

PIN'S EXECUTIVE REPORTS SERIES

A VALUE CHAIN ANALYSIS OF CAMBODIAN SMALLHOLDERS' CHICKEN PRODUCTION

Based on an assessment conducted in Pursat and Kampong Chhnang Provinces, Cambodia



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A Value Chain Analysis of Chicken Production by Cambodian Smallholders

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Research conducted in: Pursat and Kampong Chhnang provinces, Cambodia

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The presented analysis, conducted as a part of PIN's CLIMAD project, addresses the gap in the availability of precise and reliable data on the chicken value chain. From 2009 to 2013, the rate of poultry production (mostly chicken) in Cambodia increased by 35%, from 20 million heads to 27 million heads (MAFF 2013). More than 85% of this poultry was produced by smallholders, with women playing a key role in this production. The objective of this value chain assessment is to better understand how the chicken value chain functions for all relevant actors and identify entry points for activities that will enable smallholder chicken producers to generate higher profits from their production. The rationale for this assessment stems from the belief in the potential for market and production improvements to be a driver of development and a means to address poverty. However, it recognizes the imbalances in markets, which, if not addressed, can create difficulties for poor

small-scale producers and women in particular to benefit in an equitable and sustainable manner.

The presented data was collected in June 2014 by a team of 14 well-trained data collectors. The study involved 100 smallholder farmers, 16 village chicken collectors, 15 chicken wholesalers, 23 chicken retailers, 13 restaurants and 30 local residents from 4 districts of Pursat and Kampong Chhnang provinces. Structured questionnaires (pre-tested by extensive piloting) and focus group discussions were used to collect data. As a way to validate and build on the findings, the results of the assessment were shared with more than 1,500 livestock farmers in a series of data analysis and use workshops in the second half of 2014. While the study was focussed on two provinces, many of the findings reflect market conditions that are present nationwide, and as such the recommendations included have broad applicability for the Cambodian livestock sector.

CLIMAD PROJECT IN BRIEF

Community Livestock Market Development (CLIMAD) project engages the private sector, civil society organizations and relevant authorities in reducing the poverty of more than 30,000 livestock smallholders living in 205 villages of Pursat and Kampong Chhnang provinces. CLIMAD's team is working to enable local veterinarians, veterinary companies and local shops to improve the quality, accessibility and demand for private, community-based veterinary and marketing services. As a result, farmers are able to boost their incomes from livestock production while service providers increase their profits, generating win-win solutions for addressing livestock smallholders' needs. CLIMAD is implemented by a Czech NGO People in Need (PIN) with the financial support of the European Union and the Czech Development Agency. PIN

partners with and supports the capacities of its key national partners – EPDO, PNKA, and SORF – and actively cooperates with the Provincial Offices of Animal Health and Production and MAFF. With a duration of 3.5 years, total budget of 1.4 million USD and a team of 33 staff, CLIMAD belongs among the largest livestock market development projects in the region. CLIMAD's team welcomes cooperation with other results-driven agencies.



VALUE CHAIN MAP OF CHICKEN PRODUCTION

WHAT ARE THE ROLES AND RESPONSIBILITIES OF KEY ACTORS ALONG THE VALUE CHAIN*?

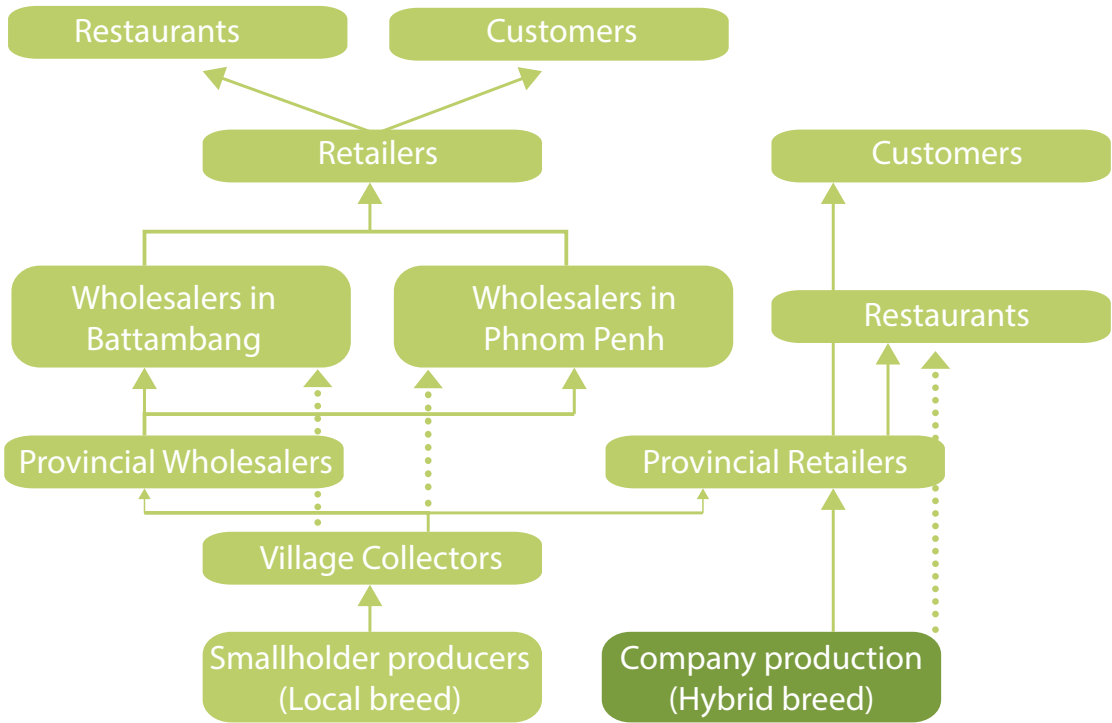
In order to better understand the market opportunities available to chicken producers, the study analyzed the production flow of chickens from the farm to end customers. The study found that the key actors involved are:

1. **Smallholder farmers:** produce chickens to sell as meat, and mainly sell their chickens to village collectors.
2. **Village Collectors (VCs):** are involved in directly purchasing local breed chickens from the farm gate at the village level. Purchased chickens are then either sold to provincial wholesalers and retailers or directly to wholesalers in larger towns
3. **Wholesalers:** are based in district and provincial towns, and purchase chickens from village collectors to supply to Phnom Penh and other provinces.
4. **Provincial retailers:** sell both live and dressed chickens to end consumers based in the provinces, and in this way play a dual role as both vendors and butchers. Both local and hybrid chicken breeds are sold by retailers to customers.
5. **Companies:** are involved in selling hybrid breed chicken's nationwide. CP Foods, a Thai company, is a major player in this market, and sells live chickens to retailers and restaurants around 2-3 times per week.
6. **Restaurants:** purchase dressed chickens directly from retailers and in some small cases directly from VCs.



