BROILER CHICKENS FOR SEMI-INTENSIVE PROJECTS

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INTRODUCTION

Broiler chickens are specially bred to grow quickly. They are sold for eating and are usually ready for market at eight to ten weeks old.

To grow this fast, they have to eat special food called Broiler Finisher.

Many broiler chicken projects are unsuccessful because they are not managed properly. Some of the ways in which poor management can cause a project to fail are given below.

1) Chickens need special care when they are very young. If people do not look after them properly, many die.

2) If the chickens are not given enough feed or are not given the right kind of feed, they will not grow well.

3) If the chickens are not given enough water, they will not grow well.

4) If the chickens are not looked after well, they will be more likely to catch a disease.

5) If too many chickens are ordered for the project it may be hard to sell them all when they are ready and more money will have to be spent on feed.

6) If too much money is spent on building the chicken house, the profits from the project will be very small.

Good management is therefore very important if a broiler project is to be successful. One good management system which is suitable for small-scale projects near to main centres, is described in this article.

THE CHICKEN HOUSE

Bush material makes very good chicken houses which are cheap to build. Round timber can be used for the frame and traditional roofing materials such as saksak, or kunai for the roof. It is easiest to use chicken wire for the walls but bamboo sticks or split timbers placed every five centimetres are also good.

The bottom part of the wall (about the first 60 cm) must be made wind proof. There are many kinds of suitable bush material for this, such as bamboo, pitpit and pandanus leaves.

The size of the house and the number of rooms inside it will depend on the number of chickens ordered and on how often they are ordered. The basic rule is to count one square metre of space (1 m^2) for each ten birds and then to add another half to one metre for feed and water troughs. An

extra room to keep the feed in is also needed.

It is not a good idea to make a cement floor for the chicken house. It will cost a lot of money and the posts will rot very quickly inside the cement. It is much better to have an earth or gravel floor and to cover it with a thick (10-15 cm) layer of sawdust, wood shavings or coffee husks. The chickens will scratch this material and mix it with their droppings to make a fine, dry mixture called 'deep litter'.

The presence of the deep litter will help to prevent diseases and to provide the right temperature for the chickens. Deep litter must always be kept dry because, if it gets wet, the chickens may become sick.

After one year, the deep litter must be removed from the house and new material must be put in. The old deep litter is a very good fertiliser and can be put on the garden where it will help plants to grow well.

FEED

Broiler chickens will not grow well unless they are given the right feed. This is called broiler finisher.

Often, broiler finisher is made up of small, round pieces which are called pellets. When the chickens are very young, i.e. between one day and two weeks old, they cannot eat these pellets as their beaks are too small. It will therefore be necessary to break the pellets into very small pieces for the first two weeks so that the young chickens can eat them.

On big projects where there is a very large number of young chickens, it may be too much work to break up enough pellets each day. In this case a special feed for very young broiler chickens, called broiler starter, can be used.

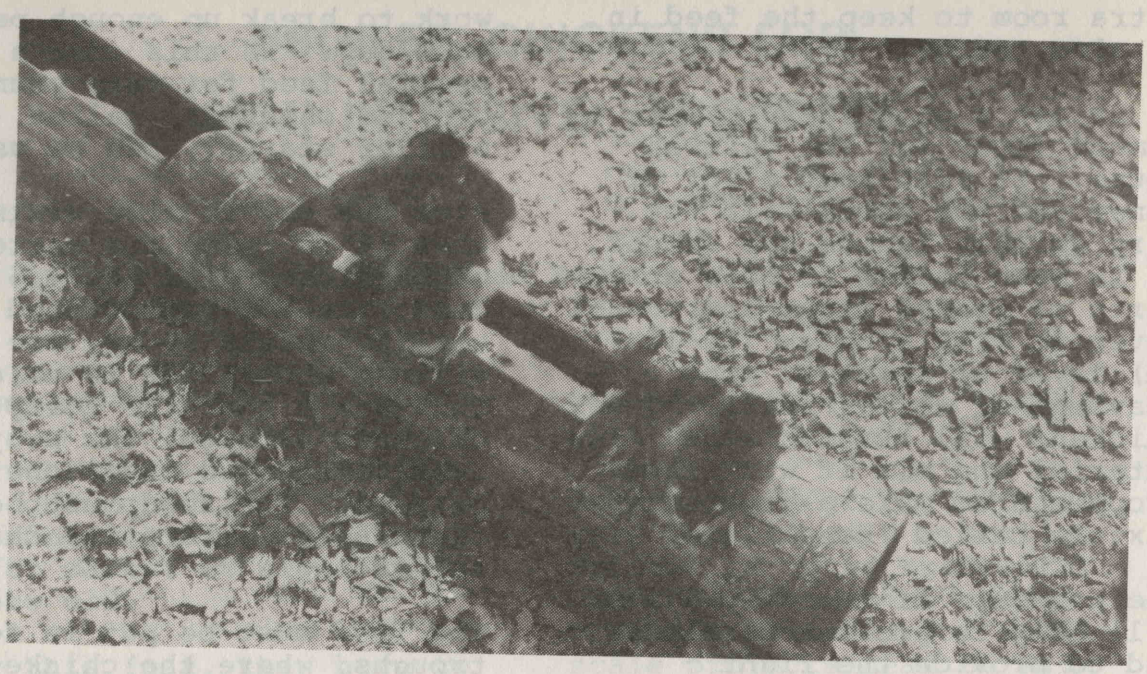
From one day to nine weeks old, when it is ready for market, each chicken will eat 4.5 kg of feed. As one bag of feed usually weighs 50 kg, one bag will be enough for 10 chickens. This means that for every ten chickens ordered, the project owner must also order one bag of feed. The feed must be at the project before the chickens arrive.

