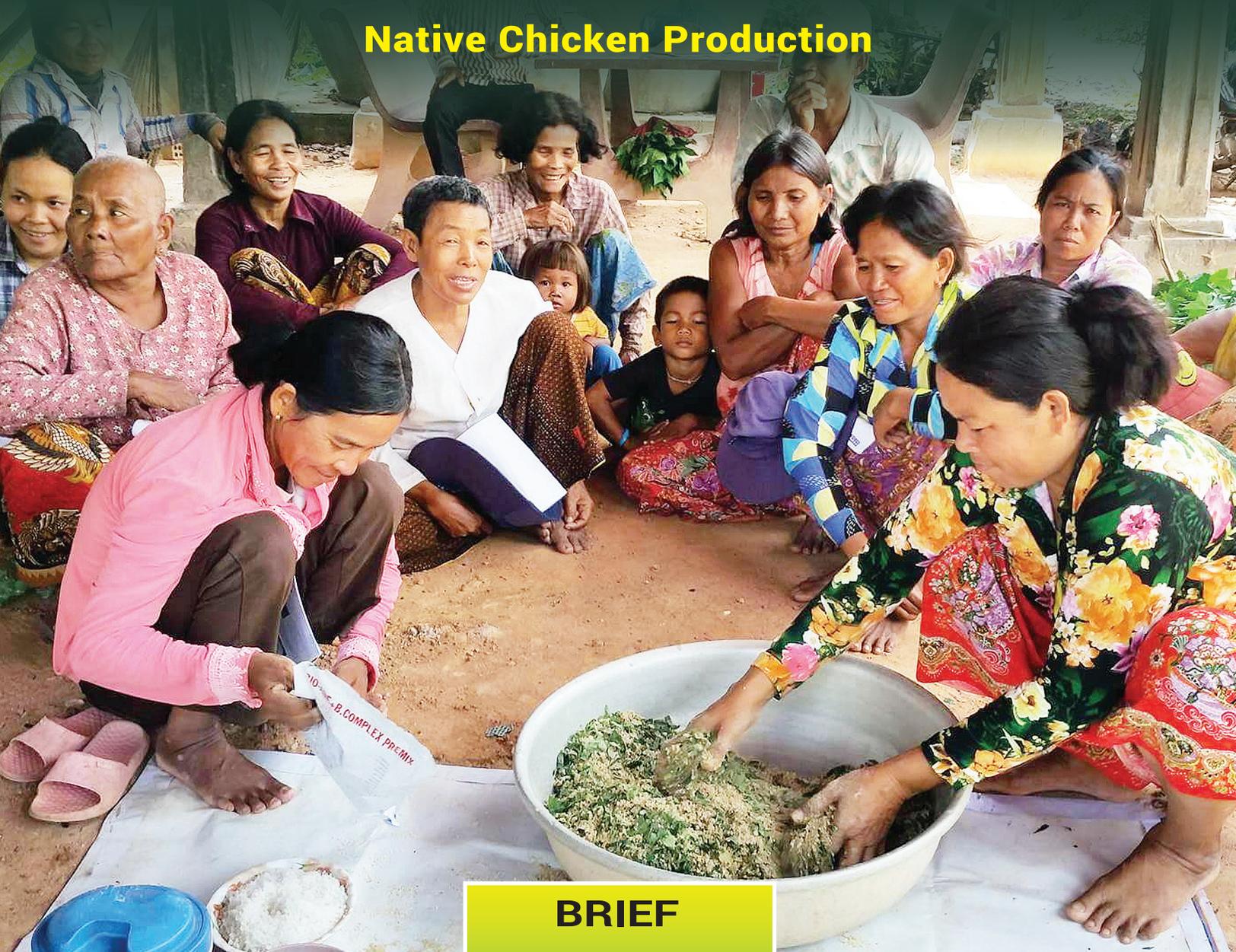


Unleashing the Entrepreneurial Potential in Rural Cambodia

Native Chicken Production



BRIEF

The Asian Development Bank (ADB) - supported Cambodia BCCI project takes a multi-purpose, sustainable, biodiversity landscapes approach.

The Project covers 22 communes (12 in Mondul Kiri and 10 in Koh Kong) across 10 districts with a total population of approximately 68,048 (2008 census) and households numbering just over 14,000.

The Project in both Koh Kong and Mondul Kiri provinces is predominantly in mountainous areas covered with protected forests, national parks, and wildlife sanctuaries.

An estimated 2,600 households will benefit from the Project through diversified livelihood assets and/or income generating opportunities.

This brief highlighting field results is targeted to the following audience:

ADB Project Administration; Provincial Department of Environment; Provincial Department of Agriculture, Forestry and Fisheries, and Forestry Administration Cantonment; Ministry of Agriculture, Forestry and Fisheries, Ministry of Environment, District Officers, CEDAC, and IIRR Staff.

Introduction

The International Institute of Rural Reconstruction (IIRR) and the Cambodian Centre for Study and Development in Agriculture (CEDAC) worked together to train, monitor, and coach communities implementing the Biodiversity Conservation Corridors (BCC) supported initiative to introduce Village Development Funds and associated self-help groups. It aims to help villages effectively achieve better livelihoods and infrastructures in their communities.

