

Animal husbandry in cities – using potentials, reducing risks

Not only rabbits and guinea-pigs but sheep, goats, cattle and pigs also play a crucial role in the food and income situation of countless city-dwellers world-wide. However, when people and animals live in such close proximity, health risks are inevitable. But instead of banning urban animal husbandry, as was, for example, considered in the course of the swine influenza epidemic, framework conditions ought to be created that enable people to make use of this business branch to earn a profit without running risks.

Different forms of keeping animals in cities for agricultural purposes have existed for a long time. In the Maya Empire and in China, but also in Europe, animals were already kept in cities in biblical times and during the Middle Ages. Horses and camels served as a means of transport for goods and armies, of which street names are still a reminder in many places. Just 100 years ago, cows in Copenhagen were fed with scraps from beer production, while Londoners kept rabbits on their balconies during the Second World War.

Today, animal husbandry still plays a frequently underrated role in small cities and urban centres, especially in developing countries and emerging economies. The animals are kept seemingly invisibly, predominantly in the disadvantaged city areas. For the poor population, these farm animals are often an important contribution to food security, whereas more wealthy strata of the population above all keep animals as a status symbol and as pets. While frequently ignored by the authorities, neither potentials that urban animal husbandry entails nor the risks it bears are considered in planning and support processes for the local population.

Carola von Morstein

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Eschborn, Germany
carola.morstein-von@giz.de



Photo: J. Boethling

Stable with buffalos for milk production in suburban Andheri, India.

In the cities, a very large share of the population live in absolute poverty; many of them have migrated from the rural areas. The poor urban population spend most of their income on food, and only little surplus remains (see also Figure on page 30). Just a small share of food costs is spent on animal products, although the (quantitative) demand for milk, eggs and poultry is high. This raises the risk of catching diseases caused by food of uncertain origin.

Many migrants from rural areas have brought their farm animals into the cities as living inventory, and sometimes even as their only possession. The animals represent an important link to their home locations. Frequently, the animals land in the slums, together with their migrant owners. But a lot of old-age pensioners and civ-

il servants also keep animals in the cities, and the lower middle classes have discovered urban animal husbandry as an interesting investment option. Since many women stay close to their households during the day, they usually look after the animals as well. The women are often responsible for the processing and marketing of the products. The sale of milk and eggs secures a small daily income for them, which is frequently vital for survival.

■ Urban animal production as an (economic) factor

Figures on how many animals are kept in cities and how high their contribution is to food and income security are not available. Animal production takes place mainly at subsistence level and in the informal sector, so

Example of the contribution that urban milk production makes to the food and income situation of urban households in a Nairobi urban district

Income

- 68 per cent of households are fully dependent on animal husbandry.
- Monthly net income per household: 60 US dollars (USD) per dairy cow.

Food

- Average family milk consumption: 2 litres per day.
- Children consume 53 per cent of the milk.
- 71 per cent of milk income is spent on buying food.

Job creation

- 71 per cent of households employ wage labourers.
- 82 per cent of the household members work in the milk sector.

Access to credit

- 27 per cent of households have access to credits of more than 700 USD.
- The households take part in informal rotating credit systems (Rotating Savings and Credit Association – ROSCA).

Financial security – “bank on hoof”

- 50 per cent of food is financed by income from dairy livestock husbandry.
- 42 per cent of health expenditure is raised by dairy livestock keeping.
- 72 per cent of school fees is financed by income earned by keeping dairy livestock.

The re-investment rate is at 58 per cent.

that the economic contribution is not known in detail. Various studies nevertheless give an impression of its significance. For example, there are reports that in Bamako/Mali, farm animals are kept in more than 20,000 households and thousands of people are responsible for looking after them. A survey in Harare/Zimbabwe shows that more than a third of the households keep chickens, hares, pigs, ducks or turkeys. In Dar es Salaam/Tanzania, urban animal husbandry is the second most important branch of the economy after petty trade and the services sector, and 74 per cent of the urban population have farm animals. In Asia (e.g. Hong Kong, Singapore, Calcutta or Dhaka), keeping pigs and chickens and fish-farming is very widespread. Out of 546 households interviewed in four districts of Hue (Vietnam), around 30 per cent keep farm animals, and even 80 per cent do so in

Dhaka/Bangladesh. In poor districts of Lima, La Paz or Mexico City, pigs, chickens and guinea pigs are kept in backyards and on rooftops. Experience among cattle-breeders in India shows that up to 80 per cent of them are without land, while the majority of them are women. Each of them has between one and three cattle, and dairy contributes to up to 45 per cent of families' gross income, securing their survival. The significance of animal husbandry is highly diversified, as a concrete example from Kenya shows (see Box above).

In many cities around the world, keeping farm animals is closely linked to gastronomy. Small restaurants are regularly supplied with local produce, and the short routes involved and the fresh products are highly appreciated. However, there are also examples of value chains in urban animal husband-

ry on a very large scale, as the example from Cairo shows (see Box below).

■ Production systems and their risks

Since the urban dwellers often own little or no land, the animals can be found wherever there is room for them: in backyards of buildings, on balconies and rooftops, on (municipal) wasteland, in the streets and alleys, but also on rubbish tips. The cramped conditions that the livestock are kept in and the lack of infrastructure cause stress, loss of production but also injuries among the animals, which results in lower production. They are fed on both organic waste from the households and on all food that animals roaming freely tend to find. They graze on wasteland and other green spaces. But waste/residues from industrial production (beer brewing, grain processing, etc.) get to the cities and are sold there by merchants. There is also a flourishing trade in concentrated feed and green feed from the surrounding areas.