The feed must be put in feed troughs, where the chickens can easily eat it. Bamboo makes very good, cheap feed troughs. For the first two weeks, troughs made with small bamboo should be used, so that the chickens can reach the feed easily. For bigger chickens, troughs made out of bigger bamboo can be used. For each 10 chickens, there should be one 40 cm length of trough.

There must be feed in the troughs all the time so that every time the chickens feel hungry, they can go and eat. This is the only way to make sure that the chickens will grow quickly. The troughs should be checked regularly to make sure that they are not empty.

WATER

Water is very important for a broiler project. If the chickens can drink every time that they are thirsty, they will grow well. If they are short of water, they will stay small and light, and some of them will die. (This is shown in the experiment described in HARVEST 5(1):77-79).



Stones have been put into this water trough to stop the young chickens falling in.

Because water is so important, it is best to put the project near a creek. Then the people who look after the project will not have to carry the water a long way and they will not become tired of doing so.

The bamboo troughs described in the section on feed also make very good water troughs.

Very often, when young chickens go to drink, they fall in the water. If this happens, they may drown or get very wet when they will become sick and may die. To prevent this from happening, stones are put in the troughs so that they are just level with the water surface. The chickens can then stand on the stones to drink and will not fall in. After two weeks, the stones are removed.

After four weeks, the water troughs should be raised above the ground. This can be done easily by tying them to the walls with wire or bush rope. All the chickens must be able to reach the water.

The troughs must be cleaned every day. When washing or filling the troughs, the project owner must make sure that no water falls on the deep litter. If deep litter gets wet, it can cause disease.

