A review of veterinary public health and women empowerment in India

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Abstract
Veterinary public health (VPH) is ideally suited to promote convergence between human, animal and environmental sectors. Recent zoonotic and emerging infectious disease events have given rise to increasing calls for efforts to build global VPH capacities. However, even with their greater vulnerability to such events, including their economic and livelihood impacts, the response from low and middle-income countries such as India has been suboptimal, thereby elevating global health risks. Addressing risks effectively at the human–animal interface in these countries will require a clear vision, consistent policies, strategic approach and sustained political commitment to reform and refine the current VPH capacity building efforts. Only then can the discipline serve its goal of disease prevention, poverty alleviation and support for sustainable livelihoods through improvements in human and animal health. Women should now have fundamental and social rights which they get once they born. Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities. Women Empowerment itself elaborates that Social Rights, Political Rights, Economic stability, judicial strength and all other rights should be also equal to women. There should be no discrimination between men and woman. In fact animal Husbandry is becoming feminized.

Keywords: capacity-building, India, veterinary public health, Women Empowerment, livestock sector

Introduction
The importance of veterinary public health (VPH) capacity in effectively addressing issues on the human–animal interface has long been recognized. Different policy proclamations have highlighted the relevance of veterinary contribution to public health practice.1 However, globally; VPH capacity-building efforts have focused largely on foods of animal origin and meat inspection procedures. In addition to food safety, VPH has a direct role to play in ensuring food security, in public health nutrition, and in ensuring public safety in relation to endemic as well as emerging zoonotic diseases. But limited focus on the role of VPH in wider issues related to public health, trade and livelihood has led to limited involvement and consequent neglect of this discipline in public health practice. While there is variable discussion about the other domains of VPH, concerns about emerging infectious disease (EID) events since the early 1990s, has once again renewed interest in the role played by the discipline of VPH in dealing with diseases of the human–animal interface. This paper seeks to examine the status of VPH education in India, in relation to other countries. Women empowerment refers to the creation of an environment for women where they can take decisions of their own for their personal benefits as well as society. They should make their decision, by their own choice. They should have a high social respect in society. They have equal rights in society and other judicial works. They should not be discriminated while providing any type of education. They should select their own economic and financial choices by their own. There should not be any discrimination between woman and man while giving jobs and employment. They should have safe and secured working location with proper privacy. She believes that — A girl should be two things who and what she wants.

Veterinary public health: Over the last decade, veterinary schools in Europe and North America have changed their VPH training by introducing new topics and teaching methodologies to respond to the evolving demands of the sector. Accommodating increasing prominence of trans boundary and trade-related issues, they have transitioned from local, country-specific approaches to more global ones. For example, schools of veterinary medicine
in the United States of America have developed formal collaboration with schools of public health, offering joint degree programmes (Doctor of Veterinary Medicine/Master of Public Health). Many veterinary schools in Canada have endorsed the concept of Eco health in their Doctor of Veterinary Medicine and graduate training, in response to growing emphasis on trans disciplinary “One Health” principles. On the other hand, the response of low- and middle-income countries has been variable. While Latin America has demonstrated more sophisticated collaborative mechanisms, such as the inter-country mechanism called Consejo Panamericano de Educación en las Ciencias Veterinarias (COPEVET), which coordinates improvements in school accreditation, professional certification and curricular harmonization across the continent, 3 South-East Asian countries’ focus on developing trans disciplinary responses to trans boundary issues remains limited. While some (mainly local) zoonoses are discussed in the infectious disease programmes in veterinary curricula, linkages made to their public health dimension vary widely between programmes.

India’s response to veterinary public health: A useful framework to assess the development of VPH services has been proposed by Lipman and colleagues, who classify veterinary services into three stages of development, starting from areas with limited organized agriculture, to developing societies with legislations governing agricultural systems to developed societies with highly organized agricultural systems and evolved VPH systems. The Indian response, seems to be lagging behind in the first two stages, as is evident from the current status of VPH capacity building efforts and the strategic vision guiding these efforts. The sub-optimal system capacities in VPH, have made local populations vulnerable to zoonoses and their impact, thus elevating health and economic risks in a globalized world, through the formation of disease “hotspots”.

