



# Poultry farming and management in Cambodia

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Project:

*Ala – Sustainable Agricultural development in Cambodia*

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The project aims to start at family level a small poultry farm that can be if properly managed, a cash income for the owner.

The project will provide:

1. All materials for building chicken House (Pen) and fence for external chickens walking area, Family should collaborate for chicken house construction and in case of need the project will provide external man power.
2. 10 chickens (9 hens and one cock)
3. A provision of commercial feed
4. Drugs and disinfectant to treat the main diseases of chicken
5. Technical assistance during the project length

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- **Housing:**

Comfortable, clean and safe housing is a priority to have health and fast growing animals

Chicken should be protected from heavy rain, hot sun light and predators

A daily cleaning and grooming activities give a chance to animals to better produce meat or eggs and leave time to owners to conduct other family activities

All premises can be made from local materials but maintenance is important to keep the breeding along time

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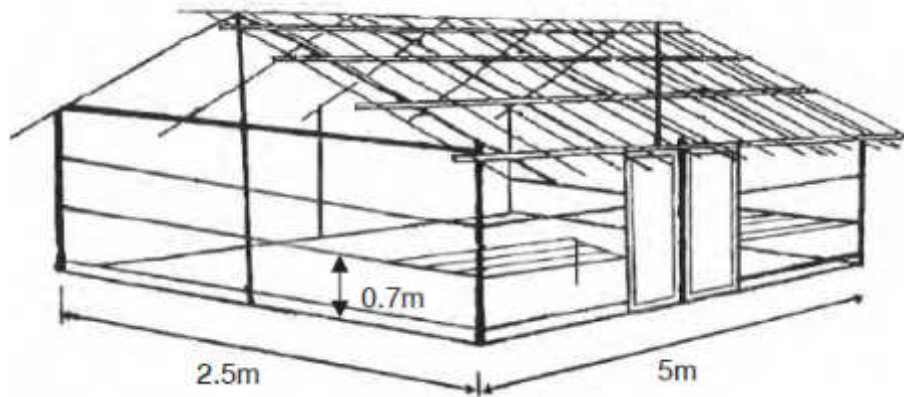


Fig 1. Structure of chicken house model

## **Structure of chicken house:**

Ideally the pen is divided in two block (rooms) 5 meters long and 2.5 meters width, 3 meters height from land surface with 1.5-1.7 meters height of side column pole.

One room will be for breeding the other for production (broiler or layer)

**Selection of not floated area should be a must**

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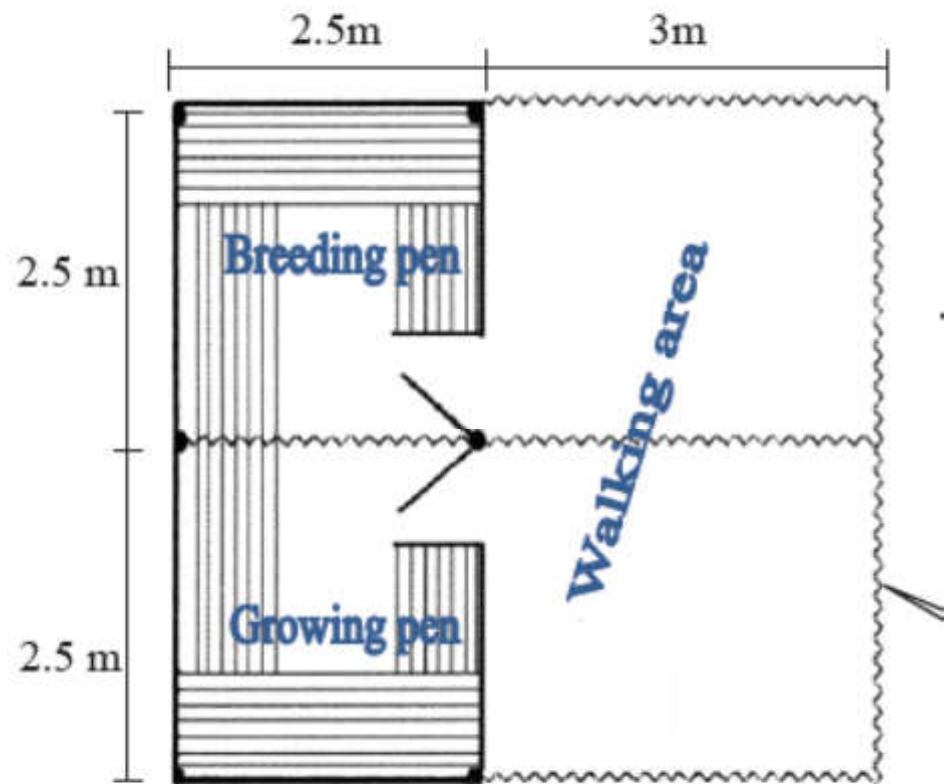


Fig 2. Basic plan of chicken house model



Fig 4. Roost or shelf for sleeping and supporting nests

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Fig 4. Roost or shelf for sleeping and supporting nests

Chicken prefer to sleep at night on perches. Making perches for chickens to sleep and to keep nests to lay and hatch eggs. The roost construct by bamboo at 0.7 meter (70 cm) high from land surface and 0.7 meter width from walls of pen. Each intervals of roost has 0.2 meter (20 cm)

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Fig 5. Growing sponge gourd to shade chickens

Separate the two rooms with nylon fence, the ideal density of animals should be 7-8 heads per square meter.

