

REPORT

PILOT PROJECT ON TURKEY FARMING



Submitted to :-

**TDT – State S&T Programme
Department of Science and Technology (DST), GoI.,
Technology Bhavan, New Mehrauli Road, New Delhi – 110016**

Submitted by :-

**Manipur Science & Technology Council (MASTEC)
Central Jail Road, Imphal - 795001**

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1. Project Title with DST No. : Pilot Project on Turkey farming

2. Name, Address & date of birth
 - 2.1 P.I. : Dr. L. Minaketan Singh
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Central Jail Road, Imphal – 795001

Date of birth : 01.01.1965
 - 2.2 Co-PI : Kh. Rakesh
Manipur Science and Technology Council
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 - 2.3 Other projects : Nil

- 3 Broad Area of project : S&T Demonstration Project (DP)
 - 3.1 Specific Area : Poultry Development

4. Approved Objectives :
 - i) To introduce and popularise Turkey farming in the region
 - ii) To transfer rearing techniques of turkey to the farmers by way of giving training, demonstration and interaction and also to study effectiveness of turkey farming for income generation

5. Project Details :
 - 5.1 Duration : Two years
 - 5.2 Date of Start : March 24, 2006
 - 5.3 Date of completion : March 23, 2008
 - 5.4 Total Cost of project :
 - 5.5 Total Expenditure as on December 31, 2007 :

6. Methodology / Stepwise activities
 - i) Review of literature
 - ii) Recruitment process of project staff, procurement for equipment, renovation of already existing rearing shed
 - iii) Visit to CARI (Central Avian Research Institute), Bareilly, U.P. for interaction and expert consultation, collection of fertile hatching eggs

- iv) Incubation / hatching of eggs and rearing of turkey poult
- v) Popularisation of turkey farming by organising Awareness training on turkey farming for the farmers and distribution of poults to interested farmers/ entrepreneurs
- vi) Forming a network of hotels, restaurants, self help groups, farmers society and find a strategy for marketing
- vii) Report preparation.

7. Salient Achievements

7.1 Summary of progress / achievement:

7.2

- i) The PI and Project Officer (Veterinary Doctor) visited Turkey Research Unit of Central Avian Research Institute (CAR), Bareilly, U.P. for expert consultation specially on management of turkey poults, feeding, medication etc. with Dr. S. Majumdar, Scientist in Charge, Turkey Research Unit, Central Avian Research Institute(CARI)
- ii) A Hatchery unit has been established in the MASTEC complex with the installation of one Incubator cum hatcher for a capacity of 4000 eggs and become functional.



Hatchery unit established at MASTEC Complex, Takyelpat, Imphal

- iii) Breeding and hatching:

The turkeys procured from CARI, Barielly became natured and female turkeys started laying eggs in the month of March 2007. Earlier the male and female turkeys were kept separately from each other. As they have been quite mature, they have been kept in the ratio of 1:10 i.e. 1 male is to 10 female as advised by the experts of Turkey Research Unit, CARI, Bareilly. Collection of fertile eggs were done for incubation and hatching. The existing 40 female (adult) were doing well. Rest were male. The males were in excess. After keeping the desired number of males in appropriate ration, with some extras, the rest male turkeys had been sold out @ Rs 150/- per kg (live) to the interested public.



10 female & 1 male turkey in the breeding room

The first batch 70 eggs collected from the turkey farm has been put in the hatchery on 17th March 2007 and its date of hatching falls on 13th April, 2007.



Fertile eggs of turkey



Comparison in size: From left, 10 gm quail egg, 40 gm layer egg, 80 gm turkey egg.

The hatching rate was found very low which might be perhaps due to lack of experience of the newly engaged project staff in area of turkey production. The second batch eggs were also hatched and the third and fourth batch of eggs were incubated and hatched at its own newly established hatchery. Even though the hatching rate was low, the already hatched turkey poults were reared under strict supervision of the project officer

who is a Veterinary & Animal Husbandry Graduate. The Poultry expert of State Veterinary Services also shared their knowledge in rearing these turkeys.

The first and second batch poults produced at its farm has become quite mature now.

And they are expected to start laying of eggs soon. The remaining batch poults are also doing well and will be maturing in a few months.

When the fifth batch eggs were being incubated, the immediate outbreak of the Bird Flu was reported in the local News papers. Then, the Government banned hatching process in all farms due to which the production processes of poultry items in the state was stopped.

iv) **Avian Influenza (Bird Flu) – a threat to Turkey farming**

The recent outbreak of Avian Influenza (bird flu) in the state of Manipur had caused severe disturbances in poultry industry. Several private poultry farms including Govt. farms were closed down. It continued for about three and half months during which neither poultry species nor feeds could be transported from one place to another place in the Imphal city. Live birds and eggs collected from farms including Govt. farms were culled and buried and transportation of poultry feeds was also not sold in the city. The hatching activities were



Some of the existing turkeys at the farm

stopped during the bird flu period. The PI had very tough time for management of the turkey farm during this period. The PI managed his best level to survive the existing turkeys from the mass culling of the poultry birds.

