

# Zoonoses and Food Hygiene News

Vol. 23 No.1 January to March 2017

ISSN: 2091-0932 (Print), 2091-0940 (Online)

Government of Nepal, Registration Number: 148/049/050

## ***Late Dr. Durga Datt Joshi, Founder of NZFHRC***

### **Editor-in-Chief**

**Dr. Padam Raj Bista**

### **Managing Editor**

**Dr. Billy R. Heron, USA.**

### **Editorial Panel**

**Prof. Dr. P.N. Mishra**

**Ms. Minu Sharma**

**Dr. Bikash Bhattarai**

**Ms. Meena Dahal**

**Mr. Dhan Kumar Pant**

**Dr. Rakesh Chand**

**Email:** [ddjoshi.nzfhrcl7@gmail.com](mailto:ddjoshi.nzfhrcl7@gmail.com), [ddjoshi@healthnet.org.np](mailto:ddjoshi@healthnet.org.np)

**Website:** [www.nzfhrcl.org.np](http://www.nzfhrcl.org.np)

*Zoonoses and Food Hygiene News, published four times a year, provides a medium for disseminating technical information on matters related to zoonoses and food hygiene generated in the world, particularly in Nepal. The editors welcome submissions on these topics with appropriate illustrations and references. The views and opinions expressed in the News are those of the authors.*

## **CONTENTS:**

- ☞ **Prohibition of live animals (buffaloes) in Kathmandu valley and replacement of slaughter house outside Kathmandu valley**
- ☞ **NEWS**

---

## **Prohibition of Live Animals (buffaloes) in Kathmandu Valley and Replacement of Slaughter House Outside Kathmandu Valley**

### **Summary**

Meat is one of the most unsafe food items causing great deal of public health hazard. Even though the government of Nepal has formulated and enacted slaughterhouse and meat inspection act in 1999, it is not implemented till now. Inadequate awareness among stakeholders and political instability in the country for a decade, lack of resource and infrastructure are might be causes for the failure to enforce the legislation. We conducted the awareness program in Kathmandu Municipality about meat safety, slaughtering process, meat borne disease and meat act in collaboration with Kathmandu Metropolitan City (KMC) from June 2016 to December 2016. A total 1500 stakeholders were trained and recommendations were drawn about issue related to meat safety for the effective implementation of legislation to ensure safe meat to the consumers.

### **Introduction**

The rapid urbanization in Kathmandu valley is one of the highest in south Asia throughout the 1990s. In contrast to the population growth rate of 1.03 percent in the rural areas, urban population growth rate in Nepal surpassed 3.37% in 2011 (MoHP, 2011). About 65.6% of Nepalese population depends on agriculture (CBS, 2011) with livestock production contributing to 31% of the total AGDP.

Meat is an important source of protein and a valuable commodity in resource-poor communities. The average per capita consumption of meat in Nepal is 11.15 kg/year, which is lower than the global average of 42.5 kg/year (FAO, 2010). According to a report from the

Department of Livestock Services, 303,401 metric tonnes of meat was produced in the country and 11,769 metric tonnes of meat was produced in the Valley in the fiscal 2015/16. The report also said that 300 metric tonnes of meat is produced daily in Kathmandu. Buffalo, goat, sheep, pig and poultry (chicken) are the major meat animals in Nepal. Meat is one of the most unsafe food items sold in the market (Karna, 2010; Sankhi, 2006). Government of Nepal formulated and enacted the Animal Slaughterhouse and Meat Inspection Act 1999 and regulated in 2001 to ensure the availability of safe meat to the public, however, no standard is found about meat and meat products in Nepal.

According to Nepal Stock Traders Association (NSTA), nearly 1500 buffaloes are slaughtered in Kathmandu valley every month for meat consumption. Buffaloes are mostly sourced from terai districts. Kathmandu valley consumes buffaloes worth Rs.8 billion annually. Most of the slaughter houses in Kathmandu are found to be distributing unhygienic buffalo meat in the market, posing serious health risks to the public.

Previous studies shows that burden of meat borne zoonotic diseases are high in comparison with developed countries (Majagaiya, Regmi, Shah, & Manandhar, 2008). A study conducted in Kathmandu city showed that 9.2% *salmonella spp* were isolated from meat samples. Out of them, 50% isolates were multidrug resistant (Majagaiya, et al., 2008). Likewise, Maharjan et al., (2006) found 11.4% of meat samples with salmonella positive in Kathmandu. In the previous studies, several meat borne parasitic zoonoses like trichinellosis, taeniasis, echinococcosis/hydatidosis etc. have been reported in different animals from different part of the country (D. Joshi, Joshi, & Joshi, 1997; D. D. Joshi, Bista, Ito, & Yamasaki, 2007; Manandhar, Hörchner, Morakote, Kyule, & Baumann, 2006; Rajshekhar, 2004; Sapkota et al., 2006). These finding shows that the gravity of meat borne zoonotic diseases are exist in the country but the most frustrating fact about the law is that it hasn't been successfully enforced till now. The government has tried to enforce the act in some of the municipalities of the country by constructing slaughter houses but those slaughter houses were not utilized by the meat enterprisers. Political instability situation of the country for more than a decade, lack of adequate awareness among meat entrepreneurs, consumers and other stakeholders might be the reasons for the failure of enforcement of the law. Livestock are often found being slaughtered for their meat in dirty, foul-smelling areas and slaughtering carcasses are often left on road side and river bank. The meat distributions are found to be violating the Animal Slaughterhouse and Meat Inspection Act, 1999.