The external park can be covered using growing vegetables like long wine plants (ride gourd, wax gourd, etc.), this will give shade during sunny days, fruits can use for both human and animals feeding and leaves for animals feeding.

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For chicks under 3-4 weeks old better keep them in a small cage: built as in figure. This will protect from predator and lower the mortality of young chicks.

Can be made from bamboo and local materials, cover the floor with rice husk to keep chicks clean and warm until 3-4 weeks old.

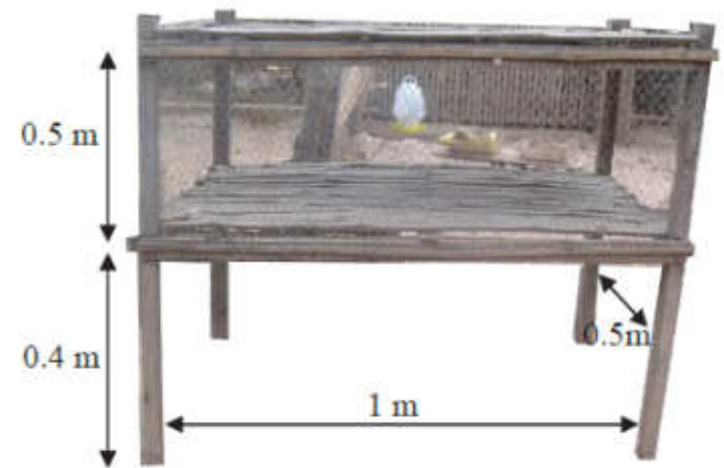


Fig 6. Cage for caring chicks



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**Feeders:** purchase as new or made from local materials, built to prevent scratching from chicken and waste food.

