

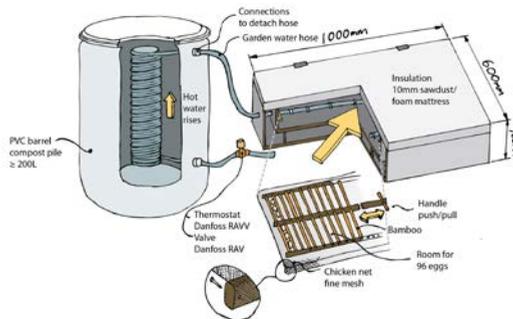
Off-grid Egg Incubator

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INTRODUCTION

Since the construction of the Akosombo Dam in the Volta region of Ghana, the areas and banks downstream of the Volta River has suffered great agricultural damage. The small villages and local communities in these rural regions have a history of poverty and are so isolated that electricity has yet to reach them. Before the dams were constructed, the seasons created a natural rise of water level in the river during raining season, which dredged the surrounding lands. Thus, the minerals and nutrients in the soil was released and brought back into the farmland and another agricultural season could start. The river also contained a great amount of fish and oysters that local anglers were able to profit from and thereby creating jobs. An off-grid egg incubator would help and repair some of the loss. In addition to the goal of developing a non-electric solution, we intend not to make the inhabitants dependent on modern an unavailable technology, hence not use solar cells and batteries.



CONCEPT

Incubators of different types are commonly seen in the modern world. Industrial incubators can hold thousands of eggs and hobby incubators can often hatch between 10 and 100 eggs, but common for both types is that they run on electricity. When electricity is not an option other ideas have to be explored. This concepts consist of two parts; a compost pile in a large pvc barrel and an insulated incubator. Circulating water transfer the heat in the system. A compost pile normally generates temperatures between 50 and 70 degrees C, thus enough to heat the incubator to a stable temperature of 37,8 degrees C. Other features include a sledge inside the incubator to turn the eggs frequently and a simple way to control humidity.

PROSPECTS

With the incubator developed in this project one also has to consider implementation and the domestication process. We imagine that the incubator should be administered by a manager, but owned by a community, a group of families. When the families deliver ten eggs to be incubated, the manager receives one chicken in salary and the family redeems nine chickens. The incubator is developed to rural Ghana, but it could be used in every rural

part of the world. It could also be used as a non-electric hobby incubator to the many chicken enthusiasts.