Kathmandu Metropolitan City (KMC) is drafting new plan for prohibition of slaughtering buffaloes in the valley and replacement of slaughter houses from Kathmandu valley to ensure safe meat production and mitigate environmental pollution. It is hoped that this policy will ease the waste management of Kathmandu valley to some extent.

This program was conducted with the concerned stakeholders to incorporate their suggestion and barriers in policy draft and our ultimate goal was to reinforce them for implementation of slaughterhouse and meat inspection act.

## Objectives

1. To find out the enabling and barriers factors of concerned stakeholders (meat sellers) and incorporate their suggestions in policy
2. To improve the current meat production (Slaughtering) system.
3. To maintain the minimum hygiene and sanitation condition around the slaughter place and meat shop.
4. To aware and provide basic knowledge to meat sellers and butchers about various meat borne zoonotic disease and hygienic meat production system.

## Methods

This program was conducted in collaboration with Kathmandu Metropolitan City (KMC) from June 2016 to December 2016. The resource persons were Dr. Bodh Nath Adhikari, Veterinary Epidemiologist, Veterinary Public Health, Government of Nepal, Mr. Hari Kumar Shrestha, Public Health Division Chief and NZFHRC team. All meat professionals and consumers of Kathmandu Metropolitan city was include. This program had following core components.

- a. Field survey of buffalo slaughter areas.
- b. Focus group discussion with butchers group.
- c. Mass awareness program for meat sellers, butchers and consumers
- d. Technical paper on meat borne disease and Nepal Animal Slaughtering and Meat Inspection Act.

## Activities I: Environmental Assessment

The inspection team visited the slaughter houses of ward no. 7, 12, 15 and 19 of KMC. Based on field visit report, following points were noted:

- Slaughters houses were highly unsanitary conditions
- Dogs, birds and other carrion-eaters were present at slaughtering locations
- Poor offal and other waste management
- Poor drinking /cleaning water
- Unsatisfactory sanitary toilet facilities
- Cross-carcass contamination was common



Photo 1: Existing slaughtering practices in KMC.

## Activities II: Training Programme on Hygienic Meat Production, Meat Marketing, Management and Meat Borne Diseases

Based on our projects' objective to build the organizational capacity and sustainability of local stakeholders' organizations, these activities

were conducted among the meat-shops and slaughterhouse workers to aware various types of meat borne diseases and hygienic method of meat production. They were also given some knowledge about the prevailing act related to the meat production in Nepal. The enrolled participants were from the mini slaughterhouse and some were from the meat shops situated in different places of ward number 7,12 15 and19 of Kathmandu valley. Participants are supposed to know about the hygienic maintenance of their shops, hygienic method of meat production, precautions to be taken while transporting the meat and meat products. After delivering the objectives of the training programme, Ms. Minu Sharma, Program Officer, NZFHRC requested all the participants to give their short introduction pertaining to name, type of shop and their address. After the introductory program, all the participants were concentrated on the subject matter. Ms. Minu Sharma, Program Officer, NZFHRC and Dr. Bodh Nath Adhikari, Veterinary Epidemiologist ,Veterinary Public Health, Tripureshwor, Kathmandu, Nepal, presented papers during that training program.

The following papers were presented in the training programme.

- Mass awareness program for meat sellers, butchers and consumers about meat borne zoonotic diseases and public health impact,
- Hygienic meat production and processing for meat entrepreneurs,
- Quality control & compliance along with the meat value chain, slaughtering, dressing skills and hygienic meat shop operation for meat entrepreneurs,
- Slaughterhouse design, and Product development and diversification of meat products,
- Slaughterhouse/slab operation

The main theme of this training program was to have good quality of hygienic meat, food safety, and safe drinking water supply and sewage management in Kathmandu Metropolitan City (KMC).



Photo 2: Discussion with different stakeholders about slaughter house.