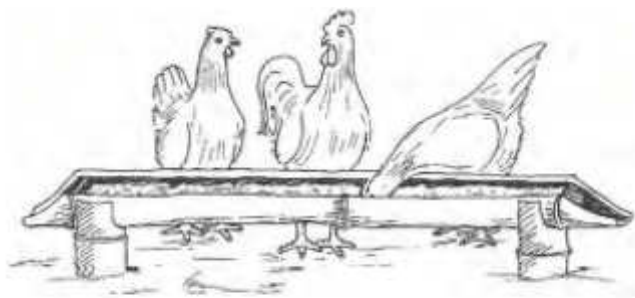


Fig 7. Feeder is made from bamboo



Fig 9. Feeder made of small plastic tank

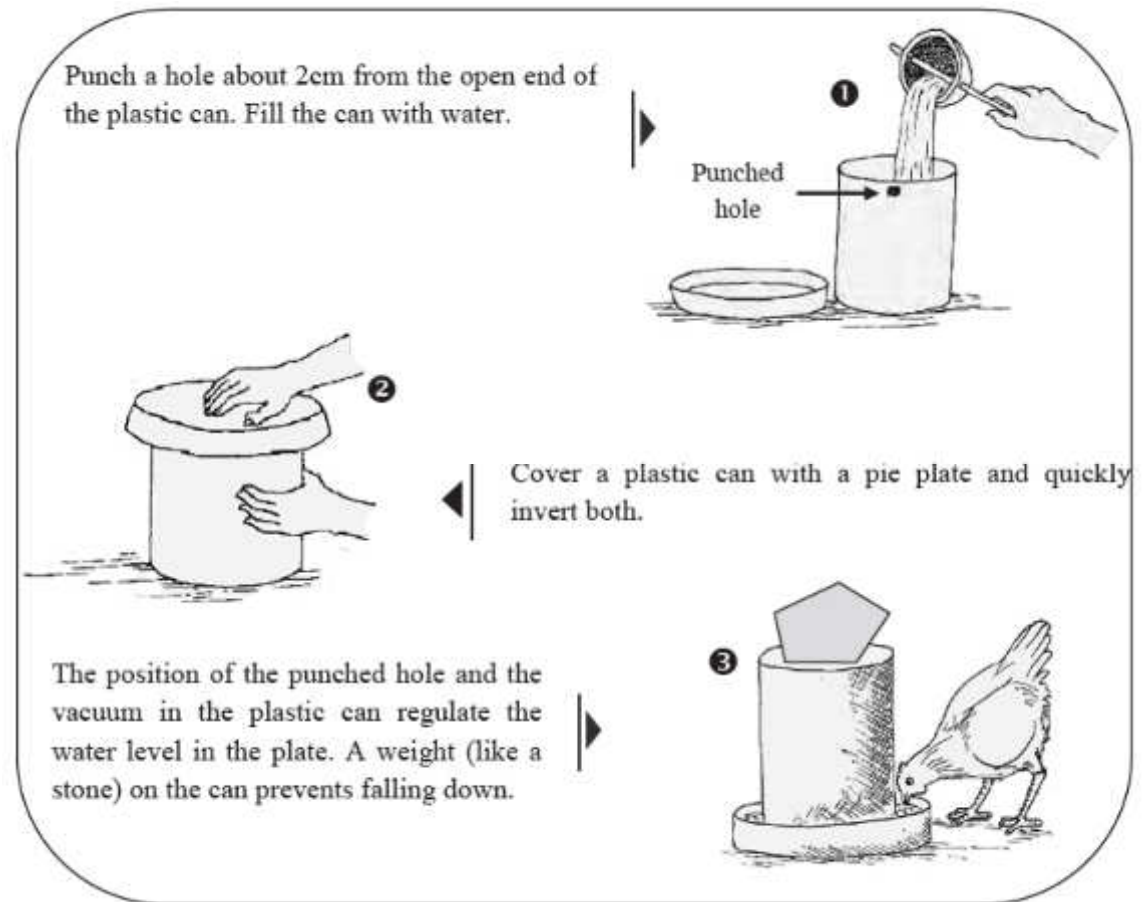


Fig 10. Feeder made of small plastic container (Petronas pot)

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## Drinkers:

availability of fresh and clean water is essential for chicken, drinkers can be purchase as new or made fro local materials, what ever every morning should be cleans and replace with fresh clean water



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**Litter:** Litter reduce the risk of diseases, particularly for small chicks, which are susceptible of cold, humidity and air current. Litter can adsorb waste from chicken, humidity and water, you can use rice straws, rice husks, sawdust. Any materials that can keep the floor dry. Used Litter can be use for compost making and land fertilizer.



Fig 13. Spread rice hush on the floor for small chickens



Fig 14. Rice hush absorbs droppings and keeps the floor dry

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## Chicken Breed and Breeding

The recommended Big Sized chicken of local breed (more resistant to diseases and with a good prices on local market) are **Kork, Tmart, Sampov, Kandong, Kragas**..the project will selected the best type according to the market prices and the availability. This breeds hens have a body weight of over 1.5 kg and roosters over 2.5 kg at maturity



Fig15. Local hen and rooster are good for egg and meat production



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## **Reproduction:**

Chicken start breeding at 5-6 months of age, keep them not more than 3 years (after low eggs fertility). Hens and roosters keep separately from broilers and chicks.



Fig 23. One cock with 6 healthy hens

One roosters is technically served for 6-8 hens only. Do not keep two roosters together in the same cage.

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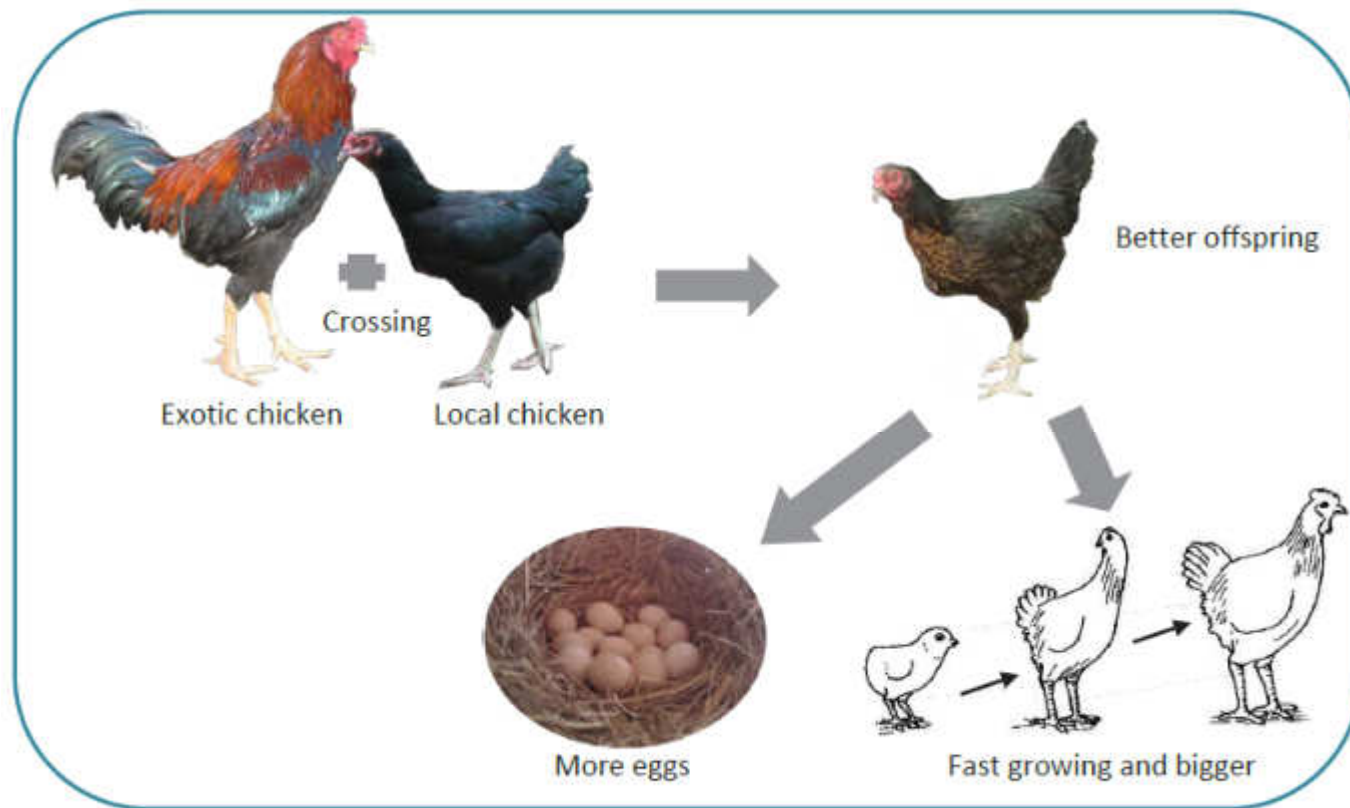


