

ECO EFFECT OF ANIMAL FARM

A growing number of poultry animals are raised in production centres where they are kept along with their waste in a very small land area

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IN MARCH this year, the ministry of commerce gave nod to a policy that allowed 100 per cent foreign direct investment (FDI) in rearing animals under intensive farming systems with stall-feeding, as well as poultry breeding farms and hatcheries where micro-climate will be controlled through advanced technologies like incubators and ventilation systems.

A growing majority of chickens and pigs are raised on industrial farm animal production (IFAP) facilities, also called factory farms, where tens of thousands of animals are confined, along with their waste, on a very small land area. Globally, such facilities account for an estimated 67 per cent of poultry meat production, 50 per cent of egg production and 42 per cent of pork production.

Operations with 10,000 to 50,000 hens crowded into one small shed are now quite common in India. India is one of the top four broiler chicken producers in the world. The nation's 230 million hens produce around 48.5 billion eggs a year. Nearly 2.4 billion broiler chickens, though not confined in cages, also experience crowded confinement, poor air quality and stressful handling.

In addition to the animal welfare issues associated with IFAP, these operations adversely affect the environment, people's health and the lives of small farmers rearing them at the centre.

Environment

According to the United States' department of agriculture's (USDA's) Economic Research Service, IFAP operations in the United States produced 1.23 million tonnes of nitrogen from manure spread on fields in 2007, however, cropland and pasture owned by these operations only had the capacity to assimilate 38 per cent of the nitrogen produced.

Industrial poultry production operations produce 52 per cent excess phosphorous and 64 per cent excess nitrogen created by farm animal waste in the United States. Run-off from poultry operations into the Chesapeake Bay in eastern United States had been blamed for outbreak of *Pfisteria piscicida* in water, killing millions of fish and causing skin irritation, short-term memory loss and other cognitive problems among local residents.

Human Health

In industrial egg operation centres, air is laden with pollutants such as ammonia, hydrogen sulphide and dust containing aller-



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gens, fungi and endotoxins, making it more difficult for both birds and workers to breathe. Exposure to endotoxins often leads to respiratory ailments among workers in caged hen facilities.

Excess nitrates from IFAP operations in groundwater can cause "blue baby syndrome" among infants. The blood of babies with this

syndrome is unable to carry enough oxygen to body cells and tissues.

In 1996, 7,000 Japanese schoolchildren were infected with *Escherichia coli* type O157:H7 (that breeds in intestines of cows and other animals) after eating sprouts that were probably irrigated with manure-contaminated water.

Animal manure has been found to be the source of more than 100 zoonotic pathogens that may directly contaminate the food supply. In India, staff members of the Humane Society International (HSI), an animal protection organisation, have observed streams of manure-polluted water flowing out of IFAP operations and into the surrounding villages.

Airborne bacteria present at IFAP operations can potentially transfer antibiotic-resistant bacteria from intensively farmed animals to labourers and others who live near such operation centres. Households that consume eggs produced at IFAP operation centres also face health risks. Induced moulting by withholding feed, a practice commonly used to revive productivity of aging hens or to temporarily halt production due to adverse market conditions, imposes significant stress on birds and have been found to severely affect their immune systems. They become more susceptible to infections such as salmonella enteritidis, which can then be passed on to those who consume these eggs.

A report by the International Food Policy Research Institute warns that salmonella infections are on the rise in India and elsewhere, and pose significant threat to public health in large Asian cities where huge numbers of birds are raised for food. Even though the Animal Welfare Board of India has directed all egg producers to immediately discontinue starvation to induce moulting, the implementation of the order remains a challenge.

Rural Economy

The rising environmental problem due to caged confinement of farm animals is likely to intensify in India with the government opening up the animal rearing sector for foreign direct investments.

As of now, six large poultry companies account for nearly 40 per cent of egg production in India. Industry reports state India will see the market further consolidating, leading to the dominance of large scale producers and more harmful elements in the environment.

Environmentalists who have studied the effect of animal breeding on environment in the United States have emphasised the asymmetrical relationship in waste produced with the dumping facility available. Consequently, recent policy changes in the United States have indicated a clear move away from the

intensive confinement of farm animals.

Due to rising public concern about food safety and animal welfare, the European Union (EU) is phasing out the intensive confinement of farm animals. The United Kingdom has already banned gestation crates for sows, in addition to having rigorous codes of animal welfare for other farm animals. In Switzerland, battery cages, gestation crates and sow stalls have been prohibited since 1992. Belgium is phasing out use of all types cages in egg production. New Zealand and Tasmania (Australia) are also phasing out gestation crates for sows.