On March 2018, the BCCP Executive Agencies approved additional funds for Chicken production technical assistance to develop new business opportunities and improve economic conditions of target communities. The chicken raising activities started in 20th March 2018 until 10th July 2019. The activity covered 30 villages under BCCP target area.

A reason to bring back native chickens

The rural and peri urban poor in Cambodia can be entrepreneurial. What they lack are opportunities, credit facilities, and technical guidance. Small-Scale Chicken Raising is a promising, short cycle activity which generates quick results. Consumers in Cambodia have demonstrated a growing interest in indigenous (native) chickens for meat and eggs. Prices are high for such products but supplies are inadequate and unpredictable. Indigenous breeds are preferred because of their taste, and meat color (yellowish not pale white meat). Though their eggs are smaller, they are also preferred and in fact, more expensive than commercially produced eggs. Local chick production provides the poor in Cambodia with a special opportunity for economic empowerment. Unfortunately, many native breeds are slowly and steadily vanishing. These native breeds need to be saved for future generations, eg. Sampov, Skouy, Kork, Tmart, Kandong, etc. We can save these breeds by identifying them and bringing them to our villages to multiply and promote (agro-biodiversity conservation through promoting their sustainable use). The body weight after 3-3.5 month is between 1.1-1.25 kg and egg production is optimally at 50 to 75 eggs a year. But the cost of production (capital needs) is also lower. Markets and prices are better.

Climate is changing and with rising temperatures and heavier rain (or long droughts), modern chicken hybrids will be affected. Growth will be slowed and egg production will drop. Increased antibiotic and hormone use is expected. Native chickens tolerate climate change better. Their meat is safer and a healthier option. Because consumers are expected to demand tastier and more healthy alternatives for chicken meat in the future, the poor and especially women now have a new economic entrepreneurship opportunity. These native breeds are hardier and resilient because of years of natural selection under harsh and variable conditions in backyard methods of raising.

Low-cost housing and basic principles for feeding and healthcare management are needed for community-based small-scale systems. Good housing can reduce the impacts of climate change and rising temperatures and higher rainfall. Local material can be used in roofing to lower the temperature. The sides of the house and pen should allow good cross ventilation. However, plastic or tarpaulin can be rolled down in the eventuality of heavy rain and winds. Birds should have bamboo or wooden rests (so they can stay away from the floor at nights). Small-scale systems (50 to 100 chickens) are of special relevance to poor women helping them become economically empowered members of their community, slowly climbing the ladder out of persistent poverty.

The engagement of Women in Climate Resilient Agriculture, such as this Native Chicken raising effort is supportive of Climate Change Agriculture and Food Security (CCAFS) Climate Smart Agriculture initiatives in the region. Sites featured in this ADB funded project are considered as outreach sites for CCAFS action research and learning initiatives of IIRR

The ADB-supported initiative provides support to Village Development Fund and Savings Group Members in the BCCP project in Mondul Kiri and Koh Kong province to help them become engaged in sustainable economic activities. Thirty villages are involved where at least one demonstration farm managed by individual growers have been established. These farmers become the source of stock for chicken raising for the rest of the community. They also served as farmer trainers in farmer-to-farmer extension efforts. Sources of breeding and growing stock are available locally and in decentralized locations in two provinces. Incubators of 500 eggs capacity are set up and managed by farmers themselves. Spin offs include broiler raising efforts also relying on native breeds and special feed management.

Thirty (30) broiler production demonstrations, 12 chick production units, and 2 additional sites quipped with solar powered incubator and hatcheries have been successfully established in the target provinces.

1. Establishment of 30 farmer-led demonstration farms and 14 chick producers in target communes

Broiler farmer-led demonstration farms

The assignment team completed all the selection and establishment of the broiler demonstration farms: by 31 October 2018, 30 broiler production demonstration farmers (20 women, 67%) were already selected. Then, they completed their demonstrations. Among the thirty farmers, 17 are in the Forest Administration (FA) areas and 13 are in the Ministry of Environment (MOE) areas.

All demonstration farmers completed the installation of broiler demonstration farms (100%). According to the conventional practices, they require 5-6 months to get 1.2 kg of chicken, but this was achieved in only 2.5-3.5 months with the demonstrated techniques. Through these successful demonstrations, farmers sold chickens and ordered new cycles of chicks from chick producers.

