa Administration Bureau of Finance and Economic Development [DDA BoFED], 2017). The most dominant functions of the city are transport and commerce (Solomon, 2008). It is particularly known for informal cross-border contraband trade in Eastern Ethiopia. Street vending, on the average, accounts for 33 percent of total informal employment in Dire Dawa city (CSA, 2018).

In this study, vulnerability context implies the insecurity or wellbeing of individuals in the face of changing social, economic, political and environmental conditions. It is exposure to sudden shocks, long term trends or seasonal cycles (Moser, 1996). In other words, it is the context in which people engage in various livelihoods. Thus, it can shape the external environment in connection with certain livelihoods activities and affects the livelihoods of the people and the poor. In connection with the above, the city of Dire Dawa has been prone to flash flooding that overflows the spaces where vendors tend to concentrate. For instance, in 2006, it had a devastating effect on all businesses including vending as most markets are located in prone areas.

The prevalence of high unemployment coupled with high influx of youth in-migrants are the other aspects of vulnerability. The city has not been able to provide adequate employment opportunities the growing

labour force. Despite the efforts made to create jobs mainly in the Micro and Small Enterprises (MSEs), unemployment levels remained the highest among the major urban centres of the country.

2.2. Research Methodology

The data for this study was generated by using survey in Dire Dawa city. As street vendors are difficult to capture using conventional sampling procedures, a different technique has been suggested to study them (Verma, 1999; 2013). Thus, multi-stage Time-Location Sampling (TLS) procedure was employed in this study. Time-Location Sampling has been used to study hard-to-reach segments of the population, predominantly in demographic and public health studies (Karon, 2005; Population Service International (PSI), 2007; Kalton, 2009; Karon & Weijnert, 2012). In Ethiopia, it was used to investigate the role of social capital for the informal sector workers (example, Getahun and Odela, 2014). Based on initial field observation, it appeared that street vending is location-sensitive business which is associated to a higher degree with the specific function of the area. Thus, three major principles that dictated the selection of vending cluster sites. Firstly, the intention was to include the major street vending cluster sites identified through initial field observation. Secondly, itinerant vendors should be included. Thirdly, as much as possible the selection procedure should ensure representatives which had to make statistical inference possible.

The approximate number of street vendors who vend in the identified places, based on data from municipal offices was about 1650. This is used as sampling frame to draw sample street vendors. It was, again, assumed that the above vendors attend respective places during peak hours of vending. It was identified that street vendors work the whole week but their concentration is higher in the morning from 10:00am to 1:00pm and in the afternoon from 4:00pm to 7:00pm for both weekdays and weekends. The sampling framework thus consisted of Venue-Day-Time Units (VDT) or Primary Sampling Units (PSUs) since these considered representing the potential universe (vendors) of venues, days and times.

The primary data collection involved observation, questionnaire survey with 198 street vendors. Analysis of data was made using quantitative techniques. Survey data was analysed using descriptive statistics and Chi-Square (χ^2) test was used to analyse the vulnerability based on various socioeconomic, demographic and physical elements.

DEMOGRAPHIC & SOCIOECONOMIC PROFILE OF VENDORS

Survey results reveal that sex distribution of respondents was overwhelmingly male (62.1%) versus female (37.9%). In terms of age distribution, the majority of the respondents (60%) were young, below thirty years, when the 31-40 age group is included, the figure goes slightly over 4/5th of the total and the remaining, 16.7% of the respondents were in 41 years and above. Looking into marital status, slightly

over half of the respondents were single (54%) while slightly over one-third (33 %) were married, (3%) were divorced, separated (3%) and the widowed (7%). The religious affiliation of respondents showed that 45.3 % were Muslim, 28.3 % were followers of Orthodox Christianity, 17.7% were Protestants, 3% were Catholic and 5.6 % do not fall under either of the above categories. Illiterate street vendors accounted for about 22% while 11% were able to read and write. Among literate ones, those who have some primary education were over one-third (36%), followed by those with secondary education (27%) and some tertiary education (4%). Previous occupation of vendors shows that about 31% of the selected street vendors were students, 21% were private employees, 16% were famers, 14 % were merchants (Engida, 2017).