## Activities III: Discussion on the Prohibition of Live Animal (buffaloes) Import into Kathmandu Valley by 3 Years

Focus group was held among Stakeholders at Khadki Sewa Samitee, Baudha. From the discussion, predisposing factors, enabling factors and reinforcing factors were pointed. All meat professionals were agreed with the probation of live animals import inside the Kathmandu valley. Further, they demanded the well slaughter place and profession guarantee and sustainable meat marketing system from the government.



**Photo 3: Focus group discussion about the improvement of slaughtering house.**

#### Major outcomes

- Butchers are not agreed with new proposed plan of government that prohibits slaughtering of buffaloes in valley and replacement of slaughter houses from Kathmandu valley.
- Certain ethnic groups are involved in this occupation and prefer to have its own slaughter location and they need financial support to construct modern abattoir.
- Training program on hygiene slaughtering practice in urban communities are necessary for the promotion of hygienic meat production/meat marketing

#### Activities IV: Role of Stakeholders for Hygienic Meat Production and Construction of Commune Abattoir

On 24<sup>th</sup> Jestha 2016, National Zoonoses and Food Hygiene Research Centre (NZFHRC) and Nepal Khadki Sewa Samiti held meeting on role of stakeholders for hygienic meat production and construction of commune abattoir. The meeting was held under the chairmanship of Ms. Santa Manabi, the minister, ministry of Livestock Development, Singhdarbar, Kathmandu Nepal. The stakeholders of concerned organizations, SSP Sarbendra Khanal, Metropolitan City Police Crime Division, Dr. Dhan Raj Ratala, President, Nepal Veterinary Council, Mr. Naresh Tandukar, President, Nepal Tandukar Samaj, Mr. Chandra Poudel, secretary of ministry of livestock development, Dr. Narayan Ghimire, Chief of Nepal Veterinary Public Health Division and others public were presented.

The president of Nepal Khadki Sewasamiti, Ms Anjita Khadki said that hygienic meat production is our responsibility. All stakeholders should cooperate with each other instead of blaming. Likewise, the executive chairman of Nepal Khadki Sewasamiti, Manoj Newa delivered detail report of previous and existing slaughter system and meat marketing chain of Kathmandu metropolitan city. He also demanded the financial support and land for construction of slaughter houses. Furthermore he explained detailed future plan of his organization like construction animal management centre, modern compost plant, management of trainings etc. He added that infrastructure should be set up before implementing meat act 1999.

#### Major output

- Butchers are not agreed with newly drafted purposed policy of government
- Some ethnic group are involved in this profession and they do not like to change their traditional occupation
- Land is needed for construction of modern abattoir. Besides it, modern compost plant and safe drinking water facilities are needed

- Training program on hygiene meat production and awareness programs related to Meat Inspection Act 1999 are necessary.



**Photo 4: Key note speech by Ms. Santa Manabi, Minister, Ministry of Livestock Development, Singhdarbar, Kathmandu.**

#### References

- CBS (2011) National population and housing census 2011 (National report). Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics.
- FAO. (2010). Food and Agriculture Organization of the United States. Dairy Sector Study of Nepal. (Accessed 27 February 2016.)
- Joshi, D. D., Bista, P. R., Ito, A., & Yamasaki, H. (2007). Present situation of porcine taeniasis and human cysticercosis in Nepal. *Southeast Asian journal of tropical medicine and public health*, 38, 144.
- Joshi, D. D., Maharjan, M., Johansen, M. V., Willingham, A. L., & Sharma, M. (2003). Improving meat inspection and control in resource-poor communities: the Nepal example. *Acta tropica*, 87(1), 119-127.
- Joshi, D., Joshi, A., & Joshi, H. (1997). Epidemiology of echinococcosis in Nepal. *The Southeast Asian Journal of Tropical Medicine and Public Health*, 28, 26-31.
- Karna, V. K. (2010). *Implementation status of slaughter house and meat inspection act 1999 in Kathmandu*. Master in public policy and governance (Master thesis), North South University, Dhaka, Bangladesh, Dhaka, Bangladesh.
- Maharjan, M., Joshi, V., Joshi, D. D., & Manandhar, P. (2006). Prevalence of Salmonella species in various raw meat samples of a local market in Kathmandu. *Annals of the New York Academy of Sciences*, 1081(1), 249-256.
- Majagaiya, S. P., Regmi, S., Shah, K., & Manandhar, P. (2008). Isolation of Salmonella species in different meat samples of Kathmandu valley. *Journal of Nepal Association for Medical Laboratory Sciences*, 9(1), 51-53.
- Manandhar, S., Hörchner, F., Morakote, N., Kyule, M., & Baumann, M. (2006). Occurrence of hydatidosis in slaughter buffaloes (*Bos bubalis*) and helminths in stray dogs in Kathmandu Valley, Nepal. *Berliner und Münchener tierärztliche Wochenschrift*, 119(7-8), 308-311.

