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THE PROBLEM OF RANDOMSLAUGHTER IN BAGHDAD AND THE POSSIBILITY OF APPLYING MOBILE SLAGHTERHOUSEES TO REDUCE THEM

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ABSTRACT

One of the most important elements of achieving food security is livestock, which is an essential element in the agricultural sector, and is one of the state support sectors. Animal production (sheep) ranked an important position in this sector due to the economic advantages that are available when rearing. Moreover, the success and development of sheep breeding depend on several factors, including financial return and achieving profitability. The study aims to identify the phenomenon size of random slaughter as a problem, which spread in Baghdad and its causes and the factors that influencing its development. As well as, the possibility of applying the idea of amobile slaughterhouse to reduce this phenomenon (random slaughter), which is under the supervision of the competent authorities, also the method of disposing the slaughtering residues in healthy and safe ways to preserve the environment. The study showed that all beneficiaries of random slaughter are with the idea of mobile slaughterhouse and they are willing to obtain environmental approvals for their work and the health license, as well as their commitment to apply the regulations, laws and instructions issued by the relevant authorities.

Keywords: Random Slaughter, Leather, Pollution.

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مشكلة الذبح العشوائي في بغداد وامكانية تطبيق المسالخ المتنقلة لحد منها

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الخلاصة

ان من اهم عناصر تحقيق الامن الغذائي هي الثروة الحيوانية والتي تشكل عنصرا اساسيا في القطاع الزراعي والذي يمثل احد قطاعات دعم الدولة، ويحتل الانتاج الحيواني (الاغنام) مرتبة مهمة في هذا القطاع ويعود سبب ذلك الى الميزات الاقتصادية التي تتوافر عند تربيتها، وان نجاح وتطور تربية الاغنام يعتمد على عدة عوامل منها المردود المالي والقدرة على تحقيق الربح. تهدف الدراسة الى التعرف على حجم ظاهرة الذبح العشوائي كمشكلة و المنتشرة في مدينة بغداد واسبابها والعوامل المؤثرة على ازديادها فضلا عن امكانية تطبيق فكرة المسالخ المتنقل لحد من هذه الظاهرة

(الذبح العشوائي) والذي يكون تحت اشراف الجهات المختصة وكذلك التخلص من متبقيات الذبح بطرق صحية وسليمة للمحافظة على البيئة. بينت الدراسة ان جميع المستفيدين من الذبح العشوائي هم مع فكرة المسلخ المتنقل وانهم راغبين في الحصول على الموافقات البيئية لعملهم وكذلك الاجازة الصحية فضلا عن التزامهم بتطبيق الانظمة والقوانين والتعليمات التي تصدرها الجهات ذات العلاقة.

الكلمات المفتاحية: الذبح العشوائي، الجلود، التلوث.

INTRODUCTION

The phenomenon of random slaughter outside the systematic slaughterhouse has become a common among people in most neighborhoods and sometimes inside cities. Simultaneously, many residents of the areas and nearby shops requests for tightening the health control over this phenomenon, where these slaughters located in front of people and near their places of residence. As well as, the unresponsiveness to clean up the blood that flowed down the street and throwing slaughtering residues in different places especially during public holidays and national events (DP 2015). However, the slaughterhouse is the place where animals are skinned, treated and processed as meat prepared for eating, where the most well recognized are beef, sheep, pigs, horse meat, goats, poultry of all kinds such as chicken, turkey and duck. In the United States, about 10 billion animals are slaughtered annually in 5,700 slaughterhouses and in a production plant with more than 527,000 workers (Williams 2007). Furthermore, in 2007, only 28.1 billion pounds of beef were consumed in the United States (U.S 2007), and in Canada, about 650 million animals are skinned each year (Slaughterhouses 2014). Additionally, the annual number is 300 million cows, sheep and pigs, plus four billion chickens in the European Union (Stevenson & Peter 2001).

Types of mobile slaughterhouse

The mobile slaughterhouse has two main types:

1- A small slaughterhouse with simple equipment that can be transported by wheel dragging and its capacity (10) sheep per hour, as shown in (Figure 1) (Al-Hudan 2009).



Figure (1): Mobile slaughterhouse with simple equipment.