CONSTRUCTING VULNERABILITY INDEX

Probably the first empirical analysis of vulnerability was made by Dabir-Alai (2004) on street vendors in Delhi in the late1990s. He used seven elements for constructing the vulnerability index. These included earnings, bullying, dependants, formal education, long hours, relationship with supplier/creditor line and spatial isolation from the kin. Age, gender, migration status and principal/agent status were also considered in the analysis. On the other hand, a study by Brata (2010) made some modifications to Dabir-Alai's variable and added three elements to make the total elements ten. The added elements included distance from the house to work place, not full ownership of business and not membership in vending association (both formal and informal).

In this study, however, little modifications were made to the above and eight important elements were added to empirically analyse vulnerability of street vendors in the city. Totally, eighteen variables/elements were included in this study. The full list elements include no/low education, has dependants, is migrant, not owner of the house, no prior business experience, not full owner of the business, has poor relationship with supplier/creditor, work long hours, faced harassment, eviction or seizure/confiscation, does not save, not member in association, earnings lower than average, few of stay in vending business, young or old, not married, ethnic Amhara or Oromo and vending away from the existing market centres.

Based on binary counts of vulnerability elements, a simple formula was used to compute a composite index of vulnerability. The index is, therefore, calculated as the sum total of binary values for each vendor. For example, if a vendor's value for all elements is 1, then the index will be eighteen. If all elements are "0", then the index will be zero, since the index consist of eighteen elements, it is recalculated by dividing the total number of vulnerability elements to make the highest value "1". For the sake of simplicity, these ranks were grouped into six classes: acutely vulnerable, extremely vulnerable, strongly vulnerable, vulnerable, mildly vulnerable and weakly vulnerable. The binary elements of vulnerability index are provided in the Table 1.

TABLE 1 - ELEMENTS OF VULNERABILITY OF STREET VENDORS IN DIRE DAWA CITY

Elements of Vulnerability	Binary value	Underlying Justification
Self-Reported Monthly income is lower than sample average (VE ₁)	No=0; Yes=1	Demonstration effect, conspicuous effect (Dabir-Alai, 2004; Brata, 2010)
Having no regular experience of saving in anyway (VE ₂)	No=0; Yes=1	Unlikely/likely to feel financially secure/insecure (Dabir-Alai, 2004; Brata, 2010)
Have at least one dependant (VE ₃)	No= 0; Yes=1	Opportunity/less opportunity for mobility through taking risks (Dabir-Alai, 2004; Brata, 2010)
Have no secondary or beyond education (VE ₄)	No= 0; Yes=1	Greater/less opportunity to exploit economic and other opportunities (Awol, 2000; Dabir-Alai, 2004; Brata, 2010)
Working hour is higher than or equal to average of the sample (VE ₅)	No= 0; Yes=1	Suggesting a better/low overall hourly rate average net profit (Dabir-Alai, 2004; Brata, 2010)
Migrant (VE ₆)	No= 0; Yes=1	Suggesting challenge/problem of adjustment/integration (Sosina & Holden, 2014)
Live in rented house (VE ₇)	No= 0; Yes=1	Suggesting the effect rent escalation that may negatively affect the income
Not full owner of the business (VE ₈)	No= 0; Yes=1	More/less independent in running the business
No prior business experience in the family (VE ₉)	No= 0; Yes=1	More/less business skills. Business Experience is important success factor (Muzaffar, et al., 2009; Otoo, et al, 2012)
Poor relationship with creditor/supplier (VE ₁₀)	No= 0; Yes=1	High/low probability to get loans/supply when needed (Dabir-Alai, 2004; Brata, 2010)
Has no other source of income/livelihood (VE ₁₁)	No=0; Yes=1	High/low vulnerability when vending is in crisis
Faced harassment, eviction or confiscation, etc (VE ₁₂)	No= 0; Yes=1	Business more/less vulnerable to loss
Duration of stay in vending business is less than five years (VE ₁₃)	No= 0; Yes=1	High/ low mastery of vending business
Not member of any association (X ₁₄)	No= 0; Yes=1	More/less opportunity to improve bargaining power provided by association (Brata, 2010)
Young or getting older (VE ₁₅)	No=0; Yes=1	Being younger or older may increase vulnerability
Ethnic Amhara or Oromo (VE ₁₆)	No=0; Yes= 1	Being a <i>Guraghe</i> increases profit compared to <i>Amhara</i> and <i>Oromo</i> (Getahun & Odella, 2014)
Not Married (VE ₁₇)	No=0; Yes=1	Married vendors perform better than unmarried (Getahun & Odella, 2014)
Located away from markets (VE ₁₈)	No=0; Yes=1	Less opportunity to access more customers, agglomeration, pedestrian flow