Broiler farmer-led demonstration farms in Koh Kong and Mondul Kiri Provinces



Table 1. Number of broiler farmer-led demonstration farms in Koh Kong Province

No.	Name of farmers	Sex	Location	Starting date	% of completion
1	E Keo	F	Chhouk village, Chi Khar Leu commune, SraeAmbel district	25/Apr/2018	100%
2	Huy Sony	M	PrekChik village, Chi KharKrom commune, SraeAmbel district	6/May/2018	100%
3	Keo Chey	F	Chikho village, Chi Khar Leu commune, SraeAmbel district	12/May/2018	100%
4	UyPhon	F	Trapangkandoal village, Chi Khar Leu commune, SraeAmbel district	20/Apr/2018	100%
5	PovKhat	M	Tany village, Chi Khar Leu commune, SraeAmbel district	20/Apr/2018	100%
6	Mao E	F	Ta Meak village, AndoungTeuk commune, Botumsakor district	30/May/2018	100%
7	Long Ben	F	Prai village, AndoungTeuk commune, Botumsakor district	25/Apr/2018	100%
8	SeournKet	M	Chitreh village, AndoungTeuk commune, Botumsakor district	15/May/2018	100%
9	Nhanh Da	F	Prateal village, AndoungTeuk commune, Botumsakor district	30/Apr/2018	100%
10	KhemDym	F	Pralean village, Kandol commune, Botumsakor district	5/May/2018	100%
11	SokSym	F	TrapeangKhnar village, Tatai Leu commune, Thma Bang district	10/May/2018	100%
12	PreangPov	F	Kandal village, Tatai Leu commune, Thma Bang district	10/May/2018	100%
13	Chhean Chhorn	M	Spean Kda village, Tatai Leu commune, Thma Bang district	9/May/2018	100%
14	EurnSary	M	TrapaingCheutrao village, RusseyChrum commune, SraeAmbel district	9/May/2018	100%
15	VengKosal	M	Koki Chrum village, RusseyChrum commune, SraeAmbel district	10/May/2018	100%
16	KoyChamreun	M	PrekSvay village, ThamrDaunPov commune, SraeAmbel district	20/May/2018	100%
Total: 16 broiler production demonstrations (9 females)					

Table 2. Number of broiler farmer-led demonstration farms in Mondul Kiri Province.

No.	Name of farmers	Sex	Location	Starting date	Percentage achieved
1	BlorngNeing	F	Pu Chorb village, Dak Dam commune	7/May/2018	100%
2	Kort Hey	F	Pu Treng village, Dak Dam commune	7/May/2018	100%
3	Sovan Minh	M	Pu Les village, Dak Dam commune	7/May/2018	100%
4	PhoungSreyPheap	F	Pu loung village, Romnea commune	9/May/2018	100%
5	ChochCheit	F	Pu Trom village, Romnea commune	9/May/2018	100%
6	ChranRany	F	Sre l village, Romnea commune	9/May/2018	100%
7	Nheuy Mao	M	Pu Cha village, Srepresh commune	11/May/2018	100%
8	Thoeung Dem	M	O Chra village, Srepresh commune	11/May/2018	100%
9	Seng Sophy	F	SreHuy village, Srehuy commune	1/May/2018	100%
10	Mat Mayom	F	Chong phang village, Pu chhri commune	11/May/2018	100%
11	Khout Mom	F	Chi Klob village, Sok San commune	1/May/2018	100%
12	MyreakSreim	F	Sre Thom village, Sok San commune	1/May/2018	100%
13	SrousVoeunv	M	Kgheng village, Chong Plas commune	11/May/2018	100%
14	Dream Choy	F	Pu tong village, Chong Plas commune	11/May/2018	100%
Total:14 broiler production demonstration farmers (10 females)					

2. Establishment of chick production demonstrations

The assignment team completed the selection and establishment of 14 chick production demonstration farms as planned. Ten out of 14 chick producers are women. They completed pen construction, installed incubators, and placed hens and cocks for chick production (See Annex 5): Farmer selection criteria. Two solar incubators were also installed. It was another promising innovation it relied on clean renewable energy.

Solar chick production demonstration in Koh Kong and Mondul Kiri Provinces



Table 3. Number of chick productions established in Koh Kong Province.

No.	Name of farmers	Sex	Location	Starting date	% of completion
1	Song Ren	F	TrapaingKandoal village, Chi Khor Leu commune, SraeAmbel district	27/Apr/2018	100%
2	Moshuy	M	Chikho village, Chi Khor Leu commune, SraeAmbel district.	6/Jun/2018	100%
3	GhoemChantha	F	NeaPisey village, Chi Khor Krom commune, SraeAmbel district	5/Jun/2018	100%
4	Ly Heav	M	Pra Lean village, Kandol commune, Boutumsakor district.	30/Apr/2018	100%
5	KhunSrey Mao	F	Chi Tres village, AndoungToeuk commune, Boutumsakor district.	27/Apr/2018	100%
6	Sat San	M	Kokichrum village, RusseyChrum commune, Thmor Bang district	30/May/2018	100%
7	Por Sophea	F	TrapaingChoetrav village, RusseyChrum commune, Thmor Bang district	15/May/2018	100%
8	Mut Noeun	F	Chhouk village, Chi Kar Leu commune, SraeAmbel district, Koh Kong Province	2/Jul/2019	100%

Table 4. Number of chick productions established in Mondul Kiri Province.

No.	Name of farmers	Sex	Location	Starting date	Percentage achieved
1	KruiSaron	M	Pu Chorb village, Dak Dam commune	23/Apr/18	100%
2	HinSokha	F	Pu Lung village, Romnea commune	1/May/18	100%
3	Seng Sophy	F	SraePreh village, SrePresh commune	1/May/18	100%
4	CheaSamoeun	F	SraeHuy village, Srehuy commune	20/May/18	100%
5	Toy Boss	F	Chong Phang village, Pu Chhri commune	22/May/18	100%
6	MrakPann	F	Srae Thom village, Sok San commune, Koh Nheak district, Mondul Kiri province	5/Jul/2019	100%



To build knowledge of broiler producers, 93 technical training events were organized in three rounds, attended by 1,393 participants (916 women). The topics of the trainings included pen construction, breed selection, chick raising and bio-security, vaccinations, feed and feeding, practical field application, and theories (followed training guideline).