All sorts of animals can be found throughout the cities of the world. There are a wide range of production systems and regional varieties, as the Table on page 30 shows. However, living together closely with the animals results in hygiene and health problems. Often, excrements and urine are not removed in time, properly disposed of or exploited as natural dung.

Pig production in Cairo

In the multi-million city of Cairo, the Coptic Zabalin (dustmen) have traditionally kept pigs for centuries. In highly aggregated value chains based on a division of labour, they kept around 350,000 animals for breeding and fattening, and the animals were slaughtered and sold. About 70,000 people were involved in this value chain, and enormous turnovers were generated. The animals were fed mainly on organic waste gathered by the Zabalin. In the course of the outbreak of so-called swine fever in 2009, all the animals were slaughtered. Not only did this spark great protest, but it also led to enormous rubbish and hygiene problems throughout the city. The action taken was subsequently declared a general health measure.



Photo: C. von Morstein

Classification of animal husbandry systems in cities

(Source: taken from Reiber, 2012)

Type of animal	Sheep + goats (meat)	Pigs	Poultry, pigs, rabbits, guinea pigs, etc.		Dairy livestock (goats, sheep, buffalos, cattle)	
	West Africa	Asia, South America	Tanzania, Egypt, Andean countries		India, Egypt	
Chief products	Meat, dung	Meat	Meat, dung		Meat, dung, milk	
Capital input	Low to high	Low to high	Low	Low	Low	Low
Breeding (use of exotic races)	-(x)	-(x)	-	x	-	x
Feeding						
• by-products	x	x	x	-	x	-
• concentrated feed	(x)	(x)	-	x	(x)	x
• rough fodder	(x)	(-)	(-)	(x)	(x)	(x)
Accommodation in stables	x	x	-	-	x	-
Main purpose	Subsistence/ commercial	Subsistence/ commercial	Subsistence	Commercial	Semi-commercial	Commercial
Size of stock	Small to medium	Small	Very small	Small	Small	Small
External inputs	(x)	(-)	-	x	-	x
Land ownership	+/- Tolerated on municipal land	Tolerated on municipal land	No land		Informal	Leasehold
Animal owners	Rich and poor	Poorer	Poor	Richer	Poor	Poor

Proximity to the animals encourages the spread of zoonotic disease such as bird flu or tuberculosis, but also vermination. Older people, women and children are particularly at risk because they spend more time with the animals. The partly uncontrolled intake of food by the animals can also lead to contaminated food or indigestible material being eaten. Thus toxic substances very quickly enter the food chain via products such as milk and eggs.

■ Opportunities thanks to improved and safe urban animal production

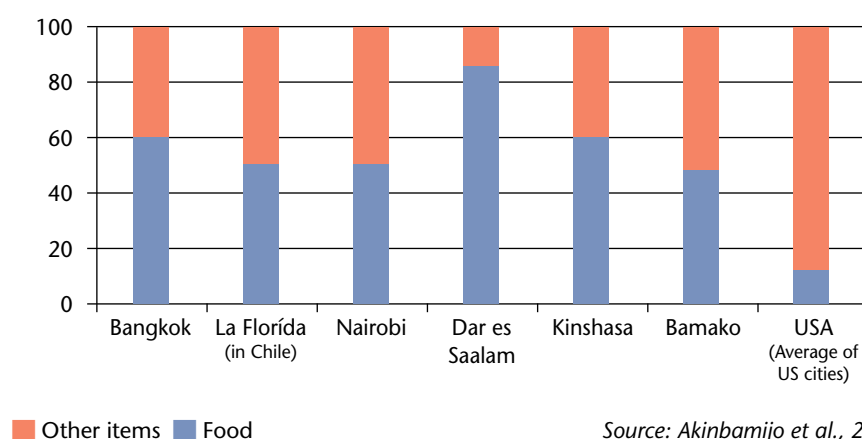
There is international agreement that the banning of urban livestock husbandry is neither socially nor politically acceptable and therefore no solution. This is why the creation of more suitable framework conditions and the support of solution strategies is recommended. This starts with the greater appreciation of the contribution made by urban animal production by government, municipal and non-governmental institutions (NGOs). The beneficial role of urban livestock husbandry also ought to be considered in municipal planning e.g. in the allocation of urban wasteland and

clear regulations. With the provision of the necessary infrastructure, such as veterinarian-controlled slaughterhouses and disposal of dead animals and slaughterhouse waste, health risks can be reduced considerably, and the quality and value of animal products can be enhanced. Necessary measures such as deworming and vaccinations could be promoted by municipal and private animal healthcare. What is of considerable importance is for women to take advantage of services such as consulting on food and hygiene issues as well as on health topics like zoonotic diseases. Furthermore, gender-sensitive capacity building among keepers

of livestock and consultants could enhance animal performance, improve the quality of animal products, develop the value chains and, ultimately, raise income. Through the improved management of excrements and other waste from animal production and their exploitation as organic fertiliser, environmental pollution could be significantly reduced.

Promoting producer organisations could enhance the position of – female and male – members vis-à-vis the authorities and in the procurement of feed and services as well as in joint marketing.

Share of urban household expenditure on food



Source: Akinbamijo et al., 2002