

## Animal biologicals market has the potential to surge

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*The Indian animal health market is expected to grow from its present level of \$40 million to about \$100 million in size in the next five years.*

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The animal biologicals market is generally derived from the need to control animal diseases and thereby enhance productivity of the livestock sector. As compared to the human biologicals market, it is unique in the sense that the number of animal species is large. The common species include cattle, buffalo, sheep, goat, canine, swine and poultry. A large number of animal diseases affect several of these species. These diseases are both transboundary diseases i.e. diseases that can move across geographic regions both by movement of animals and by trading in food, as also zoonotic diseases i.e. diseases which effect animals as well as human beings viz., rabies, brucellosis, tuberculosis and West Nile fever.

#### Low market

Given this picture, it would appear that animal biological products would have a large market. However, as compared to the human biologicals market of about \$70 billion, of which human vaccine is about \$8 billion, the animal biologicals market is only about \$3.2 billion comprising largely of vaccines. This is on account of the fact that the problem of controlling animal diseases is largely the problem of the developing world, since many developed countries have eradicated a number of animal diseases namely foot and mouth disease (FMD), classical swine fever and rabies.

This apart, the dependence on livestock is more in developing countries and is particularly important to poor people. Developing countries value livestock products (milk, meat, eggs) that provide income to farmers. Livestock are means of transport and traction and also important means of savings to meet crop failures and unforeseen expenses. The low market for animal vaccines is also affected by relative paucity of animal vaccines for prevention of livestock diseases, since the expensive research oriented pharmaceutical industry in western countries do not find this to be a very attractive market. Public investments in research by developing countries are also meager, which leaves much of the disease control needs unaddressed in developing countries.

#### Indian scenario

We have to look at the Indian market against this background. It is therefore not surprising that India, as a developing country, has very low salience of animal biologicals in the pharmaceutical market. At present, the domestic animal health industry is only about \$225 million (Rs 1,000 crore) as against domestic pharmaceutical market of \$5 billion (Rs 22,000 crore) i.e. 4.5 percent of the market.

However, the domestic market for animal biologicals is about \$40 million (Rs 180 crore) as compared to about \$380 million (Rs 1600 crore) for human biologicals. Thus animal biologicals have a higher intramarket salience of 18 percent as against only about 8 percent for human biologicals. The salience for vaccines is even higher since most of the animal biologicals are only in vaccines.

This is on account of the fact that the vaccine market for human beings is still under developed since children in India are vaccinated only against six diseases as compared to twelve in the west. Also we have a relatively large livestock population, comprising mainly of cattle and poultry, both of which are relatively better developed as compared to many other developing countries. Poultry farming in India is very organized and vaccinations are carried out against a number of poultry diseases. Likewise, vaccination against several animal diseases in cattle and sheep are also common but not similar in scale and magnitude.

#### Key market drivers

In so far as India is concerned, the key market drivers of the animal biological market are:

- Awareness of animal diseases among farmers

In view of the low level of literacy and minimal extension and out reach programs, the awareness level among farmers in India about animal diseases is quite low. Farmers generally tend to vaccinate only when there is outbreak of diseases and not in a regular, systematic way. This is also because farming in India is widely dispersed among marginal farmers with low per unit holding.

- Availability of vaccines

Until sometime in the past, the animal vaccine range that was available was not significant and it also did not address several animal diseases of concern. Although this situation has not significantly changed, a number of new vaccines are now produced against animal diseases. It must be understood that unlike therapeutic medicines, there are few substitutes to vaccines in prophylaxis.

- Affordability of products

With low disposable incomes, affordability of products whether human or animal, is the most important factor driving demand in our country. This applies to animal vaccines as well. The added problem here is that the life of animals is not often treated to be important and the cost benefit of prophylaxis vs. treatment is not well understood. Thus, both affordability and appreciation of benefits of vaccination vs. treatment are deterrent to pricing.

- Veterinary services reach

With not much of organized farming and with livestock keepers widely spread out in a large country like ours, the availability of the veterinary services close to the doorstep of farmers is an issue. Even where available, quality of such service is also a problem. Farmers tend to look to para-veterinarians and first aid workers for addressing the basic health needs of their livestock.