Source: 8 variables are adopted from Dabir-Alai (2004) & Brata (2010) & the remaining are added by author

3. STATISTICAL DESCRIPTION OF ELEMENTS OF VULNERABILITY

The distribution of vendors based on their respective elements of vulnerability are summarized and presented in this section. Presence of vulnerability is represented by score “1” while absence by “0”. Eighteen elements of vulnerability were identified based on review of the literature (Dabir-Alai, 2004; Brata, 2010). However, this study has included some eight new elements of vulnerability. The statistical description of selected street vendors for various variables is presented in Table 2. It presents the distribution of respondents based on scores of vulnerability. The score “1” indicates that the respondent

is completely vulnerable in that specific variable while score “0” indicates the complete absence of vulnerability on the respective element of vulnerability considered.

TABLE 2 - DISTRIBUTION OF RESPONDENTS BASED ON ELEMENTS OF VULNERABILITY

Elements of Vulnerability	No of respondents with score “1” or vulnerable		Number of respondents with score “0” or not vulnerable	
	No	%	No	%
Monthly income ≤sample average	98	49.5	100	50.5
Has no some or regular experience of saving	92	46.5	106	53.5
Has at least one dependent	117	59.1	81	40.9
Has no secondary education	71	35.9	127	64.1
Working hour ≥ sample average	102	51.5	96	48.5
Is Migrant	123	62.1	75	37.8
Live in a rented house	138	69.7	60	30.3
Not full owner of the business	97	49.0	101	51.0
No prior business experience in the family	168	84.8	30	15.2
Has no other source of livelihood/income	161	81.3	37	18.7
Has poor relationship with creditor or supplier	45	22.7	153	77.3
Has faced harassment, eviction, confiscation, etc	83	41.9	115	58.1
Duration of stay in vending < five years	110	55.6	88	44.4
Not a member of any association	153	77.3	45	22.7
Young or getting older	48	24.2	150	75.8
Ethnic Amhara & Oromo	67	33.8	131	66.2
Not Married	133	67.2	65	32.8
Vend away from the market centers	80	40.4	118	59.6

Source: Based on field survey 2016

As presented in Table 2, most street vendors are male, constituting 62%. Women vendors were widespread and usually operate in the morning and evenings. The study focused on six street vending cluster sites and the time used for selection of vendors in the sample was the peak hour of vending. This has led to the over-representation of male vendors in the landscape of street vending in this study.

Another interesting feature is that most of the vendors are rural migrants from other regions. A migrant is defined, in this study, as a person whose birth place is outside of Dire Dawa while recent migrant is defined as a person who migrated to the city within the last five years. Migrants altogether accounted for about 62% of the total sample. This also indicates that street vending is a livelihood option for new entrants, which has low entry barrier in terms of human and financial capitals requirements (Sosina and Holden, 2014).

The dominant ethnic groups engaged in street vending in the city include Guraghe, Oromo, and Somali which accounted 28.2%, 22.2% and 13.6% respectively. Though the Guraghe ethnic group is not among the dominant ones in the city or administration, only accounts for about seven percent; it is among the dominant ethnic groups who engage in street vending in the city (DDA BoFED, 2017). The mean monthly income from vending is 988 Ethiopian Birr (ETB) (\$40 i.e. \$1.3 per day) which is meagre and makes the livelihood of most vendors precarious. About 70% of respondents reported that they live in rented private

houses. However, about half of the respondents own the business. For most respondents, the year of stay in vending was less than five years. Most of the vendors have primary education (36%). This contradicts with the widely held view that states vendors have low education, poor skills, and have low human capital (ILO, 1972; Hart, 1973; Chen, 2012).