*input suppliers, that provide medicine, chicks, feed, equipment, and technical advice, play an important role in the chicken value chain. These stakeholders we're not included in this value chain assessment, but research on their involvement in the sector can be found in PINs UAI and BCS reports listed on the final page of this report.

VALUE CHAIN MAP OF CHICKEN PRODUCTION



HOW DO CHICKENS REACH THE MARKET?

The study found that more than 80% of sales from all chicken producers go to village collectors (VCs), with the other proportion of sales going to neighbours or directly to market outlets. VCs generally collect chickens from an average of 4 to 8 villages on a daily basis. Their main method of transportation is by motorbike. There are generally around 6 VCs operating in each district, although this depends on the size of the

district. The majority of VCs purchase chickens directly from the farm gate, however in some cases VCs appoint a meeting place where farmers can collectively sell their chickens. Generally, farmers need to have at least 11-14 kg's of chicken for the VCs to make a purchase. VCs always purchase chickens live, and always sell these chickens directly to wholesalers on the day of collection.

CHICKEN BREEDS AND CHARACTERISTICS

WHAT ARE THE DIFFERENT CHICKEN BREEDS THAT ARE BEING RAISED?

- **Local Breeds:** are mostly raised by smallholders in the rural areas for meat production. Farmers are able to support continual breeding by raising both hens and cocks. Local breeds are best adapted to the local climate.
- **Hybrid:** types are a mix of different pure breeds that are bred for the purpose of meat and/or

egg production. This breed is most popular for commercial production rather than smallholder production. These breeds cannot be kept for continual breeding, and new chicks need to be purchased from hatcheries.

- **Partly Hybrid (3 crossbred):** is a mix between local breed and hybrid breeds. This breed can be marketed to consumers with a preference for local breeds as it looks the same as local breeds.



COMPARISON OF DIFFERENT CHICKEN BREED CHARACTERISTICS

| FEATURES | LOCAL BREED 'MOWANNE SREI' | HYBRID | |
|--|-------------------------------|------------------------------------|------------------------------------|
| | | FULLY HYBRID 'MOWANNE CATSIKUM' | PARTLY HYBRID 'MOWANNE BEI SAH' |
| Meat | Lean and tough | More fat and soft | Leaner but not so tough |
| Meat taste (according to local preferences) | Good | Poor | Medium |
| Body size | Small | Big | Small/Medium |
| Growth time | From 4-6 months | 1 ½ months | 3 -4 months |
| Price | High | Low | Medium/High |
| Supplier | Smallholder farmers | Companies/ commercial farms | Companies/ commercial farms |
| Weather tolerance | Good | Poor | Medium |
| Market Demand | High | Medium | Medium |

THE MARKET FOR LOCAL AND HYBRID CHICKEN BREEDS

The use of good breed selection practices are essential for farmers to improve the productivity and income from their chicken raising. The study analyzed the existing market dynamics for chicken breeds in the target areas to understand trends in the breed selection and production practices.

HOW BIG IS THE MARKET FOR LOCAL BREED CHICKEN?

As illustrated in the graph below, local breed chicken only makes up between 20-30% of the total volume of chicken sales in the target provinces, due to the high rate of hybrid chicken purchases. The amount of local breed sold daily is between 180-230 kg at the provincial town mar-

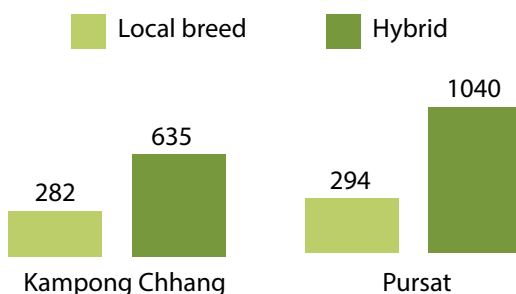
kets, and between 10-60 kg per day at the district markets. The study found that close to 80% of the total production (1,935 kg) of the local breed chickens were exported daily to Phnom Penh, with this amount of exports doubling during peak demand seasons.

WHAT TYPE OF CHICKEN IS BEING SERVED AT LOCAL RESTAURANTS?

- The study found that about 40% of restaurants in the target areas sell only local breed chicken, 40% sell only hybrid breeds, and the remaining 20% of restaurants serve both breeds to their customers. The average daily consumption in restaurants is 6-10 kg of hybrid and 4-5 kg of local breed.



Total amount of chicken sold, by breed (kg/day)



THE TREND TOWARDS HYBRID CHICKEN BREEDS

A 2013 study by Heifer International found that national demand for poultry (mostly chicken) for domestic consumption is about 40 million heads, but the capacity of local supply is only 27 million heads. Local poultry production does therefore not meet market demand, and as a result there is a high rate of poultry imported from neighbouring countries.

PINs study found that hybrid chicken varieties make up between 70 to 80% of total sales in major retail markets at the provincial level. While provincial towns are the main target market for commercially produced hybrid chickens, the study found that a high proportion of hybrid chicken breeds are also being sold and consumed at the district level. For retailers, selling hybrid species is more profitable, and the prices are also lower and more affordable for farmers, which has helped to drive this market.

The growth in the market for hybrid chickens has occurred despite the fact that rural people have a preference for consuming local breeds.

More than 80% of local residents stated that they choose to only consume local breeds, which are preferred for their taste and the fact that they do not receive factory feed. The mismatch between preferences and consumption may be caused by the fact that customers often mistake partly hybrid breeds to be local breeds, due to their similar appearance.

THE HISTORY OF HYBRID CHICKEN IN CAMBODIA

Hybrid chicken breeds were introduced into Cambodia in 1992 with the influx of international and United Nations personnel who were assisting with the 1993 general election process, and the resulting high demand for poultry products. This has led some in Cambodia to refer to hybrid chicken breeds as UNTAC (United Nations Transitional Authority in Cambodia) chickens. In 1997, the company CP foods first established local production of hybrid breeds in Cambodia, and have since expanded their operations nationwide as demand has grown (FAO, 1997).