- In Koh Kong Province, 47 training events were conducted with 660 participants, (462 women). 442 farmers (316 women) from CPAs and 218 farmers (146 women) from CFs—Table 7.
- In Mondul Kiri Province, 46 training events were organized with 733 participants (454 women). 319 farmers (193 women) from CPAs and 414 farmers (232 women) from CFs—Table 8.



4. Providing technical training on chicken production

The assignment organized 37 trainings with 401 farmers (242 women). The training topics included how to build chicken pens, how to select good breed for raising, how to take care of chicks, bio-security control, vaccinations, and feeding.

- In Koh Kong Province, the assignment team conducted 21 training events with 190 participants (126 women), including 117 farmers (66 women) from the CPAs and 73 farmers (45 women) from the CFs.
- In Mondul Kiri Province, the assignment team organized 16 training events with 211 participants (116 women), comprising 21 farmers (10 women) from the CPAs and 190 farmers (106 women) from the CFs .

Technical training conducted in Koh Kong Province

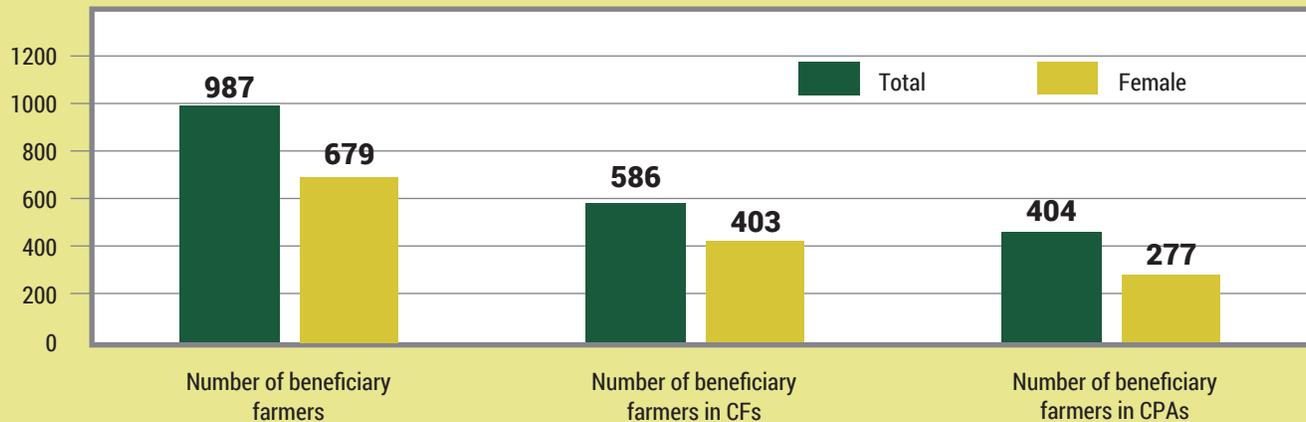


Figure 1. Number of beneficiary farmers of the chicken training assignment.

Writing case studies

The assignment team members produced five case studies. Two case studies written for the farmers in Community Protected Areas (CPAs) and another three case studies in the Community Forest Areas (CFs). The case studies highlighted a positive change in the farmer's practices and income from chick and broiler production. Main elements of the case studies included background of farmers, technical practices before and after the training, and economic analysis (e.g. expense, income, and profit).

Summary activities and results

Nine hundred eighty-seven (987) farmers (679 women) benefited from this assignment. They all attended training and got follow-up visits from the team members. Out of the total beneficiary farmers, 586 farmers (403 women) are from the CFs and 404 farmers (277 women) are from the CPAs.

Change and impact

Trained farmers have reported improved knowledge and technical skills in the target villages. Biosecurity practices, breed selection, making mixed nutritious feed, construction of chicken pen, vaccination, hygiene and sanitation have been used by around 20% of 987 trained farmers. The farmers understood that giving mixed nutritious feed enables chickens to grow faster.

Broiler producers continue buying chicks to produce and sell chicken throughout the year. Broiler farmers prefer to buy good quality chicks already vaccinated against diseases from the chick producers. They experienced that their chickens can grow faster when this was done. Previously, the farmers needed 6 months to produce 1.2 kg per chicken, but now they needed only 3.5 months (by practising demonstrated chicken raising techniques).

Market demand is high especially for native chickens. The broiler producers could easily sell their chickens within their village. They can save labor and time because they don't need to sell their chickens in distant areas. The chick producers earned good income from selling chicks. They raise more than 60 hens to produce at least 15 to 20 eggs per day for hatching. The price for one chick is 5,000 Riels (approximately 1.25 USD). At the same time, the broiler producers make an income of 100 to 150 USD per month. The selling price of broiler chicken is 4.5 to 5USD/kg, which is a good price for the broiler farmers. The broiler producers produce much of their own feed from home

grown vegetable garden so that they don't need to buy feed from market. The income from chicken is used for household daily expenses and children's education. In the future, the demonstration farmers planned to make more income from chicken raising.