2-Large size slaughterhouse, which can be classified into two types:

a- The first type, It has a large fridge with an open space as shown in (Figures 2 and 3) where the sheep and cows are gathered and slaughtered, then set a specific date for receipt it after cutting and put it in carton boxes for safekeeping until received and then sterilize the vehicle and around it by spraying disinfectant.



Figure (2): Large slaughterhouse from outside.



Figure (3): Large slaughterhouse from inside.

b- The second type, a wheel specially manufactured as a mobile slaughterhouse also with advanced equipment of mobile crane, air compressor and a location of a dedicated to waste, as well as the availability of water for various uses as in (Figures 4 and 5). The container is madding of steel, covered in fiberglass and installed by pipelines and wires. The truck consists of four parts as hydraulic tailgate, slaughter container, cryogenic container and equipment room, where the temperature inside the refrigerator is 0-4°C, while the air compressor is located outside the container, and the vehicle has an electrical energy generator. As well as, electrical distribution boards, lights, wires, heater, and automatic devices. In addition, the heating system, water and ventilation supply include hot and cold water supply, electric heating systems, storage warehouses, pumps, hand-washing device with the knife sterilizing.



Figure (4): The external shape of the vehicle.



Figure (5): The internal contents of the vehicle.

Random slaughterhouses in Iraq

Citizens are concerned about the spread of diseases and the environmental risks that result from the spread of random slaughterhouses. The report issued by the General Veterinary Company of the Ministry of Agriculture pointed to the presence of more than 7 thousand unsystematic slaughterhouse proliferation all over the Iraq provinces. Anywhere, the Ministry of Agriculture confirmed that the ministry has submitted a draft law to establish a general directorate of slaughterhouses in cooperation with the ministries and related institutions. It was worth to mention that the law of "general slaughter" for regulating the slaughter of cattle and sheep within the Ministry of Agriculture laws but it still inactive, where the General Veterinary Company explained that the multiplicity of responsible authorities within the law wasted the opportunity to apply it. In addition to that, the Mayoralty of Baghdad is conducting an extensive campaign to clearance the phenomenon of proliferation the random slaughterhouses. The Mayoralty pointed out to the need for concerted efforts of the ministries and institutions concerned with the Mayoralty to discarding of this phenomenon, as well as the existence of some obstacles facing the work of the Mayoralty, including the turnout of citizens to the places of direct slaughter and prefer them instead of licensed slaughterhouses (Afif 2013).

Environmental survey of the slaughterhouses sector in Iraq for the year 2013

Central Statistics Organization conducted for the first time the environmental scanning of the slaughterhouses sector in Iraq for the year 2013, which included all the slaughterhouses of Iraq for both types red meat and poultry, which amounted to 194 slaughterhouse, where the slaughterhouses number of red meat were 128, and the poultry meat were 66 slaughterhouses. Anyhow, the slaughterhouses of the private sector constituted for both types the highest percentage of slaughterhouses of 38.1%, while the slaughterhouses of the mixed sector constituted the lowest percentage of 1%. Furthermore, the survey showed that more than a quarter of the slaughterhouses are in residential areas, where the percentage of slaughterhouses in residential areas was 33%, and the proportion of slaughterhouses in industrial and commercial areas 16.5%. Additionally, the urban sprawl was one of the causes that more than half of the slaughterhouses occurred within the basic design of the municipality by 56.7% as shown in (Table 1). The slaughterhouses sector is one of the sectors that have been affected by the conditions that country suffered from, in addition to the neglect of this important sector by the concerned authorities and the dependence on imported meat, which was characterized by cheap prices and turnout the consumers on it. All these and other factors contributed to the



increase in the percentage of stopped slaughterhouses to 48.5% and more than half of them were unqualified in terms of environment and health, with 68.5% (CSO 2014).