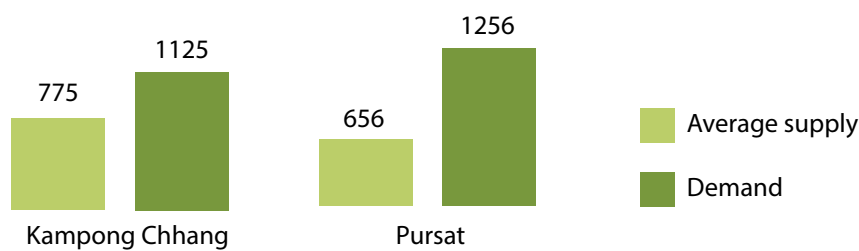
IS THE SUPPLY OF LOCAL BREED CHICKEN MEETING THE DEMAND?

All of the VCs and wholesalers consulted for the study said that the current supply of local breed chicken does not meet the demand, especially in peak months. VCs stated that their demand was approximately 70kg of chicken per day, but that on average only 38kg were available for purchase. During peak demand months, provincial wholesalers demand around 1,000 kg of chicken per day, with supply from VCs only around 600-700 kg. In order to help meet these

high demand requirements in peak months, most wholesalers provide cash advances to VCs to enable them to purchase sufficient chickens on time.

The higher market demand compared to supply indicates that there is significant potential for greater production of local breed chicken in rural areas. A variety of constraints have restricted the supply of chicken from smallholders (please refer to page 23 for an analysis of these constraints). The higher demand in these months also helps to keep prices high, which is beneficial for poor farmers.

Supply and demand of local breed chicken by wholesalers in peak months (kg/day)



WHAT CAUSES FLUCTUATIONS IN THE MARKET PRICE OF CHICKENS?

The study revealed that the purchase price of live chickens at the village level fluctuates significantly throughout the year, with a variance of 2,500 riel/kg. The highest prices occur in the months with the highest demand for chicken, which are February, April, August & September, due to important national festivals that occur at this time. From May till July, there are fewer festivals, and freshwater fish is abundant and cheap, contributing to lower demand for chicken and a lower market price. Ensuring that farmers are aware of these fluctuations in market prices, and time their production cycles to allow for sales in the months with higher prices, provides an important opportunity for smallholders to increase their incomes.

The study found that the price trend follows roughly the same pattern in both of the provinces assessed, although prices are higher on average in Kampong Chhnang, as the cost of transportation to Phnom Penh, a key market, is lower.

ARE ALL FARMERS RECEIVING THE SAME PRICES?

The study found that some VCs exploit farmers lack of access to market information, and regularly offer lower purchasing prices than the market rate (by around 1,000-2,000 riel/kg). The study also found that the selling price is gen-

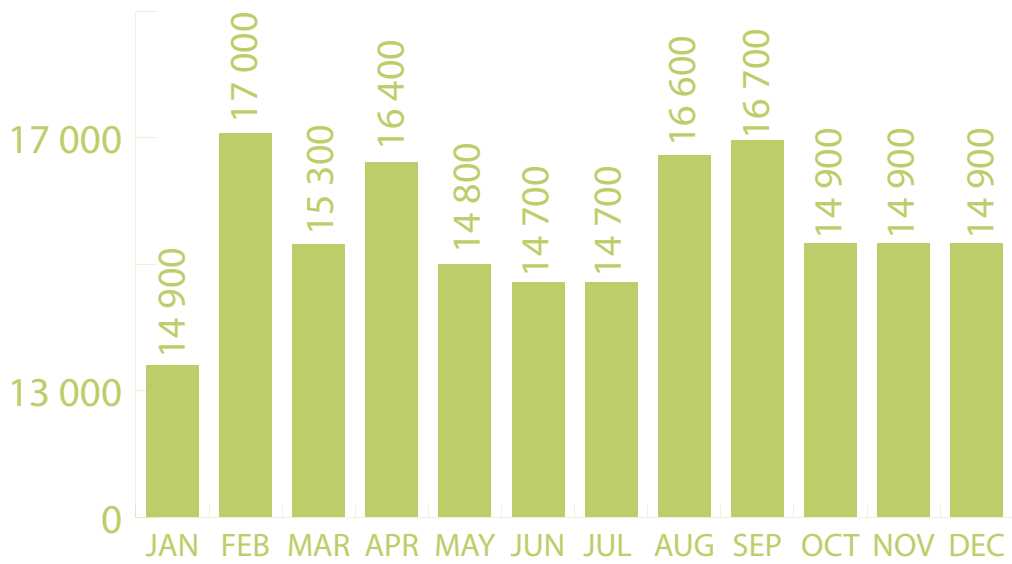
erally lower for smaller producers, who are less aware of market prices and negotiate less than the larger producers. Larger producers were found to always call several brokers and negotiate on prices before selling. Providing smaller producers with the contact details of local brokers can help to improve their position by enabling them to call around to access price information and improve their negotiating power during sales.

When purchasing directly from farmer's houses, around half of the VCs will decrease the price offered (from 500-750 riels/kg). Farmers who transport their chickens and sell them directly at the house of the VC can thus receive a better price. While the study found that most farmers think wholesalers would not buy small amounts of chicken from them directly, all the wholesalers consulted stated that they would be open to purchasing directly from farmers, and would offer them the same price that they offer the VCs. The transportation cost for farmers is a key constraint that prevents them from selling directly to wholesalers. An important way for farmers to improve their income is by coordinating to sell their chickens to either VCs or wholesalers collectively with other farmers, which can increase the prices they receive. PINs experience with supporting these collective sales has shown that farmers can increase their

selling price by an average of 1000 riel/kg. The collective sale of chickens from one central village location also has biosecurity benefits, by

reducing the risk of diseases spreading when the VC travels from farm to farm for collection.

