Local Fish Feed & Recycling Fish Pond Water as Manure  
Treatment of Diseases in Poultry

Innovations by Joseph Abarike Azumah, Abdul Abbieli Ramani and Hatia Fati Zangina

The innovators

### Local Fish Feed and Recycling Fish Pond Water as Manure by Joseph Abarike Azumah

In response to the high cost of commercial fish feed Mr. Azumah formulated fish feed from local ingredients. Moreover, he recycles the fish pond water by using it as organic manure for his crops. In this way, he closes the production cycle.

### How does it work?

The local fish feed formulation consists of:
- 20 bowls of flour
- 5 of rice bran
- 5 of pito mash
- 2 of soy beans
- 2 of Amaani
- 5 bowls of Boabab grounded leaves.

Recycling fish pond water as manure:
1. Get fresh water into the fish pond
2. Stock the pond with fish
3. Feed fish daily with a mixture of one bucket each of cow dung, poultry droppings, sheep- and goat manure and two bowls of locally formulated fish feed.
4. Optionally, cut a branch of “Mim” with leaves and put in the pond (Mim is a natural local insecticide)
5. When the water is ‘too’ green, pipe out the water for irrigation of own crops.
6. When insects invade the farm, use the water as a spray.

### Treatment of pox in humans and poultry by Hatia Fati Zangina

The innovation treats pox in poultry and humans, by using the natural ingredient “Henna”.

### How does it work?

The dried Henna leaves are pounded into powder and mixed with water in order to form a paste (it can also be purchased in the market). After allowing it to stay for one night, it is applied to the sore spots in poultry or humans. To treat humans, the patient is also bathed three times a day in a Henna solution. This procedure is repeated until the pox dry up and disappear.

### Treatment of worm infection in Guinea Fowls by Abdul Abbieli Ramani

Using the local “Gberige” and the bark of mahogany, this innovation decreases death rates in Guinea fowls by treating worm infestations.

### How does it work?

Gberige and mahogany are obtained from the market or bush. It can be wet or dried. A piece of both ingredients is cut and mixed with water. The mixture is then given to the fowls to drink.