- Distribution reach

Again, given the dispersed nature of the market, cost effective distribution reach is often the issue with the suppliers. This results in sketchy presence of products and often their inadequate availability in times of need.

- Power of buyers

While the cattle market is largely dependant on institutional purchases of vaccines and biologicals, the poultry market, though better on the retail side, is still influenced by the power of large integrated producers of poultry products. As is the case with institutional purchase, price prevails over quality.

- Technology

The progress of science and strides made in the biotechnology sector notwithstanding, research on newer animal vaccines especially to address diseases in the Indian sub-continent has been pathetic.

While the human vaccine market can boast of a number of recombinant biotechnology products and combination vaccines, the animal biologicals market still largely lives on conventional vaccines based on primary cell culture or mammalian cell cultures. This contrasts with the development in the west, where we now have recombinant vaccines, (eg. against ticks ) DNA vaccine (eg. against west Nile fever) and live vector vaccines (eg. pox vector)

- Regulatory issues

Development of animal vaccines and their manufacture is regulated in a manner similar to that of human vaccines. Although not as rigorous in pre-clinical studies and clinical trials requirements as with human vaccines, still multiple agencies are involved in approval and licensing of products.

There is also a near absence of post marketing surveillance of the products introduced. This is further compounded by a weak disease monitoring and surveillance program in the country.

### The changing picture

A review of these market drivers would tend to put the animal biologicals market un-attractive on account of its high institutional salience, low price orientation, difficult regulatory environment and low level of disease awareness. However, the next five years could well be the turning point in the growth of this industry on account of the following factors:

- Globalization of the Indian economy has thrown open a large number of opportunities for the food and livestock sectors. Our competitiveness can be improved only if we control a number of animal diseases. As a first step in this direction, a zoning approach for disease control has been undertaken by the government, resulting in a relatively higher growth rate of the animal biologicals market at 15 percent per annum as compared to 12 percent of the overall pharmaceutical market.
- With recognition that the animal husbandry sector plays a major role in the contribution of the agriculture sector to the economy, the Eleventh Five Year plan has ambitious plans to significantly increase outlays for control of animal diseases.

Diseases such as Foot and Mouth (FMD), Brucellosis and Pest Des Petits Ruminants (PPR) which have high economic impact are expected to be included in the national control programs. This itself will expand the markets and enlarge its size from the present level of \$40 million by an equal share in the next few years.

- Thrust on productivity enhancement and quality improvement programs in the livestock sector, specifically the dairy industry, will contribute to gradually increasing incomes in the hands of farmers and result in better care for their livestock. Alongside this, is the expected increase in their awareness about the better farm practices and about the need to control diseases.
- Increased presence of transnational companies in the Indian animal health market, in particular due to the recognition of the Indian market is growing in stature. This has been aided also by the changes to the Patent Act and the respect for intellectual property rights in India. We are witnessing MNC animal health players making a renewed presence in India.
- Strong growth of the canine segment, thanks to a growing number of pet owners in the country. It is expected that the pet segment will grow at 20 percent in the coming years.
- Improved research, especially in recombinant biotechnology which will lead to several new vaccines, among them are improved Brucellosis vaccine and PPR vaccine, coccidiosis vaccine and combination vaccines. We will witness new product offerings, especially from the industry leader Indian Immunologicals Ltd which is leading the research efforts.

### Market by 2010

As a result of these changes, we can expect the Indian animal health market to grow from its present level of \$40 million to about \$100 million in size in the next five years till 2010. It could be argued that this could possibly decline due to the recent developments affecting the poultry sector i.e. the incidence of avian influenza in the western part of the country. However,

this could be a temporary setback for two years at best, since consumption of poultry products in India which is preferred over beef or pork due to socio religious reasons, is quite low. A heightened level of surveillance would smother this adverse market.

In summary, it can be said that the animal biologicals market in India has the potential to surge in the next few years, growing by nearly 20 percent per annum, resulting in a market of about \$100 million. On the qualitative side, a higher level of disease awareness and externally oriented market will bring more diseases under national control programs, thus benefiting millions of livestock keepers in the country. Much, of course depends on the success of the intervention programs of the government in controlling animal diseases, new product introductions from modern biotechnology and the speed with which the poultry industry rebounds from its recent setbacks.