Table (1): Number and percentage of total slaughterhouses according to type, sector, location, basic design of municipality and practical status at the level of Iraq for 2013*

Red meat slaughterhouses			Total		
Characteristics		Number	(%)	Number	(%)
Slaughterhouses according to sector	Governmental /Self - management	65	50.8	68	35.1
	Governmental/Investment management	47	36.7	50	25.8
	Mixed	2	1.6	2	1.0
	Private	14	10.9	74	38.1
Total Iraqi slaughterhouses		128	100	194	100
Slaughterhouses according to location	Industrial	13	10.2	26	13.4
	Agricultural	48	37.5	92	47.4
	Commercial	4	3.1	6	3.1
	Residential	58	45.3	64	33.0
	Other	5	3.9	6	3.1
Total Iraqi slaughterhouses		128	100	194	100
Slaughterhouses according to percentage of basic design of municipality	Inside the design	86	67.2	110	56.7
	Outside the design	42	32.8	84	43.3
Total Iraqi slaughterhouses		128	100	194	100
Slaughterhouses according to practical status	Operational, qualified	34	26.6	40	20.6
	Un operational, Qualified	7	5.5	21	10.8
	Operational not, Qualified	56	43.8	60	30.9
	Un operational, not Qualified	31	24.2	73	37.6
Total Iraqi slaughterhouses		128	100	194	100
Slaughterhouses according to practical status	Operational (Qualified ,not Qualified)	90	70.3	100	51.5
	Un operational (Qualified ,not Qualified)	38	29.7	94	48.5
Total Iraqi slaughterhouses		128	100	194	100

*The table from (CSO, 2013)

The percentage of slaughterhouses that received environmental approvals reached only 30%, this decreasing was because most of the slaughterhouses do not applicable for the environmental determinants. As well as, the absence of environmental requirements:

- 1- Shortage and interruption of electric power most of the time.
- 2- Shortage of the number of employees and
- 3- Decreased availability of veterinarians.

As for the slaughterhouses with the health license reached to 42% and only 83.3% of the slaughterhouses, their health license were renewed because the rest of the slaughterhouses did not apply the health conditions as shown in (Table 2)(CSO 2014).



Table (2): Number and percentage of slaughterhouses according to type, obtaining environmental approval, electrical energy source, total employees and veterinarians at the level of Iraq for 2013

Characteristics		Red meat slaughterhouses	
		Number	(%)
Slaughterhouses according to obtaining environmental approval	It has environmental approval	27	30.0
	Got an approved for working continuity	20	22.2
	It has no environmental approval	43	47.8
Total Iraqi slaughterhouses		90	100.0
Slaughterhouses according to electrical energy source*	National electricity	82	91.1
	A slaughterhouse generator	50	55.6
	A generator from outside the slaughterhouse	4	4.4
	Nothing	2	2.2
Total Iraqi slaughterhouses		138	
Total employees in slaughterhouses (except veterinarians)	Males	918	94.0
	Females	59	6.0
Total Iraqi slaughterhouses		977	100.0
Veterinarians working in slaughterhouses	Males	172	92.5
	Females	14	7.5
Total Iraqi slaughterhouses		186	100.0

*The table from (CSO 2013), The number of slaughterhouses exceeds the total number, since one slaughterhouse uses more than one source of electrical energy.

According to statistics of the Central Statistics Organization that the total number of slaughterhouses according to geographical location, as well as governmental and private slaughterhouses licensed and non-licensed, which located within the basic design of the province has reached 27 slaughterhouse as shown in (Tables 3, 4 and 5).

Table (3): Total number of slaughterhouses according to location for 2013 in Baghdad province

Total slaughterhouses according to location					
Industrial	Agricultural	Commercial	Residential	Other	Total
12	13	0	0	2	27

Table (4): Total number of slaughterhouses according to the practical situation for 2013 in Baghdad province

Operational, qualified	Un operational, qualified	Operational, not qualified	Un operational, not qualified	Total
2	1	1	23	27

Table (5): Total number of slaughterhouses according to the design for 2013 in Baghdad province

Total number of slaughterhouses by basic design of the municipality		
Inside design	Outside design	Total
13	14	27



The number of animals that were slaughtered in the red meat slaughterhouses amounted to 1381259 heads of (sheep, goats, cows, buffalo and camels) for 1 year 2013. While the amount of waste resulted from the slaughterhouses of red meat and poultry was estimated at 58.33 thousand tons (CSO 2014). Furthermore, one of the most important sources of environmental pollution is the liquid waste resulted from the slaughterhouses, where the number of slaughterhouses that do not have processing units is 94%, and only 6% of the slaughterhouses own waste processing units. Four of these units are operational but are not used, and one of the reasons for not using these stations was the butchers do not use the hanging slaughter system and prefer to slaughter on the floors. The major slaughterhouses in Baghdad province are not state-owned, and they are the slaughterhouses of al-Shula, al-Karkh and al-Doura, which they all owned by the state company for meat production and marketing that a mixed sector company, and the slaughterhouse of Fadhiliya, it is owned by the Ministry of Commerce (Al-Safi, 2019) as shown in (Table 6)(CSO, 2014).