Lessons learned

- Well trained demonstration farmers can produce positive impact in target villages. The demonstration farmers can convince other farmers to follow their practices if they themselves show successful practices on their farms. This will be a continued way of extension, from farmers to farmers, even after the assignment is completed.
- When farmers receive a high income from chicken production, they are convinced that agriculture is a potential source of income for their families. Supporting them to achieve an economic scale will enable them to move from subsistence farmers to commercial farmers.
- Women's empowerment can be achieved through increased knowledge and income generation capacity. With the income from chicken production, women have gained decision-making power in the family. They do not need to migrate to outside villages for casual labour.
- Encourage farmers to make a significant contribution, which is necessary for long-term ownership and sustainability of the assignment.
- Chick production is a good business. Chicken raising farmers have difficulty accessing quality chicks. Therefore, when producers supported by the project can sell quality chicks to them, they are pleased with the result. Chicks are vaccinated before sale, so they are more tolerant to diseases and grow fast.
- Electricity is very necessary to run the incubator. Frequent electricity cut-off (during the dry season) affected the fertility and hatchability of the chicks (because the temperature in incubators is not stable). Given the fact that the project has introduced 2 solar powered incubators for producing chicks.
- Linking home vegetable growing and chicken raising is a good model promoted by the assignment. Vegetables from the garden can be used for making chicken feed, then they don't need to rely on chicken feed from market.
- Chick producers need to have enough hens and cocks to ensure that they have the adequate number of eggs for hatching. Otherwise, chick incubator cannot run in its full capacity. For example, the incubator can hatch 528 eggs, if farmers put only 300 eggs. The incubator still consumes the same electricity, duration, and labor.

- Technical training alone is not enough to encourage farmers to apply new innovations. Additional follow-up visit and technical advice by trainers are essential. When farmers could not find solutions to their encountered problems, they need immediate advice is essential from trainers, so frequent follow-up visit from trainers.
- Organization of field days and exposure visits can enable interested farmers gain confidence in application of new techniques because farmers can see and hear directly from successful farmers and finally convince them to apply new techniques in their farms.

Conclusion

The assignment has achieved a satisfactory result and benefited many smallholder producers in the target villages. All established demonstration farms play a vital role as the learning sites. On average, three to five farmers have learned from a demo farmer. The trained chick producers can now offer quality chicks, where the demand is growing from time to time, meaning that Farmer's limited access to good quality chicks is solved.

The raising period of chicken is shortened from 6 months to only 3.5 months through practising the demonstrated chicken raising techniques. Farmers know how to produce own mixed nutritious feed to feed their chickens. Women are empowered because of increased income generation capacity. According to the individual interview with the applied farmers, the average earning is 100 to 150 USD every month and happy to raise chickens because they can stay in villages.

Mobilization of the assignment team, internal meeting, development of training materials and training plan were achieved as planned. Technical training as well as coaching was seen as useful for farmers to improve knowledge in chicken raising. The trained farmers used what they learned in their farms. Regular field monitoring from the assignment team of IIRR and CEDAC contributed to this accomplishment. Good teamwork of the assignment team was observed as the strength of the team. Without support from EAs, this result could not be attained. There is good partnership among IIRR, CEDAC, EAs, and ADB to create an enabling environment for the assignment implementation.

Farmers' Case Studies

Successful Broiler Chicken Raising of Ngeuy Mao

Mr. Ngeuy Mao, 67, is a farmer who lives in Pu Cha village, Srae Preah commune, KaevSeima district, Mondul Kiri province. He is the family head with six members and his livelihood mainly relied on rice farming and crop planting.

Before cooperating with the project, he raised chicken, including six hens, 1 cock, and 21 chicks. Without attending any training organized by development agencies, he applied the conventional chicken raising techniques that he learned from one farmer to another farmer. However, he did not make a good success with chicken raising. The growth rate was slow and most chickens died due to infectious diseases.

In May 2018, he cooperated with the Biodiversity Conservation Corridors Project (BCCP). This project is funded by the Asian Development Bank (ADB) through the Ministry of Environment and Forestry Administration. International Institute of Rural Reconstruction (IIRR) is one of the implementing partners jointly worked with CEDAC to implement the project in the ground.

Mr. Ngeuy Mao is interested in becoming a broiler demonstration farmer, and he made an agreement with the project to show his willingness and commitment. For instance, he needs to make contributions such as building a chicken pen and applying other techniques trained by the project.

First of all, Ngeuy Mao started constructing chicken pen, then the project provided him 50 broilers, one bag of chicken feed, water container, feed container, germ killer, plastic for preventing the rain, deworming medicine, and other prevention and treatment medicine as well as the expense on construction of the chicken pen equivalent to 200 US dollars.

After practising the techniques introduced by the assignment, he spent only 4 months from July to October 2018 to complete one cycle of chicken production. Neuy Mao and his family members received technical support from the trainers and they tried to make an effort in carrying out his chicken raising, including making mixed nutritious feed, sanitation and hygiene practices, vaccination, care of chicks, disease prevention and treatment, biosecurity control, and so forth.