National Population Report. Ministry of Health and Population, Nepal. (2011). Available at: [http://www.mohp.gov.np/english/files/new\\_publications/Nepal%20Population%20Report%202011.pdf](http://www.mohp.gov.np/english/files/new_publications/Nepal%20Population%20Report%202011.pdf) Accessed on 24<sup>th</sup> July 2014.

Rajshekhar, V. (2004). Epidemiology of *Taenia solium* taeniasis/cysticercosis in India and Nepal. *Southeast Asian J Trop Med Public Health*, 35, 247–251.

Sankhi, K. P. (2006). Valley meat marketing and environmental hazards. In G. R. Joshi, R. M. Shrestha, S. P. Dhoubhadel & K. P. Tiwari (Eds.), *Agriculture and environment* (pp. 107-113): Agriculture and Biodiversity Section, Ministry of Agriculture and Cooperatives, Government of Nepal.

Sapkota, B., Horchner, F., Srikitjakarn, L., Kyule, M., Baumann, M., & Nockler, K. (2006). Seroprevalence of *Trichinella* in slaughter pigs in Kathmandu Valley, Nepal. *Southeast Asian journal of tropical medicine and public health*, 37(6), 1078-1082.

**Slaughterhouses, meat marts to be set up with government grant**

Due to lack of initiation from local bodies, the government has now taken upon itself to encourage developers to set up slaughterhouses and meat marts in the country. According to the Department of Livestock Services (DoLS), the government has allocated resources this fiscal to provide grant to two large scale slaughterhouses and 20 meat marts. The initial plan is to establish the slaughterhouses in the outskirts of the Valley, with each having capacity to slaughter 300 cattle per day. The government had introduced Slaughterhouse and Meat Inspection Act in 1999. However, the act has not been enforced as the local bodies (municipalities and village development committees) have not shown willingness to develop slaughterhouses and meat marts.

Local bodies are authorised to develop the slaughterhouses and meat marts, and DoLS is authorised to regulate licensed slaughterhouses, according to Dr. Keshab Prasad Premy, Director General of DoLS. Hence, the government has now taken the initiative to develop the slaughterhouses by allocating funds in the budget in this fiscal. For this, the private sector and cooperatives can obtain the government’s grant to develop the slaughterhouses. The DoLS will extend grant of up to Rs 60 million to the developer on installment basis, according to Dr. Premy. As per the DoLS, a well facilitated slaughterhouse, which has capacity to slaughter around 300 cattle per day, can be developed at a total cost of around Rs 120 million. This means the

government’s grand will cover 50 per cent of the total investment. The developer would need to meet all the criteria set by the government, including required facilities for operation of the slaughterhouse, to receive the grant amount.

“After receiving application for the grant, and if it is deemed feasible, our team will start inspecting the construction site of the slaughterhouse and release the grant in different phases of its development,” Director General Dr. Premy said.

The government has planned to develop the slaughterhouses eyeing the high demand of meat in the Valley. Daily consumption of meat in Kathmandu Valley, which stands at around 350,000 kg, is the highest in the country, followed by Pokhara, according to DoLS. Similarly, DoLS is also offering grant of around 70 per cent of the total cost of developing 20 meat marts in this fiscal. Those who sell over 200 kg meat every day can apply for the government’s grant assistance to upgrade their meat house. However, freshers in the business can also apply for the support and develop meat mart. The DoLS can provide up to Rs five million for each meat mart that meets the set criteria, like availability of refrigerated van and deep freezers, among others.

**NEWS:**

**DDJ Research Award:**

*Please kindly submit your research work on zoonotic diseases for consideration of DDJ Research award for the year 2016 by the end of June 2017 to NZFHRC office Chagal, G.P.O. Box 1885, Kathmandu, Nepal, Phone: 4270667, 4274928 and Fax 4272694. This award was established by DDJ Research Foundation in 2071 B.S. (2014) in the memory of Founder of this Foundation, Late, Dr. D.D. Joshi. The award includes a grant of NCRs. 25,001/- (Rs. Twenty Five Thousand and One) with a certificate.*

**K.D.M.A. Research Award:**

*Please kindly submit your research work paper on allergy award for the year 2015 for the consideration by the end of June 2017 to KDMART office Chagal, G.P.O. Box 1885, Kathmandu, Nepal, Phone: 4270667, 4274928 and Fax 4272694. This award was established by Late Dr. Durga Datt Joshi in 2049 B.S. (1992) on the memory of his wife, the late Mrs. Kaushilya Devi Joshi. The award includes a grant of NCRs. 15,001/- (Rs. Fifteen Thousand and One) with certificate.*

---

**From: Zoonoses& Food Hygiene News, NZFHRC  
P.O. Box 1885, Chagal, Kathmandu, Nepal.**

**TO:**

**Dr/Mr/Ms .....**

.....

.....