Table (6): Slaughterhouse percentages possessing dangerous wastes and the disposal methods, which it store their solid waste in a way that prevents leakage to the drainage, soil and air systems for 2013 in Baghdad province.

	Slaughterhouses number	3
Relative distribution of slaughterhouses according to dangerous waste disposal methods	Disposal in the waste collection sites of municipal	0.0
	Burning inside the systematic site (systematic incinerator)	0.0
	Burning inside the unsystematic site (unsystematic incinerator)	0.0
	Random burning inside or outside the site	0.0
	Unsystematic landfill	0.0
	Disposal to neighboring lands	0.0
	Disposal through official authority	0.0
	Septic Tanks	0.0
Slaughterhouse percentages	Slaughterhouses number	3
	used storage as a method of solid waste disposal	0.0
	Wastes are stored in a method that prevents leakage into the drainage, soil and air systems	0.0
	Benefit from green waste or blood as fertilizer after treatment	66.7

The slaughterhouse percentages that have employees specialized in waste management reached 59%, and the slaughterhouse percentages whose their employees participated in training courses was 5.1%, some of these courses were implemented by health audit, local organizations and companies, civil society organizations and veterinary clinics as shown in (Tables 7,8 and 9)(CSO 2014).

Table (7): Number of employees specialized in waste management, number of courses, implementers of the courses and possessing awareness of the dangers of slaughterhouse wastes for 2013 in Baghdad province

Slaughterhouse number	Number of employees specialized in waste management			Number of courses
	Males	Females	Total	
3	9	0	9	0



Table (8): Slaughterhouse percentages has employees specialized in waste management and their numbers by sex, number of courses, implementers of the courses and possessing awareness of the dangers of slaughterhouse wastes for 2013 in Baghdad province.

	Number of slaughterhouse	3
Implementers of the courses	Health audit	0
	Local organizations and companies	0
	Civil society organizations (non- governmental organization)	0
	veterinary clinic	0
Slaughterhouse percentages	Waste management staff have awareness of the dangers of waste on public health and the environment	50.0
	Periodic reports shall be submitted to the competent authorities when problems occur affecting public health and the environment	0.0

Table (9): Slaughterhouse percentages by owning a separate administrative and environmental record, and emergency plan for fires and epidemics and receiving complaints about them and responding appropriately for 2013 in Baghdad province

	Number of slaughterhouse	3
Slaughterhouse percentages according to	Owning a separate administrative and environmental record and it is available upon inspection	33.3
	Emergency plan for fires and epidemics	33.3
	receiving complaints about them	66.7
	Taking appropriate measures to seriously address problems	0.0

The study showed that the lack of water available for the purpose of washing the carcass and their it most necessity of providing it in large quantities for slaughter hock, whether from public water network or rivers water or from other sources as in (Tables 10 and 11)(CSO, 2014).

Table (10): Total amount of water supplied for slaughterhouses according to the source for 2013 in Baghdad province

Slaughterhouses number	Total amount of water supplied for slaughterhouses according to the source (m ³ /year)				
	Public network	Tigris River	Euphrates River	Shatt al - Arab	Lake
3	4.320	1.200	0	0	0

Table (11): Total amount of water supplied for slaughterhouses according to source for 2013 in Baghdad province

Slaughterhouses number	Total amount of water supplied for slaughterhouses according to the source (m ³ /year)				
	Springs	Groundwater (wells)	Tank	Distilled water	Reverse osmosis water
3	0	0	0	0	0

The study showed that only one slaughterhouse has environmental approvals, while the second dose not have while the third is on its way to obtaining environmental approvals as shown in (Table 12).

**Table (12):** Number of slaughterhouses according to obtaining environmental approval and continuity of work for 2013 in Baghdad province.

