One World

MEATY ISSUES

Cutting down on meat consumption is not only a healthy option but it could also feed more hungry people all across the world


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THE next time you reach for a second helping of that juicy steak, consider this: If we could cut the meat consumption to a level reported only 10 years ago (37.4/kg/capita in 2000), by 2050, we, apparently, could free 400 million tonnes of cereal. According to the United Nations Environment Programme, that is enough food to satisfy the annual caloric needs for more than one billion people!

Meat, egg and dairy consumption is rising the fastest in the developing world, where people eat as much as 91 kg of farmed animal products per person per year, more than doubling consumption since 1963.

As urbanisation increases, economists and demographers predict an increase in demand for meat. In some parts of Asia, consumption of beef, pork, and/or poultry products could increase by 100 per cent by 2025. This is a huge cause for concern.

According to Eric Holt Gimenez, executive director of the Institute for Food and Development Policy/Food First, in addition to the global economic crisis and high prices for food, the effects of fluctuating weather patterns as a result of climate change, extremely low grain reserves, high oil prices, the surge in biofuels production, and the "meatification" of the global diet have contributed to the increase in the number of hungry in recent years. More people, particularly the growing middle class in the developing world, are consuming greater quantities of meat and other animal products than ever before, with much of it coming from industrialised animal operations.

According to the Food and Agriculture Organisation (FAO), the worldwide production of meat and dairy is projected to more than double by 2050. From 229 million tonne in 1999/2001, global meat production is slated to increase to 465 million tonne. From 580 million tonne in 1999/2001, global dairy production is slated to increase to 1,043 million tonne.

Much of the growing demand for animal products is being met by industrial animal operations — large-scale production facilities that are spreading around the world, including Brazil, China, India, Mexico, Thailand, and Vietnam. On a global scale as of 2001-2003, these operations produced 67 per cent of the world's farmed chickens, 50 per cent of eggs, and 42 per cent of farmed pigs.

Breeding ground for diseases

Industrial animal agriculture facilities intensively confine animals by the hundreds of thousands, preventing them from engaging in much of their natural behavioural activities, and produce massive amounts of waste. Confined animal feeding operations in the United States produce more than 500 million tonne of waste annually, polluting the air, soil, and water. Large-scale facilities can also exacerbate the emergence and spread of food borne pathogens and zoonotic diseases, such as pathogenic E coli and avian influenza.

Skewered math

Typically, three kg grain is needed to produce just one kg of meat. Meat production typically uses five, 20, or even 100 times the land, water, and energy that plant food production does. As much as 80 per cent of the global soybean crop and 40 to 50 per cent of the annual corn crop are fed to cattle, pigs, chickens, and other animals used in agriculture. Feeding of these grains in large quantities, facilitates rapid weight gain, which allows industries to slaughter animals in less time. According to recent research by the International Food Policy Research Institute, if this practice continues, the global meat industry "may find itself in a position of competing with poor people for cereals" and other grains used as feedstocks for farmed animals.

Water woes

According to the International Water Management Institute and the Stockholm International Water Institute, an average of six m3/kg (1 kg water is 1/1000 m3) of water is required to produce one kg of chicken, whereas, 0.4 to three m3/kg of water is needed to produce one kg of cereals. It is not only food resources that are depleted to produce meat, eggs, and dairy.

Water is, perhaps, the most important ingredient in agriculture — both for food crops for the animals and meat, egg, and dairy production. As the effects of climate change increase, however, water resources will be jeopardised. Raising animals for food requires substantially greater quantities of water than raising plants for human consumption. It can take five times as much water to supply 10 gm of protein from beef than from rice, and 20 times more water to supply 500 calories from beef than from rice.

Additionally, water is needed for hydrating farm animals and an increasing amount is required — particularly at industrial operations — to clean cages, stalls, pens and sheds, to dispose of waste, and for cooling animals during periods of high temperatures.

Processing animal products also requires large volumes of water and can result in significant amounts of wastewater. At cattle slaughter plants, globally, 44 to 60 per cent of total water used for processing is utilised during slaughter, evisceration, and de-boning.

Land-use mismanagement

The land used to grow crops to feed livestock is 10 times more than land used to grow crops for human consumption. Seventy per cent of former Amazon rainforest is now used for pastureland. The increase of carbon dioxide due to forest clearing, as well as the tremendous methane production of huge herds of cattle, contributes a great deal to the greenhouse effect and to global warming.