In India, the Prevention of Cruelty to Animals (PCA) Act, 1960, specifically forbids the keeping or confinement of "any animals in any cage or receptacle which does not measure sufficiently in height, length and breadth to permit the animal a reasonable opportunity for movement". India has failed so far to enforce the space allowance for animals required by the Prevention of Cruelty to Animals Act. This loophole makes it easy for foreign animal production companies to want to invest in India in industrial farm animal production system since they realise they do not have to implement progressive animal welfare standards

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Location-based services can put biz on the map

MP MUELLER

ALTHOUGH Starkville, Mississippi, is home to Mississippi State University and the fighting Bulldogs, it's not a large city with a dense urban epicentre — the typical playground for those who use location-based marketing services such as Gowalla and Foursquare.

But one small-business owner there, Shane Reed of Strange Brew Coffee House, says sales of The Albino Squirrel Latte — a signature coffee drink with white chocolate and hazelnut syrup, get it? — and other drinks have increased 34 per cent this September over the previous September, which he attributes to his use of Gowalla and other social media sites. When customers check in with Gowalla at Reed's coffee house, they are greeted with a 10-per cent-discount on any drink. They show the counter crew the discount on their smartphones and proceed to sip happily.

Reed is an enthusiastic user of social media, but he says that in terms of generating walk-in traffic, the location-based services trump Facebook and Twitter. "You can have a great Twitter account and Facebook page," Reed said, "but if people don't know where you are located and can't find you, it's really not doing you much good." On an

average, he said, he gets four or five check-ins a day, but that number can jump to as many as 30 or 40 a day when Mississippi State's Bulldogs are playing. And it doesn't cost Reed anything, save the value of the discount.

There can be other advantages as well. When users of location-based services see friends checking in on Gowalla, Foursquare or Yelp and making a comment about the business they are visiting, it can have an impact. The location services reward the businesses with the most check-ins by ranking them higher in their search results. Someone who types "hair salon" into a location-based app on a smartphone will get a list of the most popular places in the vicinity and the salon with the most check-ins will be at the top of the list with its logo, a link to its website and a map to take customers right to the door.

Foursquare says it has more than 10 million users worldwide and use of these services is expected to soar. So far, Foursquare's core audience of 18-to-34-year-olds has skewed male. This may be the result of female security considerations or a greater inclination among males to take a cannonball approach to jumping in the social pool. However, Adam Ostrow, the editor-in-chief of social media news site Mashable, says checking in won't be necessary



in the future to receive geo-targeted specials and that may attract more female shoppers. "Every smartphone that's shipping now is including location features so that creates an opportunity for these services to extend their reach and start pushing out offers based on where consumers are," he said. "So consumers won't have to share their location to get those deals."

If you rely on local and foot traffic and you haven't already claimed

your page on these services, sign up. Strange Brew's Reed prefers Gowalla to Foursquare because he finds the interface more to his liking, but he concedes it's merely a personal preference. Once you've claimed your listing, cross-promote by adding links to your location-based pages to your web and social media pages. Gowalla's CEO Josh Williams says small businesses can benefit from editing their listings. "Fans have contributed their

impressions of a business on Gowalla," he said, "so small businesses need to go to Gowalla and make sure your business information is represented correctly and add topical, timely info, like the type of coffee that's roasting right now. The second thing is to encourage your fans or customers to come by and check in — if your business is a hot spot, it will rise to the top of the list of businesses in your area, and that's a great way to stand out."

Reed said he used his business name as his Gowalla user name so that when he checks in at other places — a Bulldogs game, for example — other Gowalla users see Strange Brew and make a connection to the man behind the business.

Foursquare's manager for business development Jake Furst said the service offered a number of user-friendly apps to help merchants get the word out. "You can put a Foursquare Specials message in at 3 pm, during a slow time," he said, "and it will show up on a user's phone within minutes. We've got a product called the Swarm Special. Merchants set up promo criteria for groups, like if we get 24 Foursquare users here at a set time, everyone at the bar gets a free drink."

All the services offer businesses free window clings and stickers to encourage check-ins to get specials and find friends. They also provide merchants with check-in data, giving businesses valuable insights about their customers. Foursquare's merchant dashboard summarises total daily check-ins, recent and most frequent visitors, visitors' gender and most popular time of day for check-ins. You can also see how many of your customers who check in are broadcasting their whereabouts on Twitter and Facebook.

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