Number of slaughterhouses according to obtaining environmental approval			
Obtained environmental approval	Obtained working continuity approval	Not obtained environmental approval	Total
1	1	1	3

Method and implementation of the study:

A field survey and an on-site questionnaire on random slaughter workers were conducted in Al-Karkh areas of Baghdad and for the areas (Al-Jamiaa district, Al- Rabea Street, Al-Adel district, Al-Daoudi). The survey was conducted on the number of families benefiting from random slaughter, the average number of sheep slaughtered per day and how to get rid of sheep wool, leather and the Internal viscera.

1. Al-Jamiaa district – Al- Rabea Street: It was from the intersection of the Al-Shurta tunnel and the surrounding areas to the administrative boundary line of Al-Adel district, where the number of random slaughter sites reached 5 areas.
2. Al-Adel district: starting from the intersection of Al-Adel district and the end of Al-Jamiaa district passing through the court to administrative boundary line Al-Huriaa, where the number of random slaughter sites reached 6 areas.
3. Al-Daoudi district: starting from the railway junction of the Yarmouk gas station and along the railway to the Al- Iskan junction the stores area of Ministry of Commerce, where the number of random slaughter sites reached 3 areas. The study showed that the highest number of families benefiting from the slaughter were concentrated in Al-Adel district, followed by Al-Rabea Street (Al-Jamiaa district) and then Al-Daoudi district as shown in (Table 13).

Table (13): Study area and the number of families benefiting from random slaughter

Seq.	Area	Number of families
1	Al-Rabea Street	33
2	Al-Adel district	42
3	Al-Daoudi district	21

The study showed that the average number of sheep slaughtered per day was in Al-Adel district, followed by Al-Rabea Street (Al-Jamiaa district) and finally Al-Daoudi district as in (Table 14).

Table (14): Average number of sheep slaughtered per day

Seq.	Area	Number of sheep/ day
1	Al-Rabea Street	47 – 34
2	Al-Adel district	54 – 39
3	Al-Daoudi district	27 – 21

The study also showed that the sheep slaughtering waste of wool and leather were thrown in the waste, burned, or sold and this is what was agreed upon by workers in Al-Adel district and Al-Daoudi district, also throwing blood in to the ground, while internal viscera are burned or also thrown to the ground (Table 15).

**Table (15):** Disposal of slaughter waste for sheep

Seq.	Area	Wool and leather	Blood	Internal entrails
1	Al-Rabea Street	Thrown in the waste or sold	Thrown in the waste or left in the open	Burned
2	Al-Adel district	Thrown in the waste or burned or sold	Thrown in the waste or left in the open	Burned or thrown in the open
3	Al-Daoudi district	Thrown in the waste or burned or sold	Thrown in the waste or left in the open	Burned or thrown in the open

The study showed that the prices of leather are very cheap and do not exceed 1000 Iraqi dinars ID for each skin flushed from one carcass and this affects the income of workers in this sector and in turn threatens the national wealth despite the possibility of using it tanning to manufacture natural leather and its various products to supply the volitional wealth and employ many of the unemployed about job.

All workers in the random slaughter areas were agreed with the idea of mobile slaughterhouses that manufactured by the responsible authorities, whether fixed or mobile as explained previously. As well as, the study showed their agreement to pay a money for each head of sheep slaughtered as wages for the lifting of waste, sterilization, etc. And their quest to obtain the necessary environmental approvals Finally, the study showed the wish of all workers in the random slaughter areas on their quest to obtain the health licenses, and there should be a veterinarian supervising on the slaughter to monitor the health of the animal, and ensure they were not any diseases or infection. In addition, their commitment to apply the regulations, laws and instructions issued by the relevant authorities.

DISCUSSION

Through the Tables and previous data according to the Central Statistics Organization, it can be observed that the number of slaughterhouses operating in Baghdad province was only 3 and were not are not state-owned. These slaughterhouses of al-Shula, al-Karkh and al-Doura, were all owned by the state company for meat production and marketing, which is a mixed sector company, while the slaughterhouse of Fadhiliya, is owned by the Ministry of trade. These findings were not commensurate with the size of livestock in the study area, which led to spreading the random slaughterhouses in residential areas. As for local meat production, the indicators showed that meat trading is an important trade and industry, which includes the slaughter of animals that suitable for human consumption and cutting it and distributed. Although, it may be considered as one of the most important industries for its great connection to the needs of the citizen, as well as the possibilities of manufacturing available in many ready-made foods. However, its strangely taking place in Iraq randomly, as every province is working alone. Moreover, slaughtering methods have not changed for a long time, and the industry is facing big excesses about two years ago in the methods of slaughter, as the slaughter of sheep or cattle in the streets and on the roads of cars has become a dominant feature. Finally, Indicators also showed that most areas of Iraq are breeding sheep, calves and caws such as the provinces of Diwaniya, Anbar, Nasiriyah, Samawah and Mosul (AL-SAFI 2019).