Wasted proteins

Protein conversion inefficiencies, compiled by Vaclav Smil, faculty of environment at the University of Manitoba, show that depending on animal products for protein is not the most efficient use of resources. According to his research, chickens fed a diet of corn and soybeans can only utilise 20 per cent of the protein present in those grains, 80 per cent is wasted; for pigs, 90 per cent of the protein they are fed in grain is lost.

Most of the energy farm animals consume from grains and other sources of food is used for their own metabolic processes or for forming bones, cartilage, and other non-edible parts (offal), as well as faeces.

Energy eaten up

According to author Keith Akers, the United States uses twice the energy per capita on food production than the less developed countries use per capita for all purposes. Even if 100 per cent of all the land on the six inhabited continents were used for agriculture (including the Sahara desert and Greenland), and even if that land were as productive as the US agricultural land, there would still not be enough land to feed the world population if their diet continues to be meat-based. ■

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Advantages of CRM data over traditional research

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WHEN it was fashionable in the beginning to have a customer relationship management (CRM) system, it was purely for the operational efficiency. That means, how to streamline the data of customers in various forms so that different levels can access the same and respond appropriately with minimum wastage of resources. However, the next generation of CRM systems focused more on customer analysis, thereby, giving it a key role in both marketing and marketing research.

Analysing CRM data does not replace traditional methods of market research; however, it is an invaluable complement to traditional research methods.

The data that one gets from the CRM system, like most of such data from any other source, is only as good as the analytics used to make sense of it. Useable research results will not come from simply collecting and reporting on customer transaction data. Similarly, straightforward reports of data or specific events such as marketing campaigns have limited value to researchers.

However, the customer-centric analysis that has the highest strategic value for marketing executives trying to measure lifetime value of customers also is the most helpful to marketing researchers.

Marketing researchers can get several advantages by analysing the CRM data.

Traditional marketing research methods have a major limitation in that the researcher cannot study every person. Both qualitative and quantitative research tend to focus on statistical samples, which, however well-chosen, are not always indicative of the entire customer population. Because CRM systems collect data from interactions with every customer, marketing researchers can analyse data from their entire current customer population. However, whole-population analysis is possible only when all the customers interact with the CRM system and provide the same information. For instance, one can research purchase behaviour for the entire customer base only if the same purchase data is gathered from all customer touch points (retail store, website, telesales, mail order, among others).

Often, websites and customer call centres may gather some data about people who have visited but not purchased, while retail stores are unable to record people who walked out without ever making a purchase. Therefore, while whole-

population research is key to understanding the evolving behaviour of the present customer base, one still needs sampling to know about people who are not customers.

Online and call centres make it cheap and easy to record expressed preferences from a large chunk of customer base and actual buying behaviour from every customer. Marketing researchers not only analyse actual behaviour, but also compare the preferences expressed with actual behaviour for the same individuals. For example, some customers of an apparel retailer may express a preference on a survey for premium shirts, but they actually buy mostly cheaper ones. Others may both prefer and actually buy the premium brands. Traditional survey research would lump these two different groups together because the methodology made it difficult to tie stated preferences to actual buying behaviour. While in the past, the marketing researcher might notice the discrepancy, analysing CRM data makes it possible to make the direct comparison across large numbers of people. Segmentation becomes much more accurate. Customers who state a preference for premium brand but actually buy cheaper labels can be understood and treated differently both from those who prefer and actually buy cheaper brands and those who actually do buy premium brands.

Along with the limitations of sampling, marketing researchers have struggled for long with gathering and interpreting data about how customer behaviour changes over time. Traditionally, gathering data from the same customers daily or weekly was simply impractical. CRM systems gather rich data for longitudinal studies each time an interaction occurs. The challenge for researchers is not collecting this data, but analysing it. For instance, a research project in a bank for identifying and retaining high-value customers might identify a set of criteria for "high value" and apply this filter to the entire customer base. A quarter later, the same filter would extract a new set of high-value customers, with only a few from the previous set. Each group represents a snapshot of high-value customers at a point in time and may provide the researcher some common characteristics of high-value customers.

But the data in this example does not explain what caused some of last quarter's high-value customers to drop out of the group or what key events drove new or previously low-value customers into the high-value group. To answer these questions, the marketing researcher needs both greater density of data (such as daily rather than quarterly) and analysis techniques capable of tracking the same customers as they move in and out of the high-value group.

The data that CRM systems provide is a rich but challenging source for marketing research. The sheer volume of data collected by CRM systems represents both major value and serious challenges to researchers. If used right and analysed well. CRM data works with traditional research techniques to provide a more detailed, and more accurate, understanding of customer behaviour. ■

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