To know the profit and loss, Ngeuy Mao conducted a good record keeping on the production cost and income. He reported that his total production cost was 540,500 riels (135.2 USD), including the expense on:

Expense	Total (riels)
Chicks	250,000
Chicken feed	187,500
Vitamin	16,000
Influenza vaccine	10,000
Rice (30 kg)	27,000
Rice bran (100 kg)	50,000
Total expense (riels)	540,500

He sold 50 kg of chicken with the price of 20,000 riels (5USD) per kg, and he got an income of 1,000,000 riels (250USD). This meant he could make a profit of 459,500 riels (114.9 USD) after deducting the expense.

Since he observed that the chicken raising is progressing well, he increased number of chickens to 11 hens, 3 cocks, and 87 chicks, so he expanded a bigger chicken pen for the broiler chickens. The chicken market is good and he can get a good profit from selling native chicken, which is why he wants to expand chicken production. In addition, he added that chicken raising does not need high labor force, so his family members are happy to work together in the village rather than migrating to look for casual labour outside the village.

Finally, he thanks the project for providing him with new knowledge and skills in chicken raising. In the near future, he will expand chicken production further in order to increase income from chicken for his family.

E Keo's Successful Experience in Broiler Raising

E Keo, 27, is a cooperating farmer in Chhouk Village, Chi Kha Leu Commune, SraeAmbel District, Koh Kong Province. She has five members, including 3 children. Just before cooperating with the project, she took a lot of 3 million riels to cover her children's disease treatment.

Thank to her interest in chicken raising, IIRR who is one of the implementing partners of the Biodiversity Conservation Corridors Project (BCCP) selected It Keo to become a broiler demonstration farmer.



After selected as a demonstration farmer, she attended various training, including site selection, construction of a chicken pen, vaccination, how to make mixed nutritious feed, biosecurity control, disease prevention and treatment. The coop is located along the sunlight with the size of 16 meters x 6 meters. Roof made of zinc and wall with bamboo. In addition, she also learned the fencing methods using plastic net available for 100 to 120 chickens.



She remembered that only vaccinated chicks older than 21 days should be selected for rearing. She purchased these birds from a chick producer who, supported by the Biodiversity Conservation Corridors Project (BCCP). Those chicks were already vaccinated three times for Newcastle disease, chicken pox, etc. Regarding the feeding method, she gave 21-day chicks with the feed that she purchased from the market and mixed feed for chickens over 30 days. The mixed feed comprises rice bran, salt, flour of the snail/crab, leafy vegetables (morning glory, grasses, Chaya Leaf, banana stem). These ingredients were milled together and provided to chicks every day (three times a day in the morning, afternoon, and evening).



Temperature is high in the dry time of the year, and it may affect chicken health. Thus, providing enough clean drinking water for chickens is necessary. She puts eight water containers for chickens to drink (storage capacity of 1 water container is 1.5 liters). In addition, she irrigated the surrounding area of the cage (three times a day) to create a suitable microclimate. Furthermore, she cleans chicken pens every day to make good hygiene and sanitation to prevent chickens from disease infection.

She frequently cleans water and food containers and changing new water every day. To be more tolerant of the changing climate, she put medicine in water for chickens to drink. By doing so, she realized that chickens are healthy all year round. Before selling, she stops using the medicine 15 days. Care of chicks is very important, especially the newly hatched ones. In the night time, she makes a warm temperature by covering rice husk at the bottom of the cage. The survival rate has improved thanks to the practice of these techniques. Chicks, less than 2 months or below 0.5 kilogram need to be vaccinated. She vaccinated one milliliter of cholera vaccine for every chick.

As a result, she made a profit of 370,000 Riels (92.5 USD) from chickens. The production cost was just 770,000 Riels (192.5 USD) including the expense on feed, chicks and vaccination, while gross income amounted to 1,140,000 Riels (285 USD).

Excited with her increased income from chickens, she stated that this is the result of her practices of the techniques introduced by the project. She thanks the project for providing her with this useful training.

Since applying the new techniques, she realizes that the survival rate of her chicken has increased. if compared with her conventional practices. At that time, many chickens died because of a disease outbreak. She is delighted with the additional income from chickens. Chicken raising is now becoming a primary source of her family's income. To achieve this plan, she is going to expand the chicken pen and increase number of chicks to reach 150. She shared her learning and experiences with other neighboring farmers and expected that they would improve chicken production as well. This would help promote chicken production in the whole village.

It Keo thanks the Biodiversity Conservation Corridors Project (BCCP), especially IIRR for selecting her as the broiler demonstration farmer. Through attending the training, she obtained new skills to generate income from chickens higher than vegetables. She added that "Now I have real employment to support my family, I don't need to migrate and look for a job outside, so I can live with my family in the village."

Successful Outcome Made by Chick Producer in Srea Phresh Commune, KeoSeima District, Mondul Kiri Province.

PhokSetha, 47, lives in SraePhreah village, SraePhreah commune, KeoSeima district, Mondul Kiri Province. She is married with three children: 15-year-old girl is studying grade 12, the 10-year-old girl and a 5-month-old boy. Before collaborating with the International Institute of Rural Reconstruction (IIRR), she had five hens, one roaster plus twenty chicks. She had limited knowledge of chicken raising, including taking care of chicken, vaccination, separation of chicken by ages, etc. The mortality rate was high because of the application of inappropriate production practices, which resulted in a loss of income.