Fig 24. Exchanging program to get a potential offsprings

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**Reproduction:** when the rooster is too old, can make an exchange within surrounded farmer, selecting a young and good cock. This will prevent inbreeding (poor eggs production and grown rate).



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When bringing in a new hen or cock always keep separate for two weeks (quarantine) to be sure do not develop any diseases.  
You can put together one of your chickens to see if develops a diseases



Fig 22. Always quarantine all new incoming chickens



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## Hatching and rising Chicks:

**Nests:** Basket, Pots or cardboard boxes can be used like a nests; dimension 25 cm base diameter, 18 cm wall height, and 40 cm open top diameter.

- Number of nests should be equally to hens
- Nests in shady quite place of pen
- Put tobacco or banana leaves down to the nests to avoid external parasites



Fig 26. Nest made from dried rice straw

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## **Natural incubation of eggs:**

Chicks hatch after 21 days of Brooding.

Main factors to have a good eggs production is:

- Provide good food and clean water
- Ratio of rooster and hen (1/6-8)
- Do not disturb hens during brooding



g 28. Hen is brooding eggs in her nest

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A brooding Hen can hatch up to 10-14 eggs. If the number of eggs for each hen is low, take from other hens and keep with one hen only,

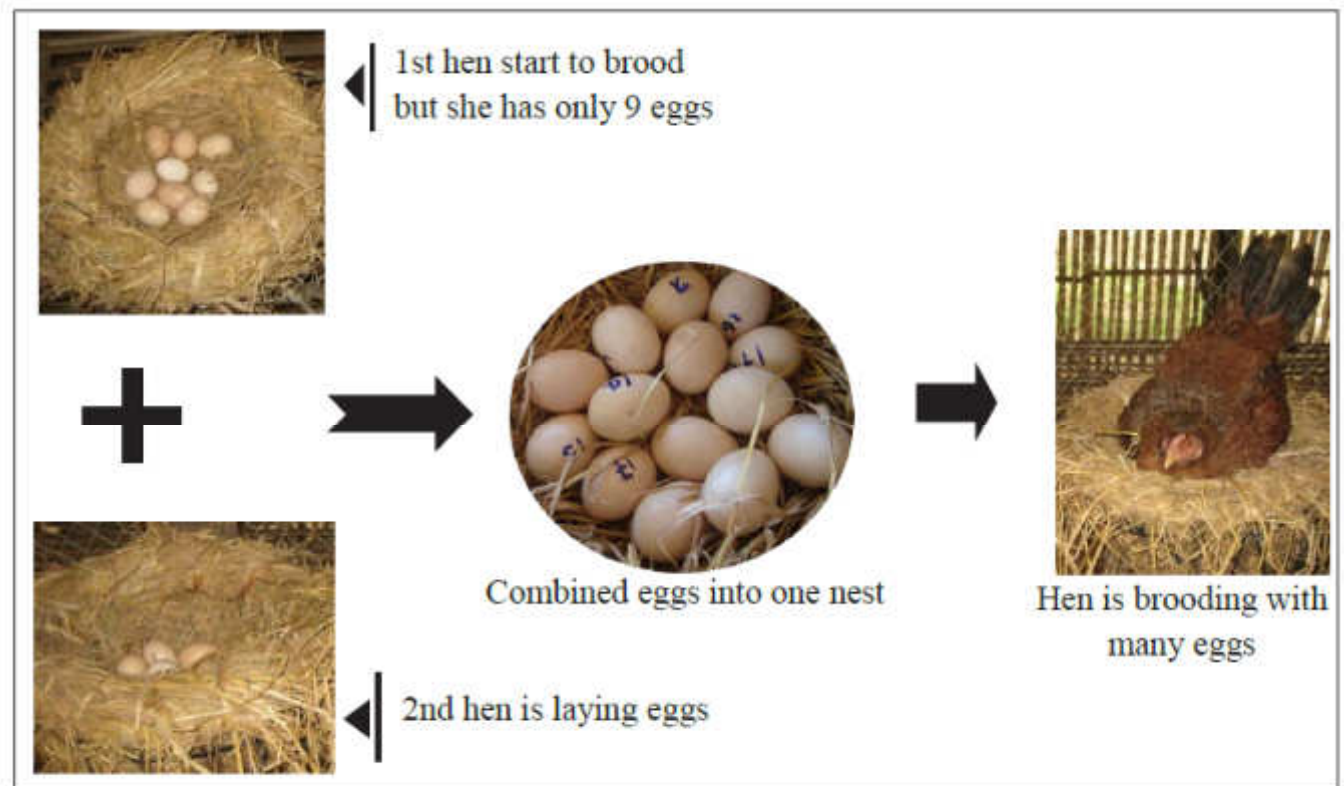


Fig 29. Combine eggs from two nests to increase cycle of production

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Fig 31. Production cycle of chicks per nest

## Cycle of Breeding:

If the raising of animals will be very good you can reach up to 6-7 cycles per years, followings the cycle described below.

