

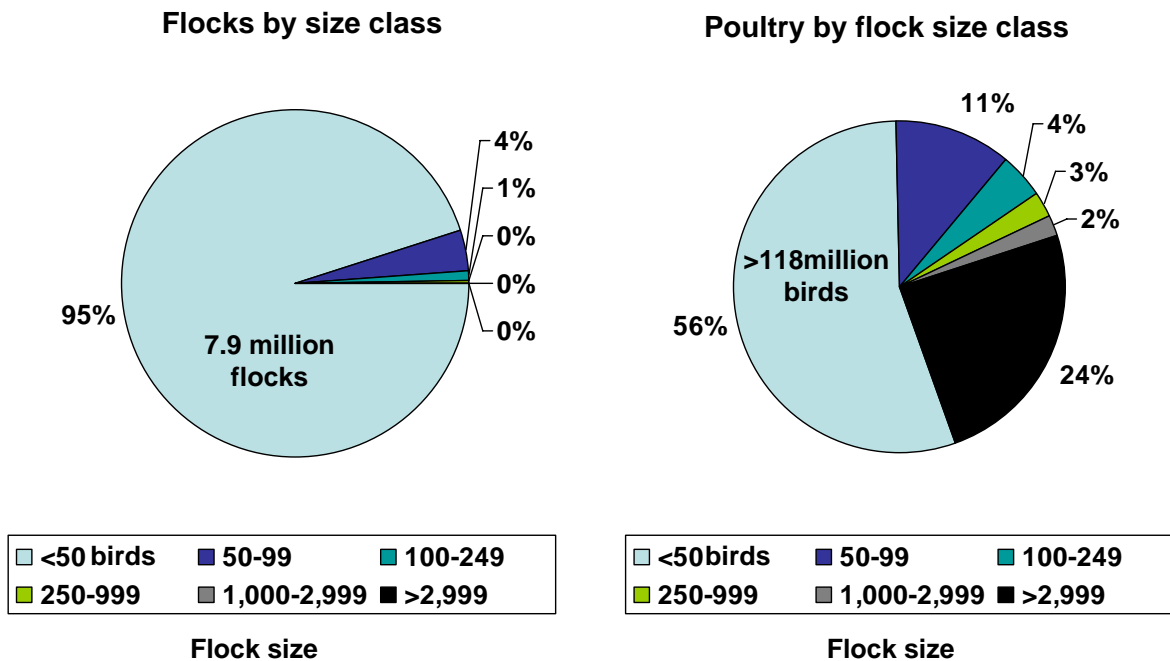
The hen which lays the golden eggs - Or why backyard poultry are so popular

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Highly pathogenic avian influenza (HPAI) has captured the headlines worldwide and national governments and international agencies are attempting to control its spread through a variety of measures. Some governments go as far as contemplating the elimination of smallholder poultry keepers, which currently dominate poultry production in the East Asian HPAI epicentre countries.

Although most rural households in East Asia derive the bulk of their subsistence income from cropping, poultry act as an important source of protein and constitute an investment, which yields extremely high returns. In Viet Nam, one of the countries most severely affected by HPAI, approximately half of all households, rural and urban, keep chickens. In rural areas, typically seven out of ten households, that is around eight million households, own chickens. Average flock size prior to the HPAI epidemic was around 16 birds (4 hens, 1 cock and 11 growers and chicks), with slight variation between regions (PPLPI WP 21). Only one percent of flocks consisted of more than 100 birds (see Figure below).

Distribution of flocks and birds by flock size class in Viet Nam



The chicken are mostly kept as backyard flocks by smallholder farmers who achieve an average annual per capita income of less than USD 200 per year. The chicken are left to scavenge for feed and receive minimal inputs. Typical production performance and management of backyard poultry in South East Asia, derived from literature, is summarized in the following table.

Parameter	Value
Eggs produced per hen per year	70
Home consumption (%)	50
Hatchability (%)	60
Mortality (%)	
Chicks (week 0 to 10)	60
Growers (week 11 to 30)	20
Adults (annual)	15
Hens / cock	4

Based on the above, the following annual offtake per hen can be estimated.

Parameter	Value
Eggs consumed per year	35.00
Birds for sale / consumption	6.12
Replacements required	0.18

Given the current price of around 1,400 VN Dong¹ per egg and 40,000 VN Dong per mature bird, the gross value of output per hen amounts to 286,600 VN Dong per year (see table below). A flock composed of 12 hens would thus yield a monthly income close to the current monthly rural wage rate of 310,000 VN Dong.

Parameter	Value
Eggs consumed per year	49,000
Birds for sale / consumption	244,800
Replacements required	[7,200]
Total gross value of offtake	286,600

Given that apart from the initial investment in the purchase of a hen (40,000 VN Dong) and the required 'fraction of a cock' (10,000 VN Dong) virtually no production costs accrue in these scavenging backyard flocks, annual return to 'capital' invested is around 700 percent, ie the hen provides produce seven times her purchase cost - a rate of return not easily matched by any other investment. Even when factoring in annual production costs per hen in the order of 40,000 VN Dong (equivalent to the purchase cost), the rate of return remains around 600 percent.

Apart from the high rate of return, a further advantage of investing in poultry is the flexibility to partition the investment into small amounts of cash throughout the year and the option of equally easily 'cashing in' small amounts as the need arises.

These 'back of an envelope' calculations conceal the variability of the potential returns and thus the risk involved in investing in poultry. However, the wide prevalence of backyard poultry demonstrates that it remains a very attractive investment for rural and urban smallholder farmers and clearly it will be difficult to find an equally attractive alternative, should backyard poultry raising be abolished in the quest to control HPAI.

On a national scale, cessation of backyard production would lead to income foregone in the order of 8,600 billion VN Dong or USD550 million per year, which is equivalent to around five percent of agriculture GDP or 2.5 million 'full-time jobs' at minimum rural wage rate. The

¹ App. 16,000 VN Dong to 1 USD

commercial sector would of course eagerly fill some of the supply gap, the outlet however being mainly urban consumers, again leaving disadvantaged rural consumers footing most of the bill.

Thus, for reasons of equity and economic efficiency it is necessary to very carefully assess HPAI control measures for their differential socio-economic impact across the diverse strata of producers and consumers, weighing potential risks against real livelihoods.

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