**Average purchasing price (Riel/kg)
of live chicken in Kampong Chhnang target districts, 2014**



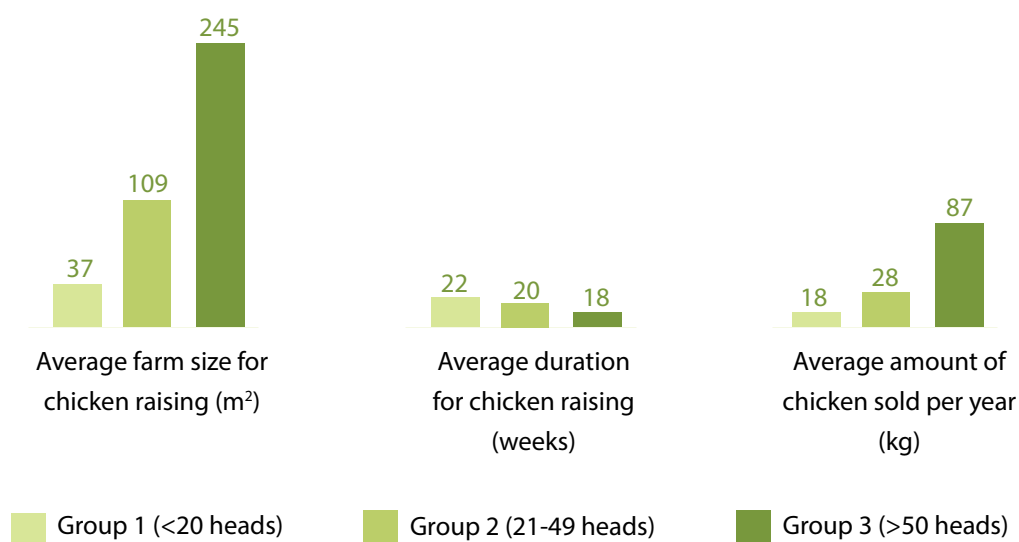
PRODUCTION ANALYSIS OF DIFFERENT PRODUCER GROUPS

As part of the study, chicken producers were divided into 3 groups, made up of farmers raising less than 20 heads of chicken (Group 1), 20-49 heads (Group 2) and more than 50 heads (Group 3). The study examined the different factors of production for each of these groups, to identify which production system provides smallholders with the best potential advantages.

a pen and allow their chickens to roam free, putting them at greater risk of mortality from predators and disease. Group 2 & 3 producers were found to all utilize chicken pens, and most had also constructed fences around the coops to further protect their chickens.

Based on the improved technical skills of farmers raising higher numbers of chickens (Group

Comparing the production differences of different producer groups



As expected, the average farm size increases according to the number of chickens being raised. While the majority of Group 1 producers raise their chickens in a pen, around 10 % don't have

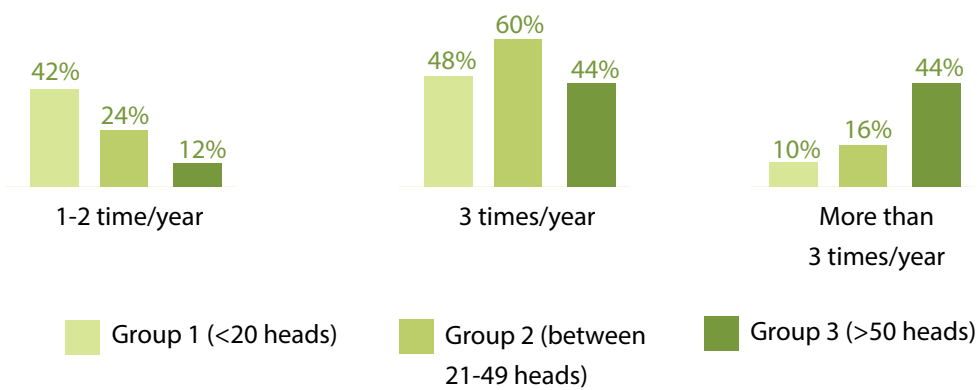
3), they are able to raise chickens in less time than the smaller producers, allowing them to sell a higher amount of chicken and generate greater returns from their production.

HOW OFTEN DO FARMERS SELL THEIR CHICKENS?

The majority of small scale chicken producers only sell their chickens between 1-3 times a year. Farmers in Group 3 have the highest amount of chicken sales in one year, with 44% of these producers selling more than 3 times a

year, compared to only 10% and 16% of Group 1 and 2 producers respectively. Nearly half of all Group 1 producers only sell their chickens once or twice a year. Supporting smaller producers to reduce raising times and increase the frequency of their sales can help to significantly improve their annual incomes from chicken raising.

Frequency of chicken sales for different producers



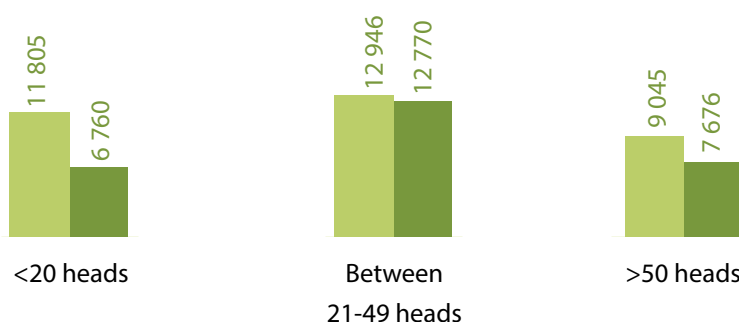
COSTS OF PRODUCTION FOR DIFFERENT PRODUCER GROUPS

There are considerable differences in the costs of production for smallholder producers depending on the scale and method of production. The costs also vary according to which costs are included in the calculations. In case we include all expenditures on production, which include the value of household resources utilized in the production process (e.g. the value of leftover rice stocks and other food used as chicken feed, the value of household materials used to build pens), we see that farmers in Group 3 are producing at the lowest cost (9000 riels/kg). In case we exclude the value of household resources used, and only focus on farmers' expenses on external inputs (e.g. chicks, market feed, vaccines, purchased pen materials), Group

1 spend less than other producers (6,800 riels/kg). Interestingly, on both of these accounts, Group II producers have the highest production costs.

This data indicates that smaller (and generally poorer) producers use a lot more of their own resources for production, and purchase very few external inputs. As production increases, more off-farm inputs are purchased, such as feed and pen materials, as shown in the graph below. An important finding from this is that farmer's use of household resources can give them an important advantage in production, by reducing their need to pay for external inputs and lowering their production costs per kg of chicken raised. The use of local feed sources

Average production costs for different producers (riels/kg)



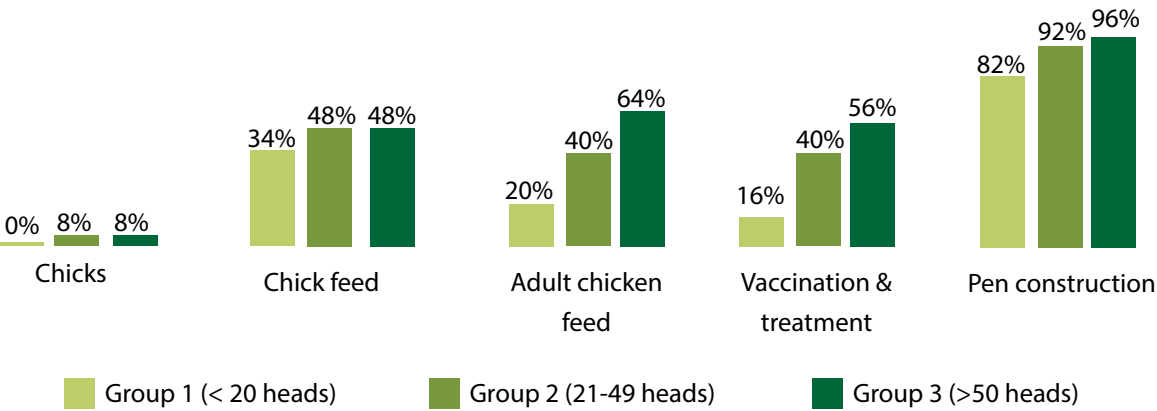
In case value of hhld resources are included