Showing her interest in chick production, she was selected as a demonstration farmer in SraePhresh Commune. Since then, she has attended various training and capacity building events. It is to recall that before the project, access to quality chicks was the hard work for farmers, and therefore supplying healthy chicks to local farmers is badly needed. Not only the training, Setha also attended an exposure visit to Siem Reap, Kampot and Takeo Province. As a result, she has gained technical knowledge and confidence in applying chickens production. There is coordination among family members, the husband involved communicating with clients, buying feed, manages all farm activities while the wife taking part in feeding, cleaning facilities, collecting eggs, care of chicks, etc.

The household has made remarkable progress, with 65 hens and cocks providing at least 15 to 20 eggs per day, 700 healthy chicks produced for sale. Nowadays she has six chicken pens. Her chicks are sold to nearby markets. According to a recording book, she earned 150 USD per month. Apart from making incomes, she has chickens for eating so she can spend less on buying food at the market, which are expensive with source of where they come from. She used income from selling chicks for the daily expenses in the household and for sending their children to school. She planned to have 80 hens and 13 cocks to respond to market demand.

Because of her success in producing chicks for sale, local authorities acknowledged Setha as a model farmer. She has disseminated her knowledge to other 10 farmers in her village, and she expected that those farmers would improve the chicken raising and make more profit.



VengKosal's successful experience in broiler chicken raising

VengKosal, 27, is a farmer who lives in KorkiChrum Village, RusseiChrum Commune, Thma Bang District, Koh Kong Province. He lives with his parents; his father named VengSavuth, 57, and mother named PhengEang, 58 and other 5 family members. Village chief categorized his family as a medium in terms of livelihood in the village. Besides farming, he worked as casual laborer and also migrated to work outside his village. Before cooperating with the project, he also applied a chicken raising but he did not know appropriate techniques that help increase productivity. At that time, he had six hens, 1 cock and seven chicks.

In May 2018, he attended technical training on chicken raising organized by the International Institute of Rural Reconstruction (IIRR) under the Biodiversity Conservation Corridors Project (BCCP), funded by the Asian Development Bank (ADB) via the Ministry of Environment (MOE) and Forestry Administration (FA) of the Ministry of Agriculture, Forestry and Fisheries (MAFF). A project trainer selected VengKosal to become a broiler demonstration farmer in the target village of the BCCP project after making agreement with him by showing the commitment and roles of each party.

After attending the training, Kosal prepared chicken pen and applied other techniques that he learned. The BCCP project provided incentives for starting up the demonstration, 50 chickens, one bag of feed, water and feed containers, plastic for preventing rain, deworming medication, and some contribution for constructing chicken pen equivalent to 200 USD in total.

In addition to the technical training, he also received individual follow-up visits and technical advice conducted by the project trainers. With the individual follow-up visit, Kosal has gained more confidence in applying new chicken raising techniques. If he encountered technical problems, he also would raise them for finding solutions with the project trainers. The project trainers showed real practices of mixing feed, sanitation, and hygiene practices, vaccination, caring of chicks, germ killing, prevention and treatment methods, biosecurity, etc.

Now, he can shorten the duration of chicken raising from 6 months to only 4 months, started from July to October 2018. He paid attention to take care of his chickens and not only him, but also his family members involved in this chicken raising activity, meaning that his family members also supported him to carry out the chicken raising.



According to farm recording book, he has some expenses of his first broiler production. Section below shows the expense, income and profit:

Expense: The total expense on production cost of his first round of the broiler production is 603,000 riels (150.75 USD) covered the expense on chicks, feed, vitamins, vaccines, rice paddy and rice bran.

No.	Items	Unit	Quantity	Unitprice	Total
1	Chick	per chick	50	5,000	250,000
2	Feed	bag	3	75,000	225,000
3	Vitamins	bottle	1	16,000	16,000
4	Influenza vaccine	bottle	1	10,000	10,000
5	Rice paddy	kg	50	1,000	50,000
6	Rice bran	kg	130	400	52,000
TOTAL:					603,000

Income: He could produce 50 kg of chickens for selling. The sellingprice was 20,000 riels/kg (5 USD per Kg). Therefore, the totalincome is 50 kgx20,000 riels/kg = 1,000,000riels (250 USD).

Profit: Based on the income and expense, he got the profit amounted to 397,000 Riels (99.25 USD).

Kosal is happy with the result of his broiler production, and planned for expanding both chick and broiler production. He now has 25 hens, 7 cocks, and 220 chickens.

Besides acting as a broiler demonstration farmer in the village, he also sells veterinary medicines, and he also sold chicks, recently he sold 50 chicks with an income of 250,000 riels (62.5 USD). He says that chickens have a good market demand and selling price is also high, which encourages me to expand my chicken production for selling. Additionally, chicken raising is suitable for his family, it does not need much labor, and especially I do not need to migrate to work in other places so that I can live together with my family. I would like to thank IIRR, BCCP project, MOE, and FA for implementing the project in my village and provided some start-up incentives as well as invited me to attend the training and exposure visit.