Another feature that reveals the precariousness of vendors in the city is that they work for long hours. The average hours worked in a day by a typical vendor is 8.6hrs while they work on the average 6.3 days in a week. Despite the meagre income they earn from vending, they work for longer hours and days to help themselves and their families. About 42% of respondents reported that they experienced either harassment, confiscation of merchandise, paid fines, or evicted from working spaces in the last six months. Another issue that worth considering is there is no vendor's association which could help bargain or negotiate access to space with city authorities and on issues related to formalization and registration and licensing. The above prevalent and persistent condition would put the livelihood of vendor in jeopardy in the city.

From all elements of vulnerability, nine appear to be the most important ones having over half of the score "1", i.e. vulnerable. The remaining were having score "0", i.e. not vulnerable. The top three elements of vulnerability having over 75% of score "1" include lack of prior business experience (84.8%), no other source of livelihoods (81.3%) and not a member of any association (77.3%). Living in rented house, not married and being migrant were also found to be the sources of vulnerability having 69.7%, 67.2% and 62.6% respectively. The remaining three major sources of vulnerability for vendors include at least has one dependent to be supported, duration of stay in vending for less than five years and working hour per day is equal to or greater than the average for the sample.

3.1. Level of vulnerability of vendors in Dire Dawa City

Vulnerability of street vendors has been analyzed using the eighteen elements mentioned in previous section. First, the sum total of the scores computed. Then, the value for each individual has been divided by the total number of elements of vulnerability to the make the value one or less for the sake of simplicity of presentation. Vulnerability was computed using the following formula where "VE" represent each of the vulnerability elements while "N" refers to the total number of vulnerability elements. Thus, the vulnerability index was computed using the following formula.

$$V = \frac{VE_1 + VE_2 + VE_3 + \dots + VE_{18}}{N}$$

Where:

V refers to a composite vulnerability index.

VE_{1,2,3..} are vulnerability elements.

N refers to the total number of vulnerability elements.

Then, descriptive statistics computed. Accordingly, the mean vulnerability was 0.53 while the standard deviation is 0.13. Thus, using the mean and standard deviation, the level of vulnerability of vendors was determined as mean plus or minus standard deviation. The cut point values are determined based on the above.

When the computed value of vulnerability lies below 0.14 that means the vendor is not vulnerable, if it is between 0.15-0.27, the vendor is mildly vulnerable, if it is between 0.28-0.40, the vendors is mildly vulnerable, if the value is greater than the 0.41, then the vendors is either strongly, extremely or acutely vulnerable as presented in Table 3.

TABLE 3 - DETERMINATION OF LEVEL OF VULNERABILITY OF VENDORS IN DIRE DAWA CITY

Formula (Mean ± (X)SD)	Description of computation (cut-points)	Range of vulnerability	Descriptor of Vulnerability Level
Mean-3 (SD)	0.53-3(0.13)=0.14	0.00-0.14	Not Vulnerable
Mean-2 (SD)	0.53-2(0.13)=0.27	0.15-0.27	Weakly Vulnerable
Mean-1 (SD)	0.53-1(0.13)=0.40	0.28-0.40	Mildly Vulnerable
Mean+1 (SD)	0.53+1(0.13)=0.66	0.41-0.53	Vulnerable
Mean+2 (SD)	0.53+2(0.13)=0.79	0.54-0.66	Strongly vulnerable
Mean+3 (SD)	0.53+3(0.13)=0.92	0.67-0.79	Extremely vulnerable
Mean +3(SD)+	0.53+3(0.13)+	0.80-1.00	Acutely vulnerable

Source: Computed based on vulnerability elements

Figure1 shows the level of vulnerability of vendors in the city. As expected, greater portion of street vendors found to be vulnerable.