In case value of hhld resources are excluded

can also help to improve the health of chickens which can increase their selling prices. The assessment found the vaccination and treatment rates we're very low, especially for smaller producers, with only 16% of Group 1 producers vaccinating or treating their chickens. This reflects the lack of trust that many smallholder

farmers have towards vaccinations, and the lesser value they place on chickens when only a small amount are being raised. Interestingly, farmers in Group 1 never purchase chicks and instead are self-sufficient with their breeding, helping to keep their production costs down.

Expenses on chicken production for different producers



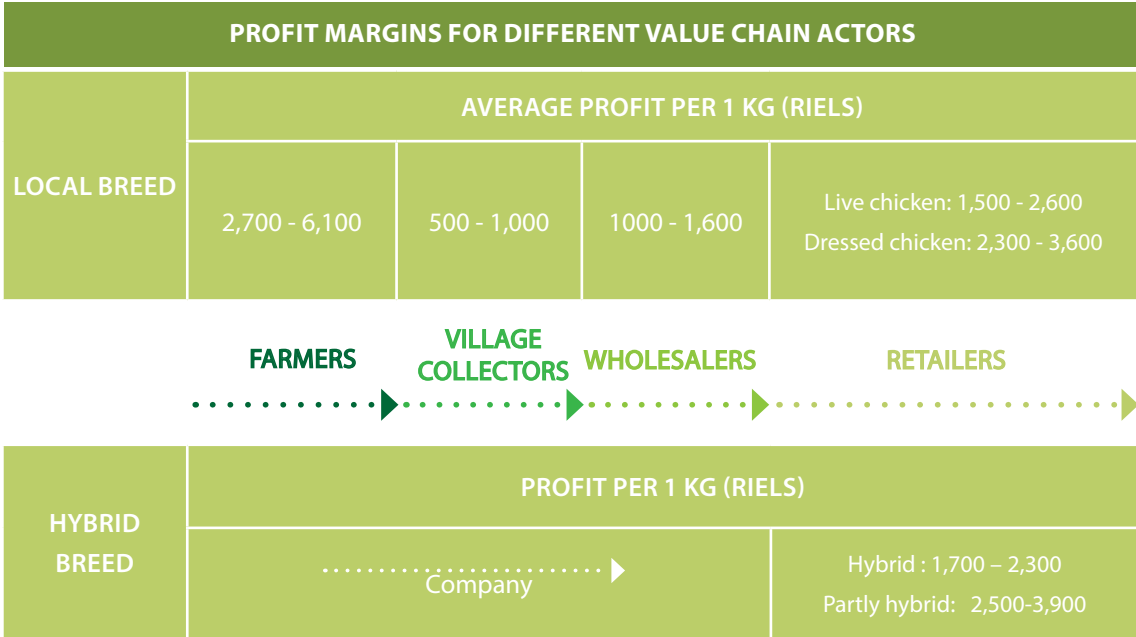
PROFIT MARGINS FOR VALUE CHAIN ACTORS

The study analyzed the profit that different value chain actors were making to understand the share of market value being earned by small-holder farmers. As indicated in the graph below, the margins for farmers are higher than other actors, however there is a large range in the margins they receive (from 2700 – 6100 riel/kg), which is influenced by the scale of their production and by the types of costs that are included in the analysis.

The graph indicates that farmers could earn an additional 3200 - 5200 riel/kg if they were to sell their chickens directly to end customers. Support for direct marketing approaches linking farmers directly with consumers could in some cases help to more than double their profits.

If we calculate farmers average daily profit earnings from local breed production, they earn less than 50 riels per day from their production, while other actors can generate a daily profit of between 500 riels (village collectors) to 3,600 riels (retailers). This is because the volume and frequency of sales are significantly less for farmers, who only sell their chickens an average of 2 or 3 times a year, whereas VCs collect chickens 3 times a week and retailers sell a high volume of chickens daily.

Interestingly, the study found that the profit margins for restaurants were 5,800 riel/kg (when selling whole fried chickens), which is the highest profit margin out of any actor.



PROFITABILITY OF CHICKEN RAISING

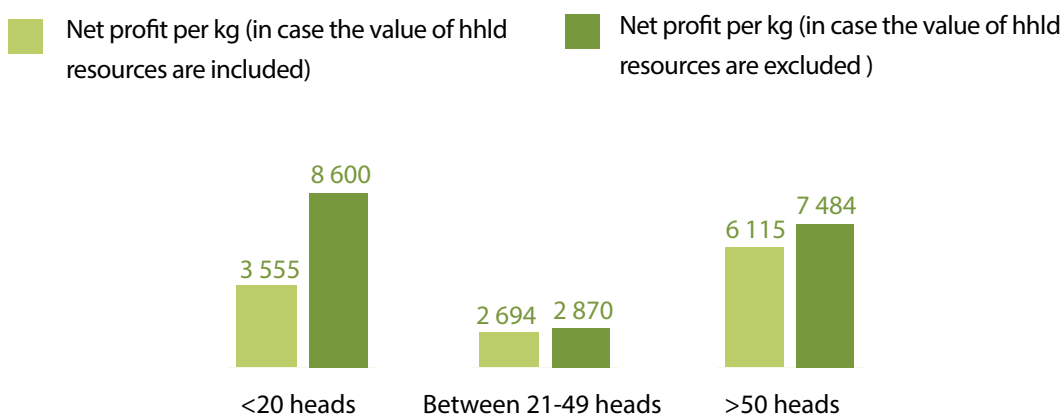
Based on the data shown above, all groups are earning profits from their chicken raising. In case the cost of all expenses are included, farmers in Group 3 have the highest profit margins (6100 riel/kg), which are nearly double the profits of the smaller producers.