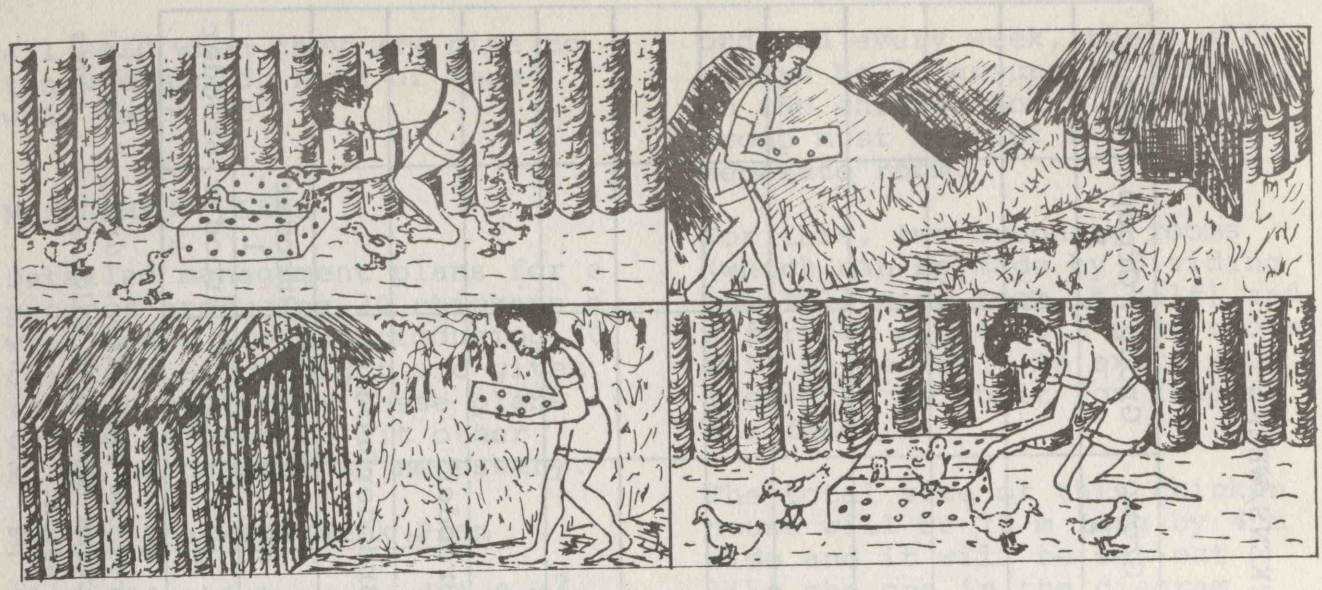
BROODING

Chickens need special care and warmth for the first two weeks of their lives. This is called brooding. The best way of brooding chickens in a village is described below.

A small brooding room of about one or two square metres in area is built in the chicken house. The walls are made carefully so that they are wind proof and they should be about 80 cm high. Half of the room is covered over with bags or woven bush materials.

During the day, the young chickens are left in this room with plenty of feed and water.

At night, the chickens are put into a cardboard box such as a



In the Highlands, or when it is very cold, the young chickens are taken into the owner's house at night. In warmer places, they can stay in the chicken house as long as they are put in their cardboard box.

tinned fish box or a beer carton and the box is closed. The box is then left in the little room unless it is very cold or the project is in the Highlands when it is taken into the owner's house which is warmer.

In the morning, the chickens are taken out of the box and put back in the brooding room with plenty of feed and water.

This is done every day until the chickens are two weeks old when they are big enough to live in an ordinary room in the chicken house.

ORDERING CHICKENS

For a broiler project it is important to order special broiler chickens. No other kind will be of any use.

The project owner should ask to have the chickens vaccinated against fowl pox. This will make them cost a little bit more but will stop them from catching this disease.

The number of chickens that should be ordered depends on how many can be sold in one or two weeks. If many people in the area like to buy chickens, then a lot can be ordered. If only a few people buy them, then only a few should be ordered.

Experience has shown that in most places it is difficult to sell more than 20 chickens in one week.

A big mistake, which a lot of people make, is to order 50 or 100 chickens at one time. When they are ready for market at 9 weeks old, the project owner finds that he cannot sell them all in one week but that it takes three to six weeks before they are all sold. By this time all the feed will have been used up and he will have to buy more to stop the chickens from losing weight and dying. This will take up all his profit.

If the chickens are not sold quickly, there is also a danger that they will catch a disease called Marek's disease and die. This disease never starts when the chickens are younger than twelve weeks, so if they are

TABLE 1. USE OF ROOMS IN CHICKEN HOUSE PRODUCING 20 CHICKENS/WEEK

WEEK	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
1	Brooder 1											
2	Brooder 1	Brooder 2										
3	R1	Brooder 2	Brooder 1									
4	R1	R2	Brooder 1	Brooder 2								
5	R1	R2	R3	Brooder 2	Brooder 1							
6	R1	R2	R3	R4	Brooder 1	Brooder 2						
7	R1	R2	R3	R4	R5	Brooder 2	Brooder 1					
8	R1	R2	R3	R4	R5	R6	Brooder 1	Brooder 2				
9	R1	R2	R3	R4	R5	R6	R7	Brooder 2	Brooder 1			
10	Being Sold	R2	R3	R4	R5	R6	R7	R8	Brooder 1	Brooder 2		
11		Being Sold	R3	R4	R5	R6	R7	R8	R1	Brooder 2	Brooder 1	
12			Being Sold	R4	R5	R6	R7	R8	R1	R2	Brooder 1	Brooder 2

Group A is the first group of chickens ordered, Group B is the second group, ordered one week later. Group C is the third group ordered another week later..... and so on, when all the Group A chickens have been sold, Group I moves into R1, when all the Group B chickens are sold, Group J moves into R2..... and so on.

all sold when they are nine to ten weeks old, none of them will catch it.