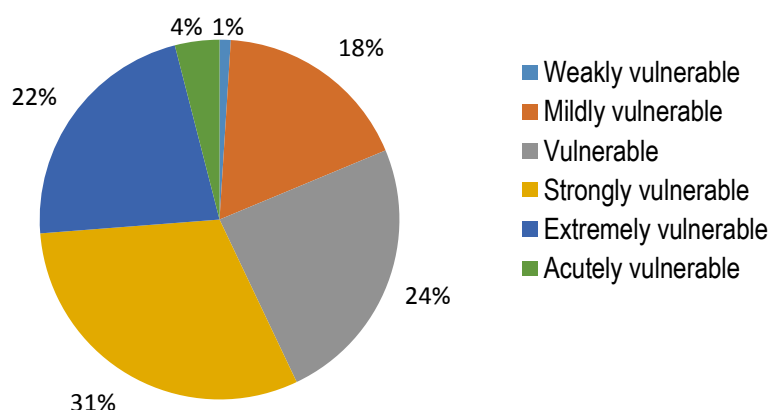


FIGURE 1 - DISTRIBUTION OF THE VULNERABILITY OF VENDORS IN DIRE DAWA CITY

Source: Computed based on vulnerability elements

It appears from Figure 1 that most vendors found to be vulnerable. If we specifically combine the last four (from vulnerable to acutely vulnerable) altogether, it accounts for about 80 percent. This finding contradicts with that of Dabir-Alai (2004) and that of Brata (2010) where they found that street vendors were vulnerable to the 'medium level' in Delhi and Yogyakarta cities respectively. The findings, in this

study, suggest that the livelihoods of vendors in Dire Dawa city vulnerable due to their demographic, socioeconomic and business characteristics. Vulnerability is found to be low for 19 percent of respondents as about 18 percent were mildly vulnerable and only one percent of them were weakly vulnerable. When seen separately, about 31 percent of vendors were strongly vulnerable, 24 percent were vulnerable, 22 percent were extremely vulnerable and only 4 percent of respondents were acutely vulnerable. A more detailed level of vulnerability of street vendors shall be discussed in the following section. The detailed elucidation was made primarily on account of sex, location, type of goods/services, and frequency of attendance of vending cluster site.

3.2. Vulnerability of vendors based on Vending Location

In many cities, street vendors choose to be in most convenient/profitable/accessible locations in the city where they would get large number of potential customers. These locations provide best prospect for vendors to take advantage of pedestrian flow and traffic jam by slowing them down. These kinds of places, in most cases, include areas near the Central Business District (CBD), close to the formal market centres, transport nodes, bus stations, areas close to institutions like hospitals, schools and religious institutions like churches and mosques. The level of access to these spaces and use thereof could largely determine the level of vulnerability of vendors. Table 4 presents the level of vulnerability of vendors based on vending location-whether they vend close to or away from the existing markets in Dire Dawa city.

TABLE 4 - VULNERABILITY OF VENDORS BASED ON VENDING LOCATION

Vending away from existing markets	Level of vulnerability						Total
	Weakly vulnerable	Mildly vulnerable	Vulnerable	Strongly vulnerable	Extremely vulnerable	Acutely vulnerable	
Yes	0 (0.0)	11 (13.8)	14 (17.5)	29 (36.2)	23 (28.8)	3 (3.8)	80(100)
No	2 (1.7)	24 (20.3)	34 (28.8)	32 (27.1)	21 (17.8)	5 (4.2)	118(100)
Total	2 (1.7)	35 (17.7)	48 (24.21)	61(30.8)	44 (22.2)	8 (4.0)	198(100)

NB: Values in parentheses are percentages and 100% value refers to row total.