Normally you can follows a 4-5 cycles per years

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## **Handle for chicks under 10 days old:**

Baby chicks need special care to prevent high mortality.

They should protect from **air currents, humidity and cold** and they need good feeding management. They need fresh water and feeding after 1 day old.

The cage show before should be ready after hatching.

The floor of the cage should be cover with plastic cover and spread out with sawdust or rise hush.





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Keep mother with her chicks in a separate cage, during the **two first weeks**.

Providing adequate feeding and fresh water to hen and chicks

Fig 33. Keep mother and her chicks together in small cage after hatching

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If there is no cage an Angrot can be use to keep hen and chicks separate from other animals and protected from predator. Floor should be cover with sawdust or rice hush.



4. Keep mother and her chicks together in Angrot after hatched

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Fig 35. Warm chicks up by covering plastic bag or old blanket during cold day

Baby chicks can be killed by cold weather.

Cover the cage / Angrot by a plastic sheets or old blanket during the night or raining days.

Do it until chicks are 30 days old



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- The days or two weeks keep hen out of cage.
- Hen should be keep in breeding pen
- If the weather too cold put a electric lamp in the cage or a clay pot with charcoal inside



Fig 36. Warming chicks by using electric lamp or clay pot with charcoal

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When chicks are 3-4 weeks old move them to growing pen as a Broiler production. If you keep small chicks with old chicken be sure all get enough feed and water



Fig 38. Chicks are moved to growing pen for broiler production

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## Feeding Management:

Chicken needs good quality food to produce eggs and grow.

They need as all animals:

- **Water** (essential every days) they can survive without food but not without water
- **Protein** (to grow and to produce) source in fish, earthworms, insect, beans, Cassava leaf, Leucaena leaf
- **Energy** (to move and maintain body temperature) source in corn, broken rice, dry coconut flesh, cassava meals
- **Vitamins** essential for life, source in yellows grains, fruits, green vegetable
- **Minerals** to produce eggs and grow bones; source in sea and snail shells, bones, eggs shells

## Main Ingredients of Chicken Feed

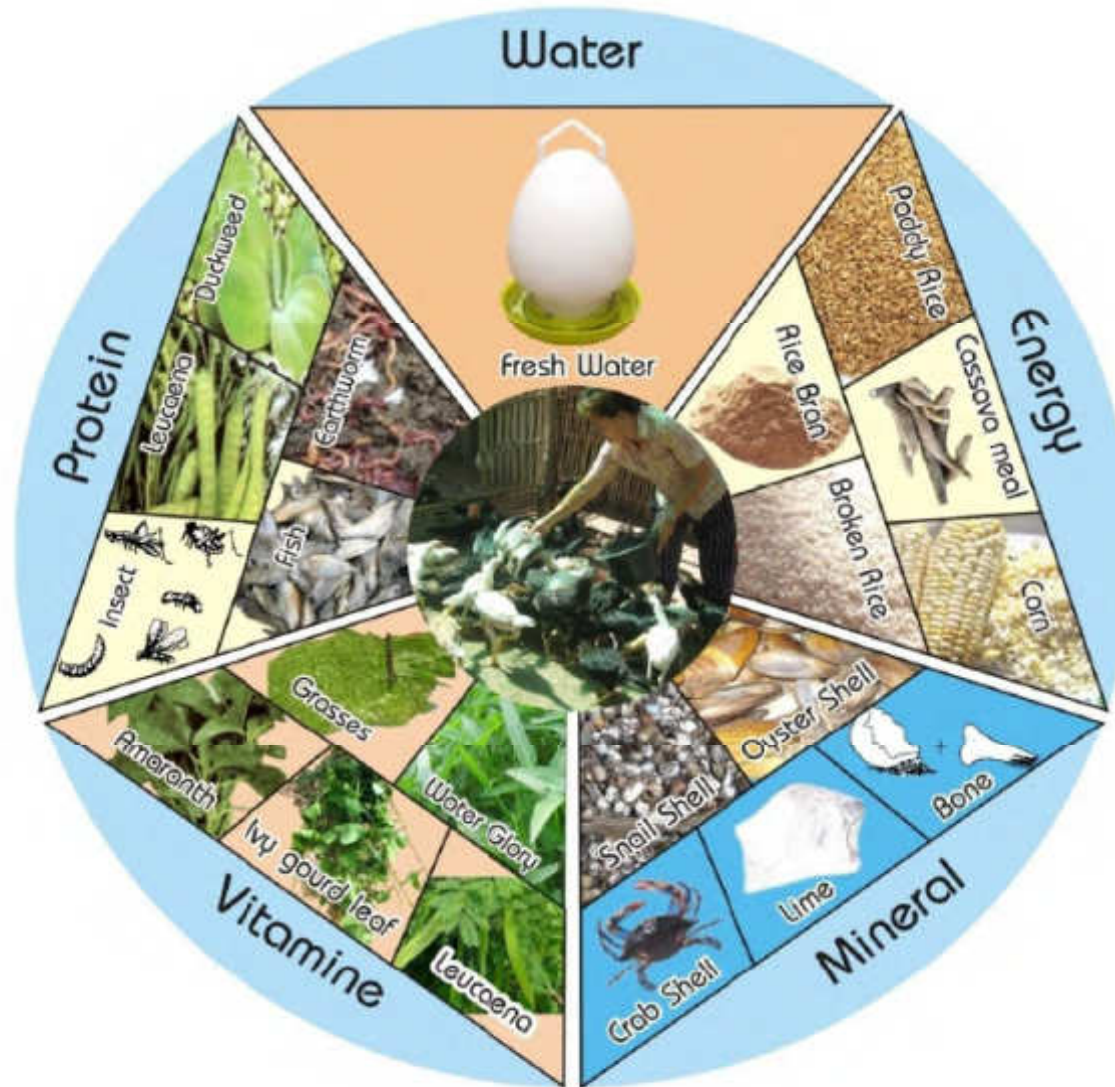
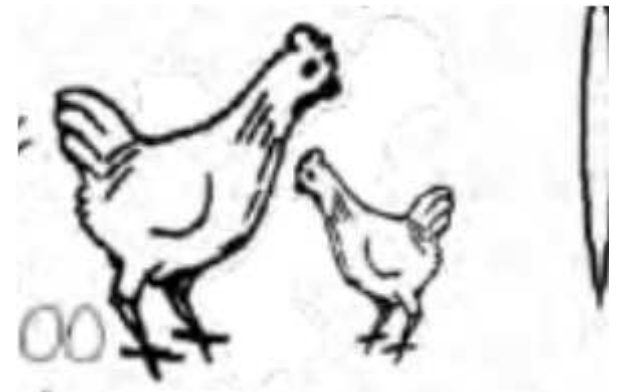