Presently there were 190 turkey birds (parent stock + 6 months old bird + 3 ½ months old birds) in the farm. The state was declared free from bird flu in the second week of November 2007. **Immediately we planed for an awareness programme on turkey farming for which mobilisation of participants was done through local news papers, All India Radio, DDK, Local TV channels etc.** The response from the farmers were overwhelming. The report of the training for farmers is described below.

v) **Training cum Awareness Programme on Turkey farming**

Manipur Science & Technology Council (MASTEC) organised a training cum awareness programme on **Turkey Farming**, with the objectives of popularising Turkey farming in the region and also transfer rearing techniques to the farmers by way of delivering lectures, demonstration and interaction during December 14-15, 2007 at the Science & Technology Complex, Takyelpat, Imphal. The target participants included poultry farmers, entrepreneurs, educated unemployed youths etc. The programme forms part of implementation of the ongoing **Pilot Project on Turkey farming** supported by Department of Science & Technology, Govt. of India. Altogether thirty one farmers from different districts in the state attended the training.

Shri S. Buddhachandra Singh, Commissioner (Science, Technology and IT), Govt. of Manipur inaugurated the training as Chief Guest and Shri Uttam C Laisram, Director (ST & IT), Govt. of Manipur presided over the inaugural function. Dr. S. Joykumar Singh, Former Director, Veterinary & Animal Husbandry Services, Govt. of Manipur was the Guest of honour of the inaugural function

In his inaugural Address, Shri S. Buddhachandra Singh said that there is heavy demand of animal proteins in the local markets showing a big gap between availability of poultry meat and production. He appealed to the poultry farmers to play a major role in the years ahead in the area of poultry production to bridge the gap between the requirement and availability of animal proteins in the form of egg and meat.

In the speech by the Guest of Honour, Dr. S. Joykumar Singh said that white meat of poultry is the health conscious alternative for the consumers because of its wide acceptability by consumers irrespective of caste , creed and religion. Turkey meat has low cholesterol, low fat and high protein content which has attracted people to eat it, he further said. He further, mentioned about the importance of poultry manures which could replace the chemical fertiliser needs and reduce cost of agricultural productions.

Dr. Pabitra Singh, Poultry specialist said that a matured male turkey weigh about 10 kg or more in 6 – 7 months whereas other male adult poultry species (Layer, Broiler, Banaraja, Giriraja etc.) of the same age weigh a maximum of 5-6 Kg. only. Besides, Turkey birds could adjust with any type of environment and prefer to eat green vegetables including green grasses and it is not difficult at all to rear turkeys he said. . Hence, farming of turkeys could be taken up in the rural areas where there are enough space, various types of grass grows and local vegetable items are available in plenty to provide them as feed supplements he further said.

In his Presidential remarks, Shri Uttam C. Laisram appreciated the activities of MASTEC. He asked the participants to gain maximum knowledge from the experts and utilise the knowledge in taking up poultry farming activities as backyard industry in the near future.

Earlier Shri Th. Surendranath Singh, Executive Director, MASTEC while welcoming the guests, participants, invitees, highlighted upon the objectives of organising the training programme. He further mentioned the role of MASTEC as a window organisation of CSIR, in bringing proven technologies available with reputed R&D laboratories outside the state and transfer it to the target people of the region. Dr. L. Dinachandra Singh, Senior Scientific Officer, MASTEC proposed vote of thanks.

During the course of two days programme, Dr. Ksh. Pabitra Singh (Poultry Specialist), Joint Director and Dr. K. Rashbehari Singh, Poultry Specialist (Deputy Director), Veterinary and Animal Husbandry Services, Govt. of Manipur imparted in depth training to the farmers about rearing of turkeys and its importance for income generation. The course contents which were covered during the training included i). Turkey industry & its prospects, ii) Breeding and management of turkeys, iii) Marketing strategies , iv) Diseases of turkeys and routine health care, v) Advantages of Turkey farming over farming of other poultry species, v) Demonstration on identification of male / female turkeys etc..

The training ended successfully on December 15, 2007 at 4.30 p.m. with a lot of commitments from the participants to take up poultry (turkey) farming in the near future in the region.

List of participants who successfully attended the training cum awareness programme are given below.