In Dire Dawa city as street vendors usually tend to concentrate near the formal established markets, here an effort has been made to check whether vending close to the markets was associated with level of vulnerability. Accordingly, vendors who work close to the markets were compared with those who work away from. A chi-square test was performed and no association was found between level of vulnerability of vendors and location of vending ($\chi^2=8.94$; $df=5$; $P<0.112$). The result suggest that working either close to the existing markets or away from these could not bring any substantial difference in the level of vulnerability of vendors in the city. In other words, vulnerability of vendors depends not only on proximity of vending site to the market but also other socioeconomic, demographic and business characteristics.

This further indicates that regardless of the location where they frequently vend, street vendors are more or less equally vulnerable in Dire Dawa city.

3.3. Level of vulnerability by type of goods vended

The type of goods and services vended by vendors could possibly be the source of their vulnerability. The starting proposition is that level of vulnerability varies by type of goods and services vended in the city. Thus, type goods and services vended by vendors was crosstabulated against level of vulnerability and presented in Table 5.

TABLE 5 - LEVEL OF VULNERABILITY OF VENDORS BY TYPE OF GOODS VENDED

Level of vulnerability	Type of items vended			
	Fruits & vegetables	Food & drinks	Goods (new and second hand)	Total
Weakly vulnerable	0(0.0)	0(0.0)	2 (100)	2 (100)
Mildly vulnerable	6 (17.1)	10(28.6)	19(54.3)	35(100)
Vulnerable	12(25.0)	4(8.3)	32(66.7)	48(100)
Strongly vulnerable	8(13.1)	4(6.6)	49(80.3)	61(100)
Extremely vulnerable	0(0.0)	3(6.8)	41(93.3)	44(100)
Acutely vulnerable	0(0.0)	2(25.0)	6(75.0)	8(100)

NB: Values in parentheses are percentages and 100% value refers to row total.

As Table 5 presents, vulnerability was found to be higher for vendors of goods (consumer durables) than fruits and vegetables and food and drinks vendors in Dire Dawa city. The chi-square result revealed that there is significant association between level of vulnerability and type of items vended ($\chi^2=30.24$; $df=10$; $P<0.001$). This might be for the reason that consumables have better market than consumer durables in the city. It appears that this finding contradicts with the same study conducted in Delhi, India by Dabir-Alai (2004) and Yogyakarta, Indonesia by Brata (2010). They found that food vendors were more vulnerable than non-food vendors. But in the context of Dire Dawa city, non-food vendors are more vulnerable than food and drinks and vegetable and fruits vendors.

3.4. Level of Vulnerability by Sex of Respondents

Sex of vendors thought to be the source of their vulnerability. Women are usually considered to be more vulnerable than men (ILO, 2002). Here the purpose was to check whether male or female vendors were more vulnerable. Table 6 presents the level of vulnerability for female and male vendors in the city.

TABLE 6 - LEVEL OF VULNERABILITY BY SEX OF RESPONDENTS

Sex of respondent	Level of vulnerability						Total
	Weakly vulnerable	Mildly vulnerable	Vulnerable	Strongly vulnerable	Extremely vulnerable	Acutely vulnerable	
Male	1 (0.8)	11 (8.9)	27 (22.0)	46(37.4)	32 (26.0)	6 (4.9)	123(100)
Female	1 (1.3)	24(32.0)	31 (28.0)	15 (20.0)	12 (16.0)	2 (2.7)	75(100)
Total	2 (1.0)	35 (17.7)	48(24.21)	61(30.8)	44 (22.2)	8 (4.0)	198(100)

NB: Values in parentheses are percentages and 100% value refers to row total.

The result reveals that there is significant association between gender and level of vulnerability as it has been attested by the chi-square test ($\chi^2=22.09$; $df=5$; $P < 0.001$). As male vendors are overrepresented in the study they tend to be more vulnerable than their female counterparts and the finding contradicts with many studies conducted in the context of developing countries (Chen, 2012).

3.5. Level of Vulnerability by Attendance of Vending Site

Access to and use of streets could possibly be associated with the level of vulnerability of vendors. More specifically, the frequency of attendance of a particular vending cluster site could determine the level of vulnerability of vendors given vending is the sole livelihood for the majority of vendors. Thus, an attempt has been made to check whether there is difference among vendors based on their frequency of attendance of the vending cluster sites in which they most often vend. Table 7 presents the level of vulnerability of vendors by their respective frequency of attendance of the particular vending cluster site.