Fig 39. Groups of essential nutrients in diet

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- There are in market different type of commercial feeds ready made, they are typically for each production; Broiler or Laying hen but they are expensive.
- Better for local breed is be supplemented by local available feeds;
- We will discuss about each age group!!!



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## **Baby Chicks:**

Baby chicks needs during the **first week** feeding with commercial feed (22-26% crude protein). Give them the feed 2-4 time a day.

**After the first week** they can be feed by a mixture of Commercial feed and local available feed 50:50 (maize, rice brand, broken rice> all this local feed should be crushed before in small pieces)  
= 1kg of Commercial feed and 1 kg of local feed

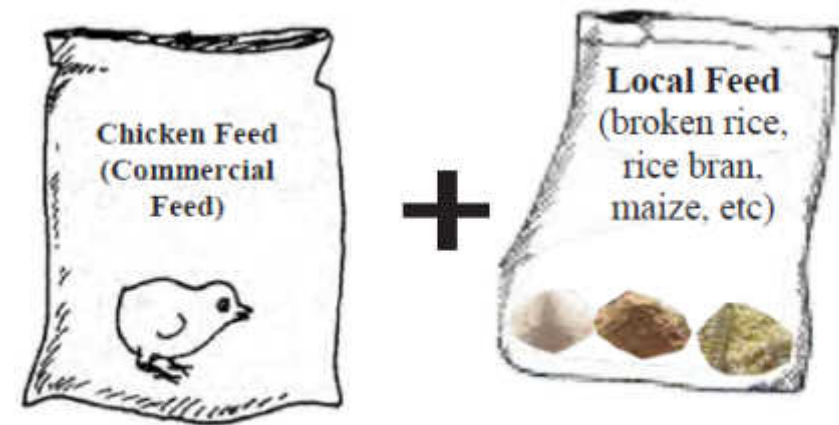


Fig 40. Mix commercial feed with local feed  
forchicks in the same amount



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Fig 42. Provide feed to baby chicks on plastic bag

First three days put the feed on plastic bag, or old tray with very low edge: it made very easy for baby chicks to find the feed

**REMEMBER:** don't feed the baby chicks with low quantity of rice bran than mixed with debris rice hush because it cause intestinal problem

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- **How feed chicks with 1 month old:** From this stage you can feed chicks with a mixture of commercial feed and local available feed resource at village. Give the mix morning and evening.



Fig 44. Mix commercial feed with double of locally available feed resources



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Local feed resource can be: Rice bran, broken rice, paddy rice, corn, Cassava, water lily, *leucaena* leaf, flesh of coconut, duck weed, grass and vegetable

**Bird have no teeth:** chop the vegetables and grass in small pieces



Fig 47. Chopping vegetables and grasses in small pieces to mix with other ingredients feed

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- Don't give to chicks **paddy rice** like that: soak in water for two days and warm it, let it germinated than mix with other ingredients.