MANAGEMENT PLANS

Detailed management plans for a project producing 20 chickens a week and a project producing 30 chickens a fortnight are given in this section. These plans can be altered to fit other kinds of project as necessary.

Twenty Chickens/Week Plan

Since 10 chickens need 1.0 m^2 of space, 20 chickens will need 2.0 m^2. In addition to this, they will need 0.5 to 1.0 m^2 for their feed and water troughs.

This means that a room for 20 chickens must be between 2.5 and 3.0 m^2 in area. One way to get the right size of room is to build the room 1.5 m wide and 2.0 m long. This will give an area of 3 m^2 (1.5 x 2 m).

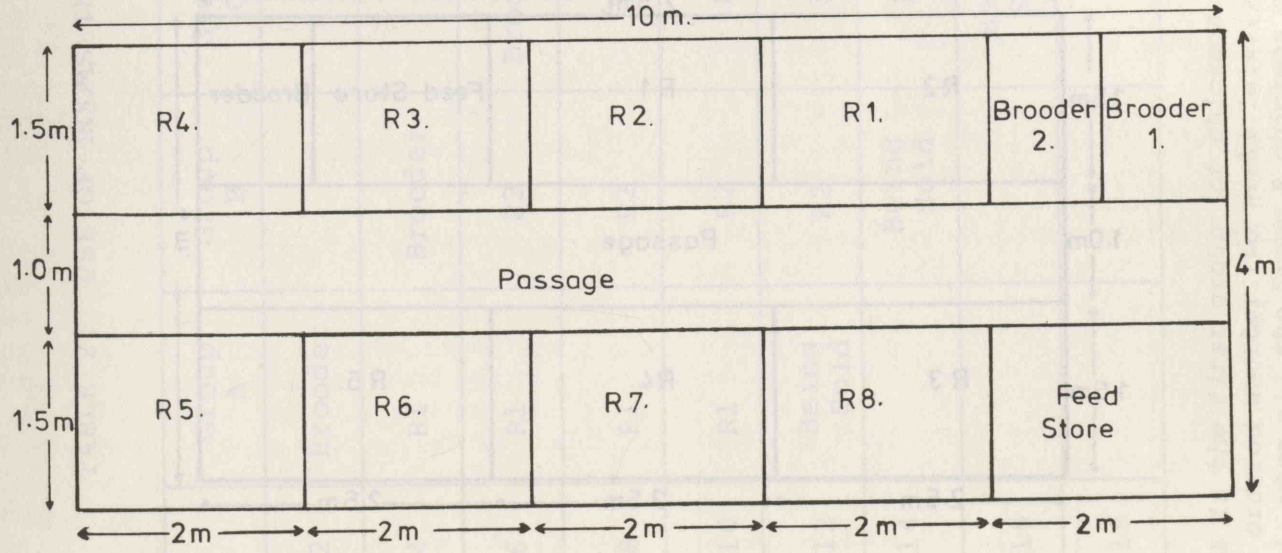
The chickens will be kept for 9 weeks and then be sold. Once the project is established, and if a new group of chickens is ordered every week, there will always be 10 groups of chickens in the chicken house. Each group must be kept in a separate room.

For this, two brooding rooms (which can be made by dividing one full-size room in half) and a further eight full size rooms will be needed. An extra room must also be built for keeping the feed in.

The total size of this chicken house will be 10 m long by 4 m wide and it will be set out like the one in the diagram below.

As the project becomes established, more and more of the rooms will be filled. Finally, as each group of chickens reaches 9 weeks old and is sold, a new group will be moved into the empty room from one of the brooding rooms. A new group of young chickens will then be put in this brooding room. The table opposite shows how this works.

The budget for each group of chickens will look like this:-



Design of a chicken house for a project producing 20 chickens/week

Costs:

20 chickens at 50 t = K10.00
2 bags feed at K13 = K26.00
Total = K36.00

Returns:

(assuming death of 1 chicken in 10)

18 chickens at K3 = K54.00

Profit:

K54 less K36 = K18 per week or
K36 per fortnight

This budget is based on prices in Lae. The costs in other places may be higher but returns may be higher there too. In some places, chickens sell for K4.00 or even as much as K7.00.

Thirty Chickens/Fortnight Plan

Since 10 chickens need 1.0 m^2 of space, 30 chickens will need 3.0 m^2. They will also need 0.5 to 1.0 m^2 for their feed and water troughs.