If the value of farmer's household resources are excluded, the results are very different. In this case, farmers in Group 1 earn the highest profit (8,600 riels/kg), followed by farmers in Group 3 and lastly Group 2. This demonstrates that farmers can improve their profit margins by utilizing household resources to support their production. The graph does not illustrate the volume of production. While smaller farmers (<20 heads) can generate higher profit margins per kg of chicken produced, they only sell approximately 18

kg per year, contributing to a total annual profit of \$38, compared to the larger producers (>50 heads) who sell an average of 87 kg per year and make a total annual profit of \$162. For the medium scale producers (between 21-49 heads) who sell on average 28 kg per year, their annual profit is only \$20, which is less than Group 1 producers, due to the lower profit margins they achieve.

These findings demonstrate that if smallholders want to enhance their returns from chicken raising they should have a large number of chickens in their flock (to capitalize on the input investments) and continue to utilize household resources, this will enable them to jump from Group 1 to Group 3, and will allow for to a higher volume of production and annual income.

Profit margins for different producers per kg of live chicken



WHY AREN'T FARMERS IN GROUP 2 EARNING BETTER PROFITS?

There are a number of factors that influence the lower profitability of the Group 2 producers. The higher number of chickens raised, the lower the production costs will be for this group. Farmers in this group invest in larger chicken pens and buy external feed, while still not raising large enough flock sizes for these investments to yield significant returns.

The feed system used is another important factor. This group spends more than 5 months

raising their chickens, requiring more inputs for feed than the Group 3 producers, and lowering their feed conversion efficiency (FCE).

Farmers in Group 2 spend about 6,000 riels for feed per 1kg of live chicken and have a depreciation rate on their pen construction of 2,000 riel per/kg, while farmers in Group 3 spend around 4,400 riels for feed and 1000 riels for pen construction. These higher input costs and lower outputs prevent Group 2 producers from being able to take advantage of economies of scale like the larger Group 3 producers.

KEY FACTORS AFFECTING THE PROFITABILITY OF SMALLHOLDER CHICKEN PRODUCTION

PRODUCTION MANAGEMENT FACTORS

- Large flock sizes
- Good pen construction
- Provision of sufficient feed and good feed conversion efficiency (FCE)
- Good animal health care (biosecurity, vaccination)
- Production cycle well timed with high prices

RAISING PERIOD

- Chickens are growing quickly
- Chicken sales are more frequent
- Higher volume (kg) of chicken sales

PROFIT

- Higher profit margins and annual profits

COSTS OF PRODUCTION

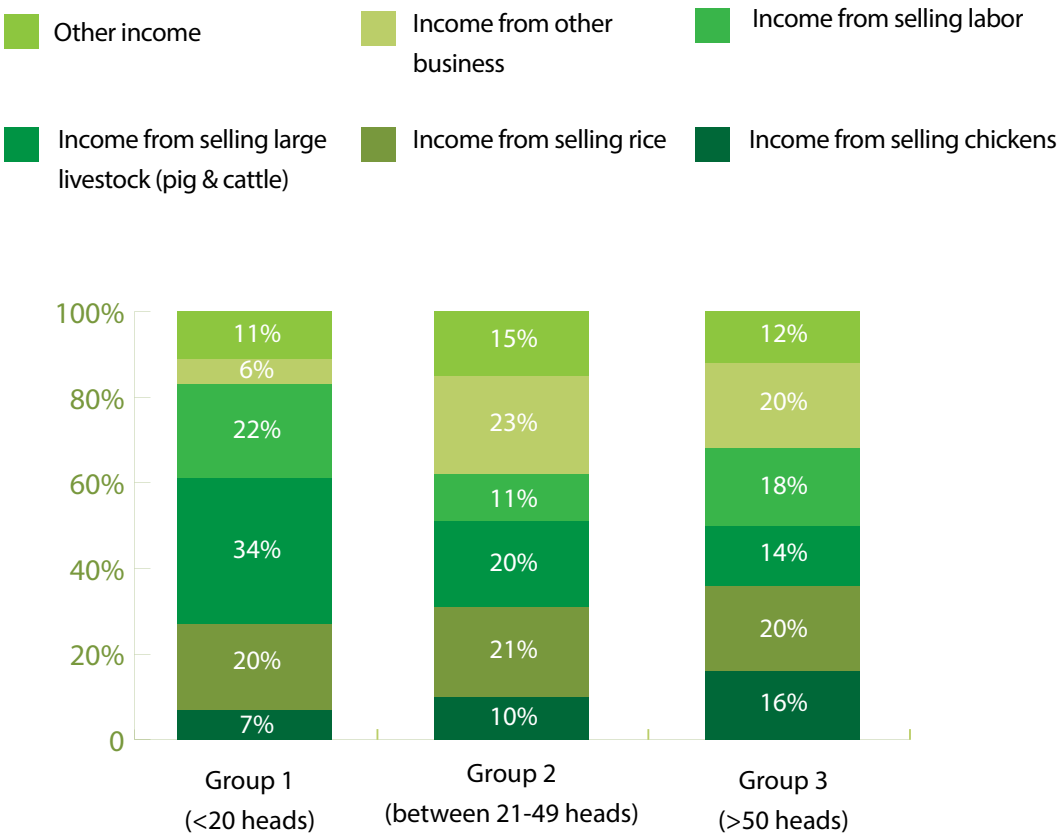
- Good use of local resources (feed, materials for pen construction)
- Cost-effective pen depreciation (pen size and cost is adequate for the number of chickens being raised)
- Efficient use of animal feed (low wastage)

HOW MUCH DOES CHICKEN PRODUCTION CONTRIBUTE TO HOUSEHOLD INCOME AND LIVELIHOOD BENEFITS?

As indicated in the chart, income from poultry production comprises a small component of rural households diversified livelihood activities, especially for smaller producers (Group 1). While revenues for these producers represent relatively small proportions (7%) of total household income, women accrue most of this income, which allows them to cover household and education expenses for their families.

The data also shows that if smaller producers increase their production (transitioning from Group 1 to Group 3), they have significant potential to increase the proportion of household income they generate from chicken production. The value of chickens consumed at the household level is also not represented in this income data, and makes up an important additional livelihood benefit.

Sources of household income for different chicken producers



HOW MUCH ARE CHICKEN PRODUCERS CONSUMING THEIR OWN CHICKENS?

Livestock products in Cambodia contribute to on average one tenth of rural households caloric intake, and poultry meat accounts for around one quarter of this amount (DFID, 2010). The study found that the more chicken's being raised by producers, the higher the rate of personal consumption. This has good implications for nutrition and food security, as it implies that when smallholders are supported to increase their production their families will also start to benefit from the nutritional advantages of higher meat consumption.