Fig 45. Soaking paddy rice in plastic pot



Fig 46. Paddy rice is germinated

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Fig 48. Dry flesh of coconut under sunlight and keep in bag for chickens when you have more fleshes.

The flesh of coconut is rich in protein and energy: Scrape the flesh out of the coconut and give it to the chickens.

You can even find in local market after they squeezed the cream out, ad **no more** than 1/10 of other feed.

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Do not feed one sort of grain only, try to make a mixture of different grain, or alternate



Fig 49. Provide many types of grain in chicken feed



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Before providing feed to chickens all ingredients must be well mixed



Fig 52. Mixing all ingredients together before providing them to chickens



Fig 53. Provide mixed feeds to feeding chickens

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- **Public nuisance**

- Remember chicken make **noise** > keep the right number of roosters Vs hens
- Chicken rearing make **odor** > bad smell is associated with poor management, cleans properly the floor and keep as possible dry: the manure can be very good for growing vegetables.



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Fig 57. Disinfection inside and around chicken house by using TH4

- **Pest management control:**
- Cleans regularly the pen, if possible every month disinfect inside and outside the pen with a solution of TH4 (or Virkon s)



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- **Chickens health care:**
- When a diseases spread many chickens can die and farmers lost a lot of profit.
- Keep the pen cleans and don't let visitors come and walk inside the pen.
- Before start a new cycle of breeding, floor and materials should be disinfected by lime-water



fig 62. Spread lime-water on the ground in and outside chicken house before starting each production



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Fig 63. Spray TH4 and water at chicken house to kill microbes and other parasites

- Use TH4 to disinfect inside and outside the pen each 3-4 weeks.
- If there is an outbreak of diseases in a surrounded neighbored farm, disinfect every days with TH4, until no sign of diseases occurring

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- Keep the chicks that look unhealthy outside of pen, and observe the health progress and treatment

Fig 67. Quarantine the chickens that look unhealthy far from flock to control health situation

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- Remove **IMMEDIATELY** all the chicks died from the pen and burn the death body or deep bury.
- **Don't EAT** the body of a death chickens

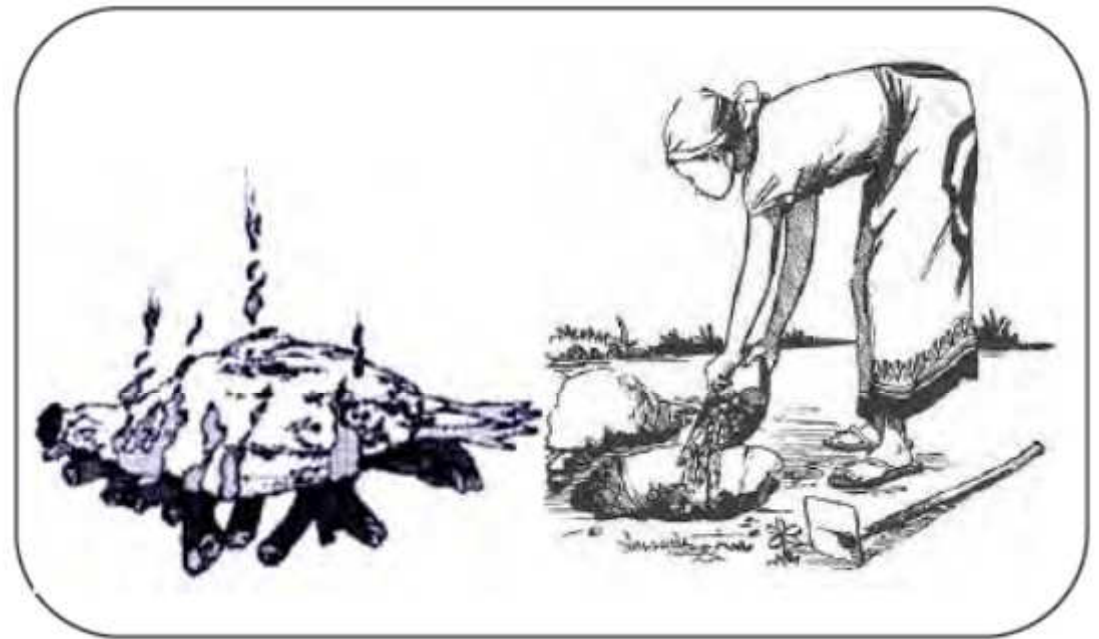


Fig 68. Deep bury and burn out of dead chicken cause by diseases

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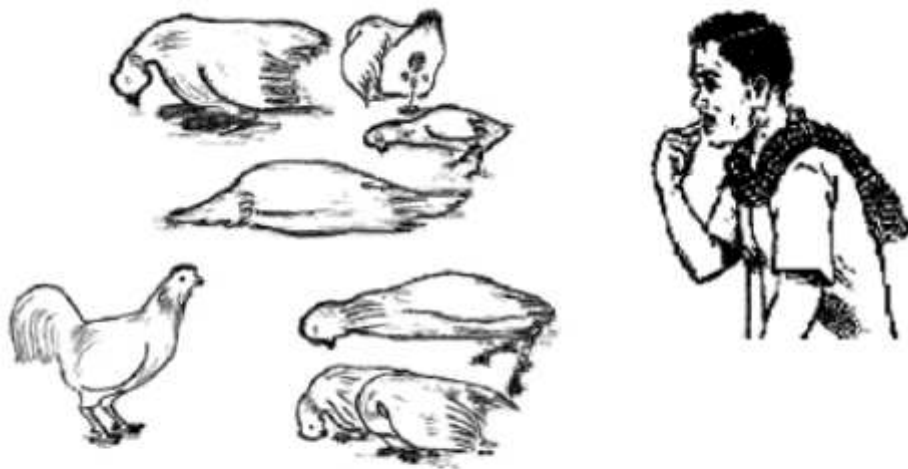