For example, India has the world’s largest livestock population. The sector has been exhibiting an annual growth of 4.6%, and an ever increasing demand for and emphasis on livestock production. However, with nearly 80% of the sector being managed in small-holder farms operating in informal marketing conditions and close proximity to animals, the scenario exacerbates vulnerabilities on the human–animal interface, with wide-ranging implications and therefore the need for an adequate and appropriate VPH response.

Women empowerment in veterinary sector: Now a days veterinary field is growing rapidly. The branches of veterinary field are spreading all over. There are many opportunities open for women as an employee in veterinary field such as poultry, dairy, agriculture, fisheries, extension activities, research priorities, veterinary education etc. In India, concept of women entrepreneurship is of recent origin. Women have become aware about their rights and situations and entered in different fields of business. They have established their own successful business empires. They are contributing towards the growth of economy and improvement of their socio economic conditions. Government of India has given due importance to women empowerment in the country. Women, traditionally have been playing a crucial role in the family as well as in the farm, shop, factory and in the society, but their contribution has not been duly acknowledged. Women have undergone a radical transformation from merely a homemaker to a dynamic multifaceted personality contributing to the socio-economic growth worldwide. Therefore, a more from family management to enterprise management may be easier than a move from paid employment to self-employment. Today, more and more women are seeking economic opportunity and self-determination through enterprise creation and are well prepared to grab the opportunities of the multi-polar world. But at the same time they have to face a number of challenges which are required to be solved by making them and their family aware and attracting financial and moral support in this regard.

Dairy Sector: Women accounted for 93% of total employment in dairy production. Depending upon the economic status, women perform the tasks of collecting fodder, collecting and processing dung. Women undertake dung composting and carrying to the fields. Women also prepare cooking fuel by mixing dung with twigs and crop residues. Though women play a significant role in livestock management and production, women’s control over livestock and its products is negligible. Men, leaving only 14% to women, assume the vast majority of the dairy cooperative membership. India has the largest cattle and buffalo population in the world. Dairying has become an important secondary source of income for millions of rural families in India. Dairy farming is one of the important enterprises which dominate the economic activities of the woman in the rural areas of India. Increasing demand for milk and milk products in recent years intensifies dairy farming as profitable enterprise for rural. Women are well aware of each animals behavior and production characteristics. Women are knowledgeable about local feed resources. Participation of women in indoor feeding activities such a providing water to animals, mixing ration and preparing feed is very high. The participation of rural women in processing activities is found higher than in marketing related activities is found higher than in marketing related activities.

Poultry Sector: Over 72% of India’s population lives in rural areas and of that, 58 % depend on agriculture and associated activities for their livelihoods. The growth of agricultural sector in the last two decades barely exceeded 3% per year. More than three million people directly or indirectly depend on poultry sector for income and employment. However, high growth performance of poultry sector is confined mostly to the commercially run large scale sector. Backyard poultry-keeping is a livelihood activity for many poor rural families. Women are primarily responsible for the care and management of the bird under backyard poultry systems Backyard poultry (BYP) is an important livestock activity for rural women as it generates cash income and provides employment opportunities, while increasing production of valuable foods (meat and eggs) that improve household nutrition. Women often control the whole process of BYP keeping from feeding to marketing, which is not the case in production systems for other livestock enterprises. Poultry rearing has significant advantages over other livestock activities to rural women, because: It is easy to manage and can be taken up under diversified agro-climatic conditions. Its requirements of land, capital and other external inputs are low for small scale units. It can provide quick returns and continuous income throughout the year, as it enjoys good market demand and prices. BYP is the most efficient converter of household and farm waste into food of high
value. BYP enhances women’s social status and decision-making power in the household by increasing women’s income and can be used as a tool to reduce poverty in rural areas. The BYP rearing had a remarkable impact on women’s livelihoods. Since rural women took care of the birds, they also retained the earnings from poultry keeping. Thus, BYP rearing was an enabling factor in empowering women. This varied from woman to woman based on her ‘inner realities’ i.e. ability and capabilities to take a diverse set of decisions related to management. Since women got to deal with different people while purchasing and marketing birds or eggs, these women slowly gained confidence and came out of isolation. Over a period of time improvement in entrepreneur skills and decision making was observed. They are able to create a space for themselves within their households and often making intrahousehold decisions.