All producers were found to consume between 25-30% of the total amount of chicken that they produce, and consumed chicken approximate-

ly one time every 2-4 weeks and during special occasions. Only approximately 15% of the chicken producers assessed in the study purchased chicken from outside the farm. This rate is quite low as chicken is more expensive when compared to other meat options such as fish or pork. Interestingly, close to 20% of the farmers who raise less than 49 heads responded that in 2013 they did not consume any of their own chickens, and produced solely to supply to the market. The outbreak of disease in 2013 may have contributed to this decline in personal consumption. This indicates that poorer farmers prioritise selling chickens over consuming them when they are facing high mortality rates. Supporting farmers to reduce mortality rates will thus allow for higher household consumption and improve the nutritional benefits provided by chicken raising.



HOW DO FARMERS GAIN ACCESS TO TRAINING AND TECHNICAL KNOW-HOW?

The assessment found that government extension services from the provincial and district level are not reaching smallholder livestock producers, and that farmers mainly receive technical training and support from NGOs and VAHWs. After receiving trainings on chicken raising, 67% of farmers in Group 3 have applied all techniques while farmers in Group 1 and 2 applied only 29% and 41% of the techniques they received training on respectively. The main reasons provided by farmers for not applying the techniques are that they we're too busy with other agricultural activities, they didn't have enough capital for investment, and that they often migrated for work. While the lower uptake of technical improvements amongst smaller producers may reflect the lack of capital these producers have access to, it also has implications for the extension approaches being supported by NGOs. PINs experience has shown that ensuring extension messages are better tailored to the context of small poorer farmers (e.g. focused on local resource usage and low-cost innovations), and that farmer to farmer extension approaches are being used (e.g. through supporting VAHWs to train farmers), can help improve these rates of technical uptake.

The study found that 100% of farmers in Group 1 ask their VAHWs for advice and technical know-how, compared to only 63% and 25% of Group 2 and 3 farmers respectively. The fact that smaller

producers consult more with their VAHWs than larger producers demonstrates that utilizing the VAHW system to support farmer training and extension can be an effective way to reach poorer farmers with technical support. One of the reasons why fewer larger producers consult with VAHWs, is that they often purchase more inputs and gain more technical advice from veterinary shops and input suppliers.

68% of farmers in Group 3 have been asked by other farmers to share their experience and knowledge related to chicken raising. This has useful implications for livestock extension approaches, as it supports the notion that demonstration farms can help to encourage other farmers to take interest and adopt certain improved raising practices themselves.



A GENDER PERSPECTIVE ON CHICKEN PRODUCTION

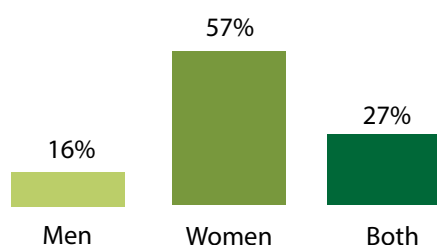
Deeply rooted gendered attitudes and norms in Cambodia have restricted the economic opportunities available to women. The study involved an assessment of the different gendered roles in chicken production, to better understand these dynamics. As indicated in the chart, women play a larger role in production than men at the lower production level. As production rises, men start to play a larger role. A possible explanation for this is that men tend to be more interested in being involved in farm activities when they are generating higher external income, compared to women who tend to be more involved in managing household resources.

The study also found that women play a key role in contacting brokers to sell chickens, and take the lead with this in more than half of the

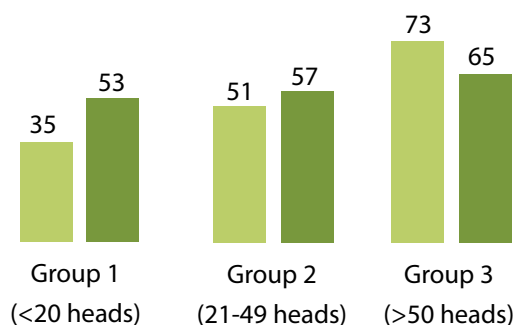
households surveyed. The provision of market information and marketing training should thus be targeted towards women to empower them in these negotiations.

Regarding access to training opportunities, 90 % of men in all groups had attended trainings on chicken raising, while only 63 % of women farmers in Group 1 had done so. This indicates a mismatch between the training opportunities provided and the primary livestock caretakers at the household level, with men receiving more training opportunities and women doing more of the work. Efforts need to be made to ensure training opportunities are provided for women. Assistance with livestock raising can be an effective tool to support women's economic empowerment.

Who contacts the broker to organise sales?



Gender breakdown of time spent raising chickens



men minutes/day women minutes/day

CONSTRAINTS FACED BY ACTORS IN THE CHICKEN VALUE CHAIN

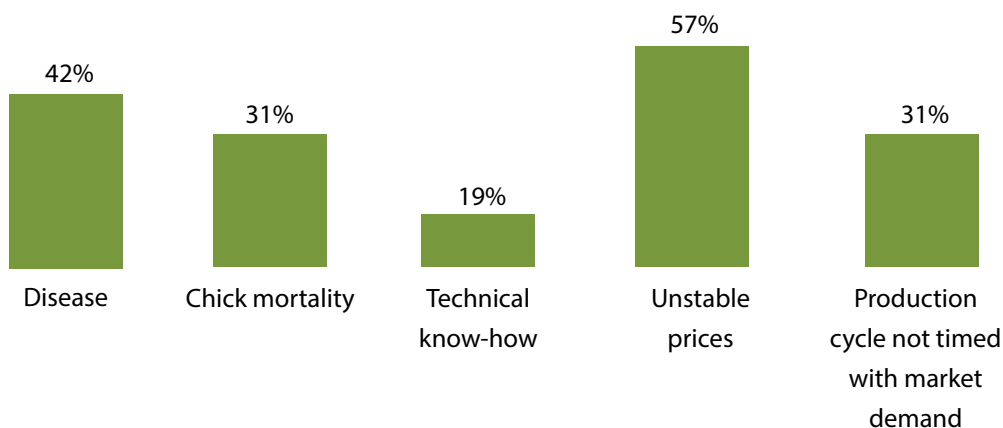
CONSTRAINTS FACED BY FARMERS

All the farmer groups surveyed faced very similar constraints to production and marketing. These included:

- **Technical skills and mortality:** all farmer groups reported that disease, chick mortality and lack of technical know-how are the main factors that restrict greater outputs from their chicken production (Fowl Pox, Newcastle, and Cholera are the most common diseases affecting chickens). A study conducted by PIN in 2013, involving 641 smallholder farmers, found that 62 % of raised chicks and 27 % of adult chickens were dying from preventable diseases.