Ms. Song Ron's success in native chick production

Ms. Song Ron, 32 years old, is a farmer in TrapeangKandaol village, Chi Kha Leu commune, SraeAmbel district, Koh Kong province. She lives together with three children (one son and two daughters). Her family's main occupation is farming such as planting durians, rambutan and sugarcane, but has yet to receive yield because she just started planting. Besides farming, she also produces dessert for selling to make additional income for her family. In the dry season, after rice harvesting, she planted watermelons for selling. Her husband also worked as a casual labourer for sugarcane Company, but he also helped his wife to do rice farming.

Before cooperating with the project, she was unsuccessful in raising chickens. Normally, she only produced chickens for family consumption, but not for sale. Most chickens died because of disease outbreaks, and she did not have effective mechanisms to cope with this issue. The chickens were freed without proper bio security control, no chicken pen, therefore chickens easily infected with diseases. Another issue she encountered was the feed and feeding. Sometimes, she gave rice bran, but it was not enough to make the chickens grow up faster. She spent about six months to get a chicken with 1.2 kilograms on average, this is a long period of time.

With funding support from the Asian Development Bank (ADB), through the Ministry of Environment and Forestry Administration, the International Institute of Rural Reconstruction (IIRR) jointly implemented the BCCP project in Koh Kong and Mondul Kiri Provinces. In May 2018, IIRR trainers started the selection of interested farmers for setting up demonstration farms in TrapeangKandaol Village. Ms. Song Ron expressed her interest and wanted to become a chick demonstration farmer. It is to note that normally farmers were difficult to access qualified chicks because the chicks were kept for raising without vaccination against infected diseases resulted in high mortality rate.

Since she has been selected as the chick production demonstration farmer, then she attended various capacity building events organized by the project, including technical trainings, exposure visit, individual follow-up visit and technical advice conducted by project trainers on regular basis. It is to emphasize that, in September 2018, her father, Mr. Sim Kung attended an exposure visit to Siem Reap and Banteay Meanchey provinces. He learned chicken production from a successful farmer in a target village of Tonle Sap Poverty Reduction and Smallholders Development (TSSD) project. After attending the visit, he gained more understanding of chick production, and wanted his family to run own chick production for the commercial purpose.

She set an absolute commitment to realizing that her chicken raising will be successful. In addition, she has made a



Ms. Song Ron and her father giving good care for the chicks.

good communication with the project trainers to get additional follow-up support and technical advice. Not only Ms. Song Ron alone who involved in the chicken raising, but the other family members also took daily care of chickens such as provide feed, check temperature, make sanitation and hygiene, maintain an incubator, collect eggs and check the health status of chickens. This means that the labour sharing is discussed and managed among the family members.

She built a chicken pen, 12 meters in length and 10 meters in width and then she increased the number of hens to 10 plus 2 cocks. Ms. Song Ron has significantly improved her knowledge of chick production. She knows how to do the vaccination, how to make high nutrient feed for chicks and chickens and especially she understands the bio security control that enable her to avoid disease infection and at the same time increase hatchability of healthy chicks.

When selling chicks to other farmers, Ms. Song Ron also provided technical advice to those farmers such as site selection for constructing chicken pens, how to construct the chicken, how to make high nutrient mixed feed, disease treatment and prevention, and so forth. This is seen as a new way of selling agri-input to buyers. Previously, farmers just got the input that they bought, but they did not get any technical advice with regard to the raising techniques. By doing so, a greater number of neighbouring farmers like buying chicks from her. It is to note that selling of native chicks and chickens is not difficult. Usually, there is high demand and the native chickens are given higher price if compared with chickens from companies. For instance, selling price for chickens raised by company is 3USD per kilogram, and the price of the native chicken is 5 USD per kilogram. This good price encourages farmers to raise the native chickens.

Description / Items	Amount (Riels)
I. Expense	
1.1. Chicken breed	2,436,000
1.2. Vaccine and feed	1,638,500
Sub-Total	4,074,500
II. Income	
2.1. Chickens sold (65 kg)	1,300,000
2.2. Chicks (725 chicks)	3,625,000
Sub-Total	4,925,000
III. Balance	850,500

The farmers who bought chicks from Ms Song Ron informed that they are now able to shorten the raising period from 6 months to only 3.5 months to produce the same quantity of chickens (1.2 kg). This is achieved thanks to the access to good qualified chicks (Chicks are already vaccinated by chick producer against common diseases before selling to buyers.). Those farmers have gained more confidence in the quality of chicks and technical advice that Ms. Song Rong provided to them. This is seen as a good achievement of the project. The chick producer is not only to be able to get a good employment by producing and supplying qualified chicks to other farmers, and the broiler farmers who buy chicks from the chick producers are also successful.

As earlier mentioned, the native chickens have high market demand and good price. Ms. Song Ron can easily sell her chickens, male chickens cost 19,000 riels/kg, female chickens cost 21,000 riels/kg, chick cost 5,000 riels per chick (Vaccinated chicks with the age of 21 days).

Ms. Song Ron said that she received many purchasing orders from other farmers. Chicken raising is now a primary source of family's income, so the family members do not need to migrate to sell labour in other places. Income from chicken is contributed to cover the family daily expenses, for instance she paid for the bank interest, village development fund and savings group, to pay for her children's school fees and study materials, and additional investment for the chicken raising.

In 2019, she planned to expand the chick production, to expand the chicken pen in order to meet market demand.

