

# Solar Poultry Incubator: An Innovative Approach towards sustainable Kadaknath poultry farming

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Gramin Vikas Trust (GVT) has identified Poultry farming of Kadaknath breed as potential source of income generation in the resource poor region of Jhabua and Dhar districts. GVT's Jhabua team is working since long on livelihood generation of poor tribal families in Jhabua through Kadaknath poultry farming. Presently, GVT Jhabua is operating more than 100 Kadaknath poultry farms under different projects like NABARD WADI and NAIP. While working on micro components of the project, GVT has come across several challenges in up scaling of this successful intervention. As part of establishment of robust backward and forward linkages of the project, it was observed that Kadaknath breed of poultry is not a natural brooder and thus the low natural hatching rate of this breed is hampering the supply of chicks to the poultry farmers. Although GVT has surmounted this problem by facilitating the farmers in procurement of chicks from KVK hatchery but it was felt that this arrangement is affecting the efficiency of these poultry farms as farmers have to repeatedly come to KVK for booking, payment, procurement etc and wait for chicks as per the schedule of KVK. It was this plight of farmers that led GVT to think on the line of establishing small scale hatchery at the village/ cluster level so that poultry farmers could get hassle free supply of Kadaknath chicks on regular basis.

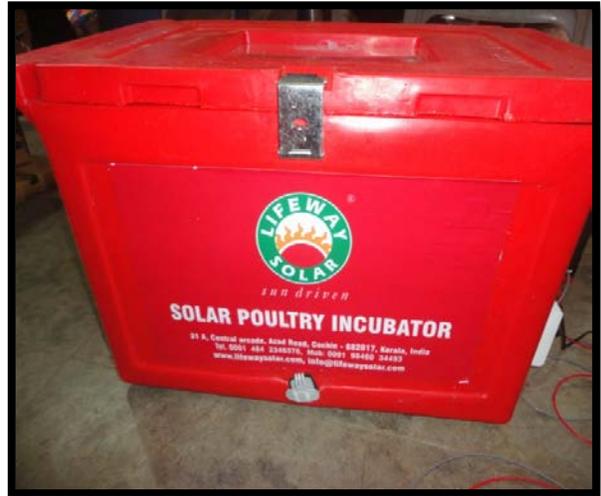
In line with organization's policy of project sustainability, GVT Jhabua officials have met with several veterinary experts and poultry incubator manufacturers to develop small scale hatchery but only to find that the electricity powered incubators are not economically feasible as the operating cost for running generator during power cut off is too high in the rural parts of Jhabua. Thus, the concept of solar power enabled poultry incubator has evolved. During the process, GVT has come in contact with a manufacturing agency of solar power equipments in Kerela which is also manufacturing solar poultry incubators. Based on its typical project requirements, GVT has ordered for 4 sets of solar poultry incubators to this agency and has asked for customized features in these machines.

GVT has identified four tribal farmers who are familiar with poultry farming and are having an entrepreneurial spirit towards work. These four farmers were provided several rounds of technical training along with user manuals to ensure proper operations of these machines by the beneficiaries. Finally, the incubators were installed in the month of July 2013. After complete installation and training, farmers have placed 40 eggs in their respective incubators and have started the incubation process by keenly following the user manual instructions. All the members of the farmer's family were excited about the newly installed incubator and have shared their responsibility of looking over the day to day operations.

After a period of 19-21 days, hatching of eggs started in the incubators and chicks have started coming out of egg (*see photographs below*). It was an amazing experience for the GVT Jhabua team as its dream of establishing small scale village level hatchery has come true while the beneficiary farmers were happy to see the chicks as their 21 day long wait and curiosity of eggs' hatching got over. Other poultry farmers in the cluster have already contacted these four farmers to book their requirement of chicks from their next batch of locally produced chicks.



GVT Officials imparting training to the beneficiaries



Front view of Solar Poultry Incubator



Inside view of incubator showing egg plate



Inside view of incubator showing newly hatched chicks on the egg tray



South facing solar panels installed on the rooftop



Batteries getting charged by the solar power for back up during power cut off period

GVT Jhabua is operating this project on a pilot basis and thus keeping a close eye on its operations and outcomes. Different parameters like availability of fertile eggs, mortality percentage of chicks, ease of operations & maintenance etc. shall be closely observed by the GVT team for 2-3 cycles and depending on the outcomes, the said initiative would be proposed for scale up.

Depending on the project outcomes, this project may be tried under different models i.e. as a standalone income generation project or as an integrated hatchery cum poultry farm project.

While GVT may have to wait for some time for specific outcomes of the project, but this innovative measure has certainly provided the poor tribal poultry farmers of Jhabua with a ray of hope for getting regular supply of Kadaknath chicks at their village level.

#### **Technical Specification:**

- 12V/40 watt power provided from solar photovoltaic module;
- Humidity controlled manually between 65% to 75%;
- Automatic temperature regulation at 36 – 38 degree Celsius;
- Length-24inch, Width-15 inch, Height-15inch, Weight 10 Kg;
- 40 chicken or 80 Quail or 14 Goose eggs can be hatched per incubation cycle of 18-22 days period;
- Manual egg turning in 4 hour intervals;
- 2 watt LED lights inside the box to view eggs;

#### **Salient Features:**

- 100% silent & pollution free, Portable;
- Provides unhindered incubation through solar power;
- Simple operation & disinfection method;

*For more information kindly contact:*

**Mr. Mukesh Upadhyay:** Asst. Project Officer, M- 9424064357

**Mr. Rohit Pandya:** Programme Manager, M- 8965098078

**GVT Jhabua Office:** 07392 244289

