
Chapter 5

Livestock

Livestock is another important element within sustainable farming systems. Livestock is used to diversify income from farms, generate manure to be used as fertiliser, build food security and to work the land. The combination of crops and livestock in a diversified system enables a better utilisation of all resources.

This study reviewed animal numbers of carabao (water buffalo), cattle, goats, pigs, poultry and other animals. Overall, the research found that the full organic group is more likely to own carabao, cattle, goats and chickens. No clear trends are evident for pigs, ducks or other animals. Herd size, or the number of animals owned per household, was also higher for the organic households.

Figure 5.1: Key findings

- **For most animals, rates of animal ownership are higher for organic farmers**

The full organic group are more likely to own carabaos, cattle, goats and chickens.

No clear trends are evident for pigs, ducks or other animals.

Livestock rates are generally steady or in decline.

Income from livestock is higher for MASIPAG farmers.

Carabao

The carabao, or water buffalo, has traditionally played a central part of rice farming systems in the Philippines. Carabaos are useful on and around the farm and represent a major capital investment that can be either hired out to other farmers or, in case of emergency, sold. Carabaos are used for land preparation and ploughing. They are a source of manure and serve as a means of transport. Carabao milk may be drunk or made into cheese. The animal can also be used as a source of meat although as a major capital investment, most farmers would rarely, if ever, use this option. For some farmers in the Philippines, the carabao has been replaced by mechanised hand tractors for plowing.

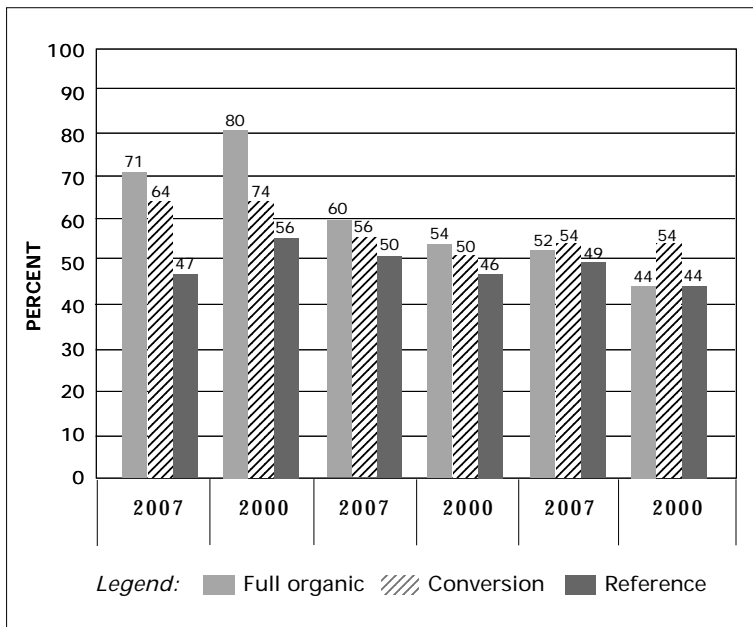
The diverse cultural, environmental and economic uses of carabao are illustrated by this quote from a MASIPAG farmer:

The uses are cultural- carabaos are traditional. Ownership of carabaos is a symbol of being a MASIPAG farmer. It is also a source of manure. The uses are also economic: gasoline is expensive. A carabao is the cheapest energy in town, and carabaos reproduce. It is a source of income when hired by others for farm work and becomes a reserve fund in case of emergency.

Carabaos are owned by 60% of full organic farmers and only 49% of conventional farmers. Ownership shows strong regional differences. In the Visayas, 80% of all full organic farmers own at least one carabao. In Luzon it is only 56% and in Mindanao only 44%. Carabao ownership for the conventional farmers is considerably lower for the Visayas (56%) and Luzon (46%). For Mindanao, ownership of carabaos is at the same level (44%).

Looking at the changes since 2000, the number of houses with at least one animal shows a slight increase in the Visayas, but Luzon and Mindanao record a decline for all groups. This indicates that capital is very short on farms although this may also indicate a move towards mechanisation in some instances. Overall, the number of farms that own carabaos remains steady. For organic farms, the rate has declined slightly from 62% in 2000 to 60% in 2007. For conventional farmers, rates are constant at 49% of households owning a carabao.

Figure 5.2: Carabao ownership



Ownership of other livestock

The ownership of **cattle** is quite rare among all farmers interviewed. Among both the full organic and conversion groups, only 33% keep cows. For the conventional farmers the percentage is even lower at 24%. Since 2000, cattle ownership has declined for all groups and the average number of animals kept has decreased from 2.5-2.8 to 2.3 in all groups. (See Figure 5.3)

Similar to cows, the use of **goats** is not widespread. Goats are most common in Mindanao where 47% of the full organic farmers keep goats, followed by the Visayas with 37% and Luzon with 24%. In all regions the number of goat keepers in the reference group of conventional farmers is between 8-25% points smaller. The conversion group stands in an intermediate position.