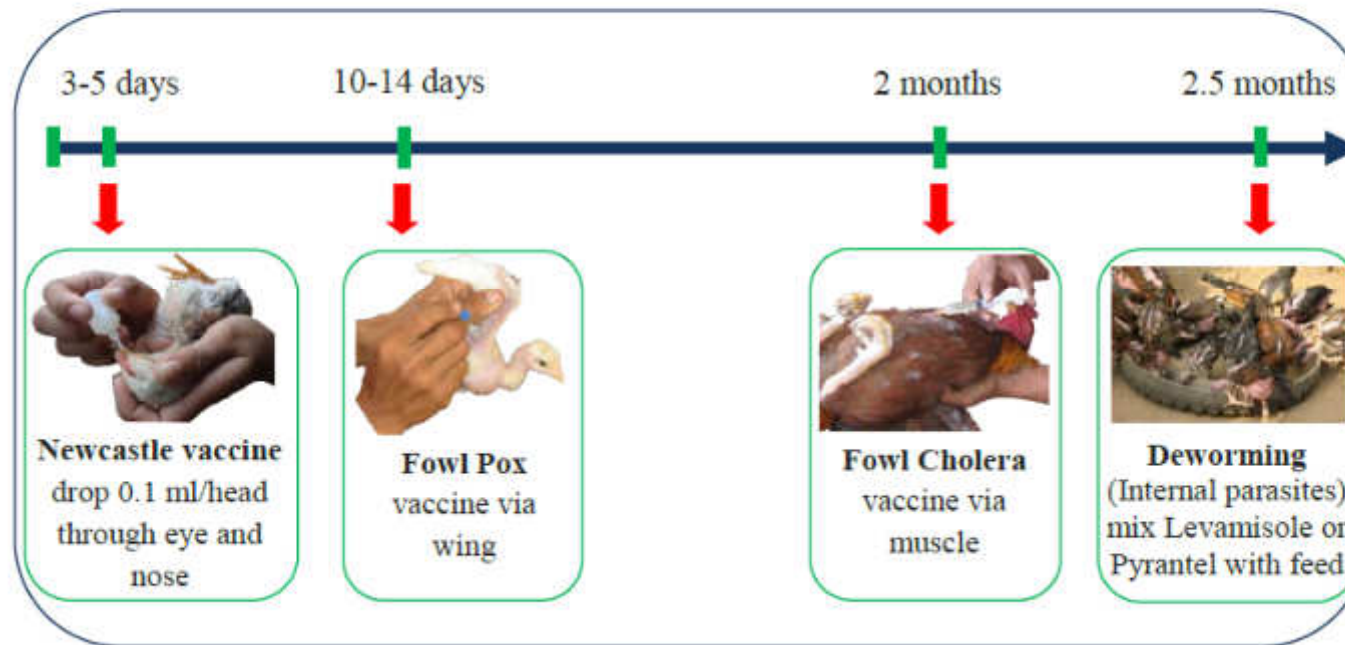
Fig 69. Many chickens are sick and dead at the same time

- If many chickens are sick or death at the same time  
**CONTACT as soon as possible the nearest Veterinary workers** and the concerned association (NAAA) to report the sign of diseases and to determinate the cause of diseases

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- To keep chickens healthy they should receive at least 3 type of vaccination during a cycle

## Schedule for vaccination and deworming program



**Newcastle vaccine can be repeated at 21 days old for chicks.**

**The parental flock should be vaccinated each 4 months against Newcastle and Fowl cholera**



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- Contact So Chia to get info about vaccination schedule and management.
- Vaccine should keep at cool and dark place and used before expiring date.

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- The main diseases of chicken: **Newcastle diseases**



Fig 70. Sign of problems with nervous system (twisted head and neck)



Fig 71. Drop Newcastle vaccine on nose and eye

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- **Fowl pox disease**



Fig 73. Administrating Fowl Pox vaccine



Fig 72. Signs of spots on head caused by Fowl Pox disease

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- **Fowl Cholera disease**



Signs of Fowl Cholera disease with diarrhea symptom



Fig 75. Administrate vaccine to prevent Fowl Cholera disease

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- **Internal and external parasite**
- Regularly treatment (3 months) with **Levamisole** or **Mebendazole** each three months: mix 1 tablet with 8-10 kg of feed, consult with veterinary or drug sellers!



Fig 78. Round worms in chicken feaces



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- Keep registration of any expenses you made along the year to calculate the income/outcome.
- This will make even a diary of all activities done