CONCLUSIONS

There is a significant shortage in the number of slaughterhouses, whether in the city of Baghdad or the provinces in relation to the growing population and through research data, it is possible at least currently, providing modern mobile slaughterhouses equipped with the latest slaughtering equipment and methods of treating waste to avoid pollution of products or the environment and its future impact on human health.

RECOMMENDATIONS

- 1-Seeking to expand the establishing the developed governmental and privet slaughterhouses as appropriate with the size of livestock in Iraq and the population expansion, in order to reduce dependence on mobile slaughterhouses and the employing the labor who have experience in their work.
- 2-Benefiting from waste in its various parts (wool, leather, blood, etc)and operation of related companies and departments (Ministry of Industry and Minerals / General Company for Wool and Leather Industries, Ministry of Agriculture / General Company for Fertilizers and Pesticides, etc).
- 3-The establishment of mobile slaughterhouses, which are under the supervision of the concerned authorities (The Mayoralty of Baghdad or the Ministry of Health and Environment, etc.) in order to control the random slaughter, especially in holidays and events, and to limit this process to specific places.
- 4-Benefit from the graduates of veterinarians and others to control the process of slaughtering and others.
- 5-Themultiplicity of bodies responsible for the massacres such as the ministries of health, agriculture, interior and Municipalities as well as the Mayoralty and the lack of cooperation between them and the multiplicity of their trends all has led to an overlap in the work, which made each one placed the responsibility for default over the other. Therefore, there must be one authority responsible to study the research subject and this is what the researcher pointed out in (Sabri 2013)
- 6-Issuing new legislations and laws, as most of the legislations in this field are old and unsuitable for the current stage, and suffered from a lot of shortages, in addition to the lack of slaughterhouses and renting them to contractors who are often not committed to what they have pledged to, all this complicates the problem.

REFERENCES

- I. Al-Hudan, A. (21 November 2009). *A Mobile Slaughterhouse for the Sacrifice of the Inhabitants of the Capital*. Riyadh Newspaper, No. 15125.
- II. Al-Safi, M. (2019). *Call for Rehabilitation of Official Slaughterhouses and Establishment for Manufacturing Meat Companies*. 7/7/2019, Al-Mada Newspaper, <https://almadapaper.net/sub/07-441/p10.htm>.
- III. Baraa, A. (10/2/2013). *Seven Thousand Irregular Slaughterhouses in Iraq*. Radio Free Iraq <https://www.iraqhurr.org/a/24897932.html>.
- IV. *Central Statistics Organization, Environmental Survey of the Slaughterhouses Sector in Iraq for the Year 2013 / Table (35/17)*.
- V. *Central Statistical Organization (CSO),(1/1/2014):Data No. stat_enviro@cosit.gov.iq Department of Environment Statistics on 4/2/2014*.



- VI. DP- News, Syria News. (15/07/2015). *The Slaughterhouses Phenomenon Proliferation in the Street and Consumer Protection: the Idea of Mmobile Slaughterhouses Need Health Conditions.*
- VII. Sabri, H. M. (2013). The effect of random import of red meat on production and consumption Iraqi red meat/Aospectivestudy. *Iraqi Journal of Market Research and Consumer Protection*, 5(2), 115-138.
- VIII. *Slaughterhouses, Global Action Network, Accessed March 18, 2008, Copyright April 30, 2014, on the Way back Machine Website.*
- IX. Stevenson, P. (2009). *Animal Welfare Problems in UK Slaughterhouses Farming July 2001.* Copyright March 04, 2009 on the Way back Machine Website.
- X. U.S. (2015). *Beef and Cattle Industry.* United States Department of Agriculture. Copyright March 21, 2015 at Way back Machine Website.
- XI. Williams, E. E. & DeMello, M. (2007). *Why Animals Matter.* Prometheus Books, p73.