

An innovative project under MGNREGS: Making Fly Ash Brick at *Bankura* District of West Bengal

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Abstract

This paper is based on the study carried out by the author at *Bankura* District of West Bengal which is one of the backward districts of the country and thus rightly provided fund under BRGF. In this district MGNREGS projects have been doing good work by creating sustainable employment as well as assets. In this article, a case of Fly Ash Brick making unit has been explained which was set up under MGNREGS. And also some laborers who were provided with employment were interviewed. All these are presented here. Such model can be taken up in other parts of the country.

Keywords: Bankura, Fly Ash Brick, Income and MGNREGS.

Introduction

The district Bankura is located between latitude 22 degrees 38 minutes north and longitude 86 degrees 36 minutes east to 87 degrees 47 minutes east in West Bengal spread over to an area of 6882 Square kilometers. According to the 2011 census *Bankura* district had a population of around 36 lakh. This gives it a ranking of 80th in India (out of a total of 640) and the population density of the district was 523 inhabitants per square kilometer. Its population growth rate during 2001-11 was 12.64 percent slight less than all India ratio of 17.64. The sex ratio in the district was 954 females for every 1000 males indicating better ratio in favour of female than all India average (940 females for every 1000 males). On the other hand literacy rate with 63.40 per cent was low than all India ratio of 74 percent. While looking at the numerical term in 2001 it is observed that in 2001, *Bankura* had a total population around 32 lakh of which 16.3 lakh were male and 15.6 lakh were female (Source bankura.gov.in/agriculture.html & District Human Development Report, Banukra). This statistics divulge that within a span of ten years in absolute number 4 lakh households were added in the district. However, as per 2009 survey total rural households in the district were 7,75,826 of which BPL households were 352691 (45.46%).

When first census was conducted in 1872 the district had a population of 968,597 (www.en.wikipedia.org/wiki/bankura-district). Again in 1901 census, 90.7 percent of the population recorded dialect of Bengali. Santali was spoken by about 9 percent of the population.

Presently, the district is spread over to 22 development blocks, 3 municipalities, 190 Gram Panchayats and 5187 villages. In the year 2006 the Ministry of Panchayati Raj, Government of India selected *Bankura* as one of the 250 most backward districts of the country as a sequel the district has been receiving funds under the Backward Regions Grant Fund (BRGF). The rural people of the district are basically cultivators and agricultural labourer as the data show 31 percent was cultivators and 35 percent was agricultural labourers.

As mentioned already, total land area of the district is 688,200 hectares out of which forest area is 147,700 hectares while the high land and medium land are 176,915 and 150,611 hectares respectively. Again highland covers an area of 176,915 hectares where traditional cultivation of paddy is not remunerative. There lies scope for integrated land and water development under micro-watershed approach. And thus the huge land area may be put to productive use by undertaking plantation and other activities, which may generate gainful employment. On an average *Bankura* gets a rainfall of 1400 m.m. yearly and there is a huge scope for surface water based irrigation system. The district is drought prone and due to undulating, lateritic, & porous soil moisture content at subsoil level is low. Fluctuating rainfall with intermittent drought spell between two successive rainfalls badly affects Kharif crop in terms of yield. In view of this, construction of *hapa* (small tank) on individual land has been taken up widely under MGNREGS in the district. The length and width of one *hapa* hovers around 40-60 feet i.e. length may be minimum of 40 feet to 60 feet and same for width (40 to 60 feet) with 10-12 feet depth. These *hapas* are having many uses in addition to provide irrigation, in dry season. The other benefits derived from a *hapa* are fishes can be reared; vegetables can be cultivated in the all the sides as well as poultry /duck-rearing etc. can also be taken up in its vicinity. Moreover water table in the area goes up. Cost of each *hapa* was in between Rs. 45000 and Rs. 50,000 depending upon its size (as on February 2016). While the author visited the district observed that under MGNREGS many *hapas* were constructed which are in great demand of the rural people.