- **Unstable Prices:** Unstable market prices were listed as a key constraint by more than half of the farmers surveyed. Larger producers (Group 3) reported being more successful at negotiating the price with brokers, as they have larger amounts of chicken for sale.
- **Access to market:** Other constraints reported by farmers included not knowing how to receive higher prices, not having access to regular price information, and not having their chicken production cycle timed with the high demand seasons.

Key production and marketing constraints faced by smallholder chicken farmers



CONSTRAINTS FACED BY VILLAGE COLLECTORS (VCS)

- Approximately half of the VCs surveyed reported problems related to the quality of purchased chicken, with the main problems being chickens being too small (underweight) and unhealthy.
- The lack of farmer supply was another constraint reported by VCs, especially in peak demand months, along with the reduction in demand from wholesalers in the wet season.
- Over 70% of VCs reported chicken losses (2-3 heads/time) during every collection trip, caused by the overloading of chickens on motorbikes, hot weather, and disease.

CONSTRAINTS FACED BY OTHER ACTORS IN THE VALUE CHAIN

- Wholesalers reported that they faced few constraints, as they generally develop good partnerships with VCs to ensure regular supply. The main constraint faced by wholesalers is related to the lower market demand in the wet season, when they have to reduce their offering price to VCs.
- Some retailers reported problems with the quality of purchased chickens (underweight and looking unhealthy).
- 20% of customers surveyed reported problems with the quality of purchased chicken, mostly caused by sellers injecting water in the chicken meat to increase its weight.

FARMERS' ADVICE TO CHICKEN BROKERS

- Offer good and stable prices
- Utilize weight scales fairly



CHICKEN BROKER'S ADVICE TO FARMERS

- Raise local breeds
- Use local feed and provide more feed to chickens, to make them fatter and healthier
- Sell chickens when they have a standard weight of more than 1kg
- Ensure chickens are well vaccinated



RECOMMENDATIONS FOR FARMERS

IMPROVING CHICK PRODUCTION

- Raising local breeds is the best option for farmers, due to high demand for this breed from brokers and rural consumers, the lower capital investments required to raise this breed, and their adaptability to the local climate.
- Manage the timing of their production cycles well, to ensure their chickens will be available for sale during the peak demand months (e.g. chicks should be hatched in Sept & Oct to be ready for sale in Feb & March).
- Use vaccination and other biosecurity measures to reduce disease outbreaks (especially before times of the year when there are weather changes and disease rates reportedly increase). Farmers should consult with their VAHW's for advice and services on these points.
- Invest in chick pens to reduce mortality and increase chick production, through speeding up the breeding cycles (by having hens and chicks separated).
- Farmers should purchase market feed to mix with local feed when feeding chicks, as this can help speed up their growth without incurring significant costs.

IMPROVING PRODUCTIVITY AND FLOCK MANAGEMENT

- Raise chickens in pens and separate pens according to age and weight groups of chickens, to reduce cannibalism and bullying and contribute to faster growth weights. Quarantine pens should also be established for any chickens experiencing disease or injury.
- Apply biosecurity techniques (use lime for disinfectant baths in front of coops, restrict entry to the pens)
- Use local resources as much as possible to reduce the costs of production.
- Produce and use supplemental feed sources around the house. There are many local fodder sources that can provide important nutrition for chickens (e.g. leucaena leaf and fruit, cassava, water hyacinth).
- Farmers should have at least 5 hens and more than 50 heads in a flock. With this level of production, farmers can earn more than 1,000,000 riel gross income a year from selling their chickens.

IMPROVING ACCESS TO MARKETS

- Have a contact list of chicken brokers (both village collectors and wholesalers) in order to check and negotiate prices before selling.

- Organize with other farmers to sell chickens collectively, to improve prices and negotiating power with brokers.
- Discuss and agree on key quality standards with local chicken brokers, to develop strong market relationships and improve the stability of prices.

WHAT INFORMATION FROM THE VALUE CHAIN ASSESSMENT DID FARMERS FIND MOST USEFUL?

The findings of the assessment we're validated and discussed during a series of data sharing workshops in each of the projects target villages. More than 1500 livestock farmers took part in these discussions. The information that was found to be most useful by farmers included: the seasonal price changes of chicken (they knew there were changes, but they didn't know by how much), the key market demands from chicken brokers, and the different factors that influence the cost effectiveness and profitability of chicken raising. Farmers were very interested in learning about the positive impact that higher flock sizes has on profit margins, and were encouraged by this data to expand their production as a way to increase their profits and their return on investments (especially from pen construction). Farmers also found it useful to hear that chicken collectors wanted to buy bigger sized chickens that had been receiving good feed (collectors can tell from looking at the chicken what type of feed it has been given). As part of this exercise the farmers we're also distributed broker leaflets listing all the brokers in their areas, to assist them in negotiating before sales, along with a seasonal calendar illustrating when production cycles should commence to maximize profits.



RECOMMENDATIONS FOR POLICY, FUNDING AND IMPLEMENTATION

- VAHWs should be supported to improve their capacity (on technical skills as well as business planning and communication skills) and provide technical support and training to smallholder farmers on a paid basis, covering core topics related to flock management, biosecurity, business practices and breed selection.
- Development partners should cooperate closely with VAHWs, veterinary shops and companies to strengthen cooperation between these value chain actors and improve the supply of privatized veterinary products and services.
- Chicken raising model farmers should be established in each village to allow farmers to learn from best practices and innovations. To make the most efficient use of resources, support should be concentrated on the most motivated farmers (that are willing to invest their time and resources to improve their production).
- Interested entrepreneurs should be supported to establish local breed producing centers at the district level to improve farmers' access to good quality local breeds.
- Greater support from relevant government departments (OAHP) to reduce disease outbreaks (e.g. a central meeting place should be established for village chicken sales, more awareness raising on diseases, biosafety and biosecurity for brokers and farmers, greater law enforcement and regulation on vaccine imports and the movement of poultry by brokers).
- VAHWs should be supported to organize annual village promotion campaigns to promote their services and raise awareness on biosecurity measures (including vaccinations).
- A database of local chicken traders should be developed by local government offices (OAHP) and distributed to farmers to improve farmers' negotiating power and access to price information.
- Farmers should be supported to cooperate in groups to collectively sell their chickens and negotiate better prices with brokers (by doing this, farmers can increase their sale price per/kg by an average of 1000 riels).
- Farmers, VAHWs and chicken brokers (both VCs and wholesalers) should be supported to meet and discuss their needs and challenges on an annual basis to better understand quality standards, build trust and ensure production is better linked to the market's demands.

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