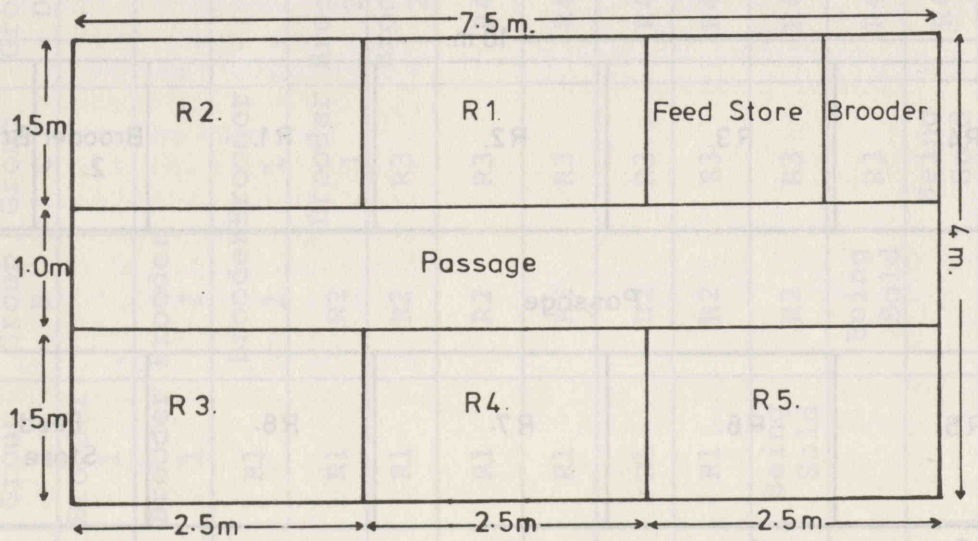
This means that a room for 30 chickens must be between 3.5 and 4 m^2 in area. A room which is 2.5 m long and 1.5 m wide will therefore be suitable. This room will have an area of 3.75 m^2 (2.5 m x 1.5 m).

These chickens will also be kept for 9 weeks and then be sold. Once the project becomes established, and if a new group of chickens is ordered every fortnight, there will always be 6 groups of chickens in the chicken house. Again, each group must be kept in a separate room.

For this, one small brooding room, five full sized rooms and one room for storing feed will be needed. As the rooms for brooding and storing feed do not need to be as big as the others, six full sized rooms can be built and one can be divided to make both the brooding room and the feed store.

The total size of this chicken house will be 7.5 m long and 4 m wide. It will be set out like the one in the diagram below.

As the project becomes established, more and more of the rooms will be filled. Finally, as each group of chickens is



Design of a chicken house for a project producing 30 chickens/fortnight

TABLE 2. USE OF ROOMS IN CHICKEN HOUSE PRODUCING 30 CHICKENS/FORTNIGHT

WEEK	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I
1 + 2	Brooder								
3 + 4	R1	Brooder							
5 + 6	R1	R2	Brooder						
7 + 8	R1	R2	R3	Brooder					
9 + 10	R1	R2	R3	R4	Brooder				
11 + 12	Being Sold	R2	R3	R4	R5	Brooder			
13 + 14		Being Sold	R3	R4	R5	R1	Brooder		
15 + 16			Being Sold	R4	R5	R1	R2	Brooder	
17 + 18				Being Sold	R5	R1	R2	R3	Brooder

Group A is the first group of chickens. Group B is the second group, ordered two weeks later, Group C is the third group, ordered another two weeks later..... and so on. When all the Group A chickens have been sold, Group F moves into R1, when all the Group B chickens have been sold, Group G moves into R2..... and so on.

sold at 9 weeks old, a new group will be moved into the empty room from the brooding room. A new group of chickens will then be put into the brooding room. The table opposite shows how this works.

The budget for each group of chickens on this project will look like this:-

Cost:

30 chickens at 50t	= K15.00
3 bags feed at K13	= K39.00
Total	= K54.00

Returns:

(assuming death of 1 chicken in 10)

27 chickens at K3 = K81.00

Profit:

K81 less K54 = K27 per fortnight.

Again, this budget is based on prices in Lae. Costs and returns in other places may be higher as explained in the first plan.

CONCLUSION

Providing that they are managed properly and that the chickens are looked after well, very good profits can be made from small brooder projects. The important thing is to have a good market for the chickens. This is because the profit depends on selling the chickens very quickly once they are 9 weeks old. If too many chickens are produced, then there will be little profit and the project may make a loss.