The comparison over time shows that goat numbers are more or less constant for all groups in the Visayas, while the trend for

Luzon is strongly negative. Mindanao, however, shows a statistically significant upward trend in both MASIPAG groups while the reference group has stagnated.

A closer look at the Mindanao case shows the impact of one of MASIPAG's cooperating NGO partners, Balay Dabaw Sur Inc (BDSI), in Davao Sur. BDSI managed goat dispersal programs in this province. Here the average number of goats per full organic farmer rose from 4.6 to 14.3 heads. This indicates that well managed dispersal programs can have a positive impact on farms.

Pigs are a more popular livestock option in the south than in the north of the Philippines. In Luzon, about half of all farmers raise pigs, while in Mindanao three quarters of all farmers keep pigs. The farmers in Visayas are in an intermediate position. For Mindanao, MASIPAG farmers raise slightly more pigs than conventional farmers. For the Visayas, there are no major discrepancies among the three groups. For Luzon conventional



A child takes care of the family's poultry in Belen Camarines Sur.

Achim Pohl

Figure 5.3: Ownership of livestock

	Full organic farmers		Conversion farmers		Conventional farmers	
	2007	2000	2007	2000	2007	2000
Cattle						
% of households	34	29	33	35	27	23
Mean number of animals	2.3	2.8	2.3	2.8	2.3	2.5
Goats						
% of households	37	34	34	30	25	22
Mean number of animals	5.9	6.0	5.3	7.0	3.7	4.8
Pigs						
% of households	32	34	40	37	39	45
Mean number of animals	2.5	3.0	2.5	3.5	2.6	4.7
Chicken						
% of households	91	86	87	83	83	73
Mean number of animals	14.0	20.5	11.6	19.0	10.8	71.8
Ducks						
% of households	36	30	33	27	29	23
Mean number of animals	9.9	15.5	11.4	35.5	8.8	17.5
Turkey						
% of households	1	0	0.4	0.4	1.4	1.8
Mean number of animals	3	0	1	5	4	6
Other Animals						
% of households	6	10	6	7	5	5
Mean number of type of animals	2.3	7.6	2.3	2.4	2.6	3.1

farmers have slightly higher pig ownership. Clearly there are no major trends here. Over time, Luzon shows a downward trend while the other regions remain largely constant.

The vast majority of farmers across all regions and groups raise **chickens**. Only a small group, 9% of the full organic farmers and 17% of the conventional farmers, do not keep chickens. The full organic farmers raise slightly higher numbers - on average 10.6 chickens per household compared to the reference group's 7.6. The time comparison shows a heavy decline of about 40% for all groups.

The number of **ducks** kept per farm is similar to chickens with no major differences among the three groups. However, only a third of all farmers keep ducks. Ducks mark the same strong decline for 2007 as recorded for chickens.

The decline of poultry may have been caused by a rise of Newcastle disease or NCD in 2007. The Philippines' Bureau of Agricultural Statistics records stronger declines in heads every second or third year (BAS, 2008). This highlights the health risks of poultry production. Given these strong risks, the selection of MASIPAG's strategy to promote robust local land races is appropriate. However, a closer attention to disease prevention and veterinary care is advised.

Another poultry species, turkeys, is raised by less than 3% of all farmers. All other animals combined, such as horses, donkeys, etc. are only kept by few farmers in all groups.

In conclusion, with some regional exceptions, animal ownership for most types of animals is slightly higher for the organic farmers compared to the conventional farmers. MASIPAG started many of its activities on rice. Livestock activities were taken up only later as part of the diversification of farm enterprises. MASIPAG has promoted the importance of animals in an integrated system but due to limited funding, the network has never managed animal dispersal programs. MASIPAG also supports a chicken gene pool program to promote and improve local chicken landraces.

The income benefits of higher livestock rates among full organic farmers were shown in chapter three. The chapter revealed that

full organic farmers earned on average 8,202 pesos from livestock per annum while conventional farmers earned 6,332 pesos. This shows a solid impact of sustainable agriculture's focus on promoting livestock as an income diversification strategy and central element of organic farming.

The benefits of the farmer-led sustainable agriculture are clear in terms of income generation and food security. The integrated nature of the system, however, means that economic considerations are just one component. We now turn to the environmental and social aspects of the farmer-led sustainable agriculture approach.



MASIPAG photo

Regular assessment and planning exercises make for active people's organizations. Kiblawan, Davao del Sur