**Under employment and unemployment:** Women population constitutes around 50% of the world population. A large number of women around the world are unemployed. The world economy suffers a lot because of a unequal opportunity for women at work places. The main advantage of women empowerment is that there will be an overall development of the society. It leads to decrease in domestic violence. Uneducated women are at higher risk for domestic violence than educated women.

**Evolution of veterinary public health capacity-building:** While VPH was a part of the veterinary curriculum in India even in the early days of veterinary education, like the veterinary training programme offered by the Indian Veterinary Research Institute, concerted efforts to systematize VPH capacity building started in 1964, with the establishment of a Division of Zoonoses at the National Institute of Communicable Diseases. This was followed by institution of a master’s degree course in VPH at GB Pant University in 1965, and at the All-India Institute of Hygiene and Public Health in 1970. A Division of VPH was established at the Indian Veterinary Research Institute in 1971. The Department of Agricultural Research and Education, under the Indian Council of Agricultural Research (ICAR), was created in 1973, to coordinate, guide and manage research and education in agriculture, including animal sciences in the entire country. The Veterinary Council of India was constituted in 1989, to establish state veterinary councils and maintain registers of veterinary practitioners and related matters. The Indian undergraduate veterinary curriculum underwent its most recent revision in 2008. Currently, the undergraduate and postgraduate training in veterinary medicine is governed by the Veterinary Council of India and ICAR, respectively. As per their guidelines, each veterinary college has a department of VPH and Epidemiology. Postgraduate training in VPH includes a 2-year Master of Veterinary Sciences and VPH, with the second year dedicated to a master’s dissertation. The PhD in VPH is a 3-year programme.

**Urgent need for veterinary public health capacity-building in India:** India, with high livestock density, a rapidly growing livestock sector, human population growth, deficient VPH services, weak surveillance and control apparatus, heightened risks for emerging zoonoses, and a much higher demand for veterinary capacity, is yet to realize the importance of VPH in assuring the health and well-being of animals, people and ecosystems. Recent reviews have also established strong associations between poverty, livestock keeping, neglected zoonoses and emerging infections.10 With India leading on all these fronts, these deficiencies have enormous livelihood and economic implications, as is the case across most of the developing world. If VPH in India were to attain its goal of disease prevention, poverty alleviation and sustainable livelihoods, through improvements in human and animal health, VPH training must be redefined. A shift in strategic priorities should begin with enunciation of a policy for human-resource development for the veterinary sector and VPH in particular.

**Conclusion:** VPH capacity-building in India has long suffered from neglect of technical and political leadership, reflected in the policy gaps in building veterinary institutional capacity, thus posing serious threats to global health security. Policy initiatives with strategic focus, and backed by strong and sustained political commitment, as well as advocacy by technical and professional leadership, are necessary in India and rest of the developing world, for the elevation of the profile of VPH and its mainstreaming in public health preparedness and response. Recent EID events, which have galvanized renewed interest in the discipline and its role in responding to these threats, should be seized as an opportunity. Women are found in a range of entrepreneurial activities, many tend to be concentrated in micro, small and medium businesses as a result of their responsibilities for unpaid work, limits on mobility, lack of collateral and limited financial skills. Women can be more disadvantaged than men in starting up enterprises, as they may be less able than men to afford long and expensive registration procedures. Initiatives have been taken by financial institutions and Governments at national and regional levels to increase the access of women entrepreneurs, including regular banking services, debt financing and equity financing. Women empowerment cannot be possible unless women come with and help to self-empower themselves. There is a need to formulate reducing feminized poverty, promoting education of women, and prevention and elimination of violence against women.

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