- 1) Thoudam Malemba Meetei of Thoubal District, Manipur
- 2) Th. Homendro Singh of Kongba Khetri Leikai, Imphal East Dist., Manipur
- 3) M. Lokendro Singh. Yairipok, Yambem Leikai, Thoubal District, Manipur
- 4) Ahongsangbam Marshel of Keinou, Bishnupur District, Manipur
- 5) Ksh. Momon Singh, Singjamei, Imphal West Dist.
- 6) S. Chaoba Singh, Naoremthong, Imphal West Dist.
- 7) Ph. Ningthou Singh , Sekta, Imphal East Dist.
- 8) N. Ratankumar Singh, Tere Amudon, Imphal West Dist.
- 9) L. Kumarjit Singh, Khangabok, Thoubal Dist.
- 10) R.K.Ajitkumar of Uripok Khuman Leikai, Imphal West Dist.
- 11) Kh. Ramananda Singh, Lairikyengbam Leikai, Imphal East Dist.
- 12) Md. Abdul Gani , Ushoipokpi, Thoubal Dist.
- 13) Th. Iboyaima Singh of Ngaikhong Siphai, Bishnupur Dist.
- 14) H. Kulajit Singh, Tera Tongbram Leikai, Imphal West
- 15) M. Atangba Singh , Sambei, Imphal East Dist.
- 16) Th. Jiban Singh of Uripok Yambem Leikai, Imphal
- 17) H. Boby Singh, Mayang Imphal
- 18) Th. Shyam Singh, Pebiya Pandit Leikai, Singjamei, Imphal East Dist
- 19) W. Maipak Singh, Mayang Imphal
- 20) Ch. Bihari Singh, Kamong Longjam, Imphal West Dist.
- 21) M. Surjabal Khuman, Nambol, Bishnupur Dist.
- 22) Kh. Nabachandra Singh, Kongba Makha Nandeibam leikai, Imphal East Dist.
- 23) R.K.Jiten Meitei , Khurai Chingtham Leikai, Imphal East Dist.
- 24) S. Pilot Singh, Haobam Marak, Imphal West Dist.
- 25) Jamkhogin Haokip, Kangchup, Senapati Dist.
- 26) A. Bimol Singh, Khumbong Village, Imphal West Dist.
- 27) M. Jiten Singh, Thoubal District
- 28) Kh. Milan Singh, Haokha, Athokpam Awangleikai, Thoubal Dist.
- 29) Dr. N. Muhindro Singh, ICAR Research Complex, Lamphelpat, Imphal West

- 30) H. Khagemba Meitei, Takyel Kolom Leikai, Imphal West
- 31) Th. Dhanabir Singh, Top mayai Leikai, Imphal East Dist, Manipur.

The programme was reported in many of the local News Papers published at Imphal (Annexure -).

Training material : The literature about turkeys covering the aspects such as Origin of turkeys, guidelines of rearing turkey poults, advantage of turkey farming, how to incubate turkey eggs, diseases, routine health care including vaccination programme, management etc. were translated from English into regional language (Manipuri Language) and distributed to the participants

vi) **Development of Short duration digital Film about the Turkeys**

A short duration (about 20 minutes) on Farming of turkey based on the existing turkeys has been developed and distributed in the form of CDs to all the participants. An attempt is also being made to make a documentary film on Turkeys for about 45 minutes for telecast in the Local TV Channels as part of popularisation of turkey farming in the region.

7.3 Specific Observation:

- i) The male turkey live birds of about two and half months old weigh 2 ½ kg to 3 kg in average where as female birds of the same age weigh 2 kg in average.
- ii) It was observed that the birds were fond of eating leafy vegetables including grass cut into small pieces. Some male birds were kept separately and they were provided locally available feeds including green vegetables to study weight gain or loss in comparison with other turkey birds who were fed with feeds from feed processing mills. They were kept for three months for observation. However, no change in weight gain was found between the two categories of birds. The male live turkeys when they become 5 months old carries an average weight of 7 kg.

- iii) The male turkeys, at the age of 7 months (adult stage) were found to have weight of 9-11 kg in average and the female were 5-6 kg in average. The rate of growth was quite satisfactory.
- iv) The turkeys attracted the people in the surrounding areas. Besides, some poultry farmers have already approached this farm to provide them eggs and poults. This Council has assured the ex-trainees that priority will be given to the trainees to get either eggs or poults.
- v) Specially during Christmas and New Years eve, many customers asked this Council to sell turkeys so that they will find an opportunity to taste it. Hence, this Farm sold out some excess live male turkeys and could earn Rs 18,200/- only @ Rs 150/- per kg.

7.3 Linkages developed :

MASTEC has developed good linkages with State Veterinary and Animal Husbandry Services, Govt. of Manipur and ICAR, Imphal Sub centre. The Head, Animal Sciences Department, CAU, Imphal shared his expertise and provided personnel encouragement in the project. Some entrepreneurs / farmers keep visiting the centre showing their interests in farming turkey. CARI extended expert advice as and when required.

7.4 **Replication Potential :** The replication potential is yet to be studied.

7.5 Works which remains to be done under the project:

- i) One more Awareness Training programme for farmers on turkey farming
- ii) Popularisation of turkey farming with available media already started but to be continued
- iii) Efforts to make eggs as well turkey meats available in the market
- ii) Making fertile hatching eggs or day old poults available to the farmers

7.6 Future plan of action after completion of project:

- i) Since the Council has set up its own hatchery unit at its permanent land, attempt will be made to extend hatching facility to the interested farmers in

the post project period also. Consultation services will be extended to farmers as and when required.

- ii) The Council will keep parent stocks in the post project period for future activities

(Dr. L. Minaketan Singh)

PI

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