As it has been presented in Table 7, there has been a showcase that clearly demonstrates the decrease in the level of vulnerability of vendors by frequency of attendance of vending cluster sites. Thus, those who regularly attend, five to six days in a week, are the least vulnerable group of vendors while those who reportedly attend one to two days in a week found to be the most vulnerable groups. As streets or public spaces are vital sources, being the most important spatial capital, found to profoundly affect the level of vulnerability of vendors in Dire Dawa city. Chi-square result revealed that the level of vulnerability has significant association with frequency of attendance of particular vending site vendors ($\chi^2=28.39$; $df=15$; $P < 0.05$). This finding suggests that those who regularly attend vending cluster sites are less likely to be vulnerable in the city.

TABLE 7 -LEVEL OF VULNERABILITY OF VENDORS BY FREQUENCY OF ATTENDANCE OF VENDING SITE

Frequency of Attendance of vending site in a week	Level of vulnerability						Total
	Weakly vulnerable	Mildly vulnerable	Vulnerable	Strongly vulnerable	Extremely vulnerable	Acutely vulnerable	
Daily	1 (1.4)	17 (24.3)	23 (32.9)	20 (28.6)	9 (12.9)	0 (0.0)	70(100)
5-6 days	1(1.8)	12(21.1)	13 (22.8)	11(19.3)	16(28.1)	4(7.0)	57(100)
3-4 days	0 (0.0)	6 (13.6)	6 (13.6)	19 (43.2)	10 (22.7)	3 (6.8)	44(100)
1-2 days	0(0.0)	0(0.0)	6(22.2)	11(40.7)	9(33.3)	1 (3.7)	27(100)
Total	2 (1.0)	35 (17.7)	48 (24.21)	61 (30.8)	44 (22.2)	8 (4.0)	198(100)

NB: Values in parentheses are percentages and 100% value refers to row total.

4. CONCLUSIONS AND IMPLICATIONS

This study has empirically analyzed the vulnerability of street vendors in Dire Dawa city, Eastern Ethiopia. Examining street vendors' activities and livelihoods, mainly their socio-spatial position making them

vulnerable and the institutional and legislative structures were constraining their livelihoods capabilities in the city. The analysis has revealed that street vendors of Dire Dawa are highly vulnerable. The chi-square test has shown that vulnerability varied with type of goods vended, sex, and frequency of attendance of vending site, however, not with the location of vending. The analysis surfaced the potential of the framework used to empirically determine vulnerability in different contexts and at different times.

In Dire Dawa city, street vendors tend to congregate on the road junctions near the existing formal open markets to take the advantage of passing pedestrians who visit these markets. Therefore, provision of on-site and off-site vending sites for vendors by the city authorities is highly recommended. This is because subtle control over the vending activities by establishing code enforcement offices and deploying personnel considering and treating them as *illegals* may not necessarily and adequately help alleviate the perceived problems happen to cause due to vendors.

The right to work and right to the city (to space) should be the focus of the strategies and policies adopted to help informal sector workers. For instance, street vendors prefer to work on the streets which are the most profitable location for them to make their livelihoods. Restricting them from accessing public spaces such as streets could not help. For example, relocation of vendors from streets to popular indoor markets has increased the precariousness of the political and social conditions of vendors (Carrieri and Murta, 2011). Therefore, streets are assets for them. This should be properly managed by planning interventions or negotiated.

There should be a move from recognition of the sector in the national surveys and some policy documents to harnessing its transformative role for urban socioeconomic development. Primarily, it can act as a seedbed for near future micro and small entrepreneurs and in the long run owners of medium and large companies. Hence, it can help reduce poverty, unemployment, inequality and generate income and contribute positively towards sustainable development. Ruzek (2015) argues that the informal economy is and can be a catalyst for sustainability. According to him, it can provide social capital, promote local economies, create jobs and help ensure sustainable future. By doing so, it can provide a viable alternative path of development that is needed for sustainable future.

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