Fly Ash Brick making

The fly ash brick making project has been grounded at Bankura block-1 of Bankura district in 2015 (March) which is an ideal and innovative project set up under MGNREGS, first time in West Bengal. With such project with low cost brick as well as strong one be made so that common persons can reap the benefit of a house even under IAY also. Fly ash brick may be used in brick pavement road also which is permissible under MGNREGS. To get an idea about the project a study

was carried out in February 2016 by visiting the site. It is suggested that such project may be taken up in other parts of the country, may be under MGNREGS or under other scheme. Before discussing the project few lines about MGNREGS as well as its progress at Bankura is discussed here.

Mahatma Gandhi NREGA and MGNREGS: (Collected from Annual Report 14-15, Ministry of Rural Development, Govt. of India)

The Mahatma Gandhi National Rural Employment Guarantee Act (Mahatma Gandhi NREGA) is the first ever law internationally, that guarantees wage employment for rural households. Mahatma Gandhi NREGA as scheme is known as Mahatma Gandhi National Rural Employment Guarantee Scheme (popularly known as MGNREGS) aims at enhancing livelihood security of households in rural areas by providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. If employment cannot be provided within the stipulated time *i.e.* within 15 days then provision for payment of unemployment allowance has been made. Moreover, the Act emphasizes on labour intensive works prohibiting the use of contractors, and machinery as well as 33 per cent participation of women is mandatory.

The main objectives of the Scheme are:

- Providing up to one hundred days of unskilled manual work as guaranteed employment in a financial year to every household in rural areas as per demand, resulting in creation of productive assets of prescribed quality and durability.
- The outcomes of Scheme implementation in the financial year 2014-15 (till 31st Dec. 2014) are as follows:
 - A) In 2014-15, 36.0 million households were provided employment and 1212.5 million person-days of employment were generated.
 - B) Increased outreach to the poor and marginalized: Self targeting in nature, the programme had high work participation from marginalized groups like SC/ST (40%), Women (56%)
 - C) Strengthening Natural Resource Base: In 2014-15, 95.14 lakh works were undertaken (spill over + new works), of which 31% for water conservation, 14% for the provision of irrigation facility on land owned by SC/ST/BPL and IAY beneficiaries, 14% for rural connectivity and 6% for land development.

The Government has taken a series of steps for improving quality of planning, durability of assets, particularly those aimed at enhancing agricultural production and productivity by encouraging convergence and curbing corruption under MGNREGA, such as:-

- To ensure correct identification of assets through scientific planning, an Intensive Participatory Planning Exercise (IPPE) was launched in 2500 backward blocks in July 2014. This would bring greater participation and scientific methods in planning of works;
- A clear ‘Outcome Orientation’ has been brought in the execution of works and measurement of outcomes after execution of work has been made mandatory, since August 2014;

- Schedule I to MGNREG Act, 2005 has been modified on 21st July, 2014 providing that at least 60% of the works being taken in a district in terms of cost shall be for creation of productive assets directly linked to agriculture. This measure will create irrigation sources, promote water conservation and improve soil fertility; Progress of MGNREGS in Bankura district in 2015-16 (up to Dec 2105) is presented below:

Table 1: Progress of MGNREGS in Bankura district in 2015-16 (up to Dec 2105)

Particulars	Total
Total Person days Generated	63,30,072
Household Provided Employment	2,34,538
Average Person days as per active HH	26.99
Women Participation (%)	46%
Expenditure Incurred (Rs. in Crore)	12199.79
Average expenditure per GP (in lakh)	64.21
Wage Expenditure (%)	91.15

Source: MGNREGS Cell, Bankura

Although table is self-explanatory but few important points as observed from the above table are:

- Average person days was 27 albeit data was up to December 2015 even than the achievement was less as the district is backward one.
- Women participation was quite high which is higher than the guidelines.
- Wage expenditure with 91 percent is laudable.

Case of Fly Ash Brick making based on Field study:

Pulverized fuel ash commonly known as fly ash is a normally hazardous by-product from thermal power stations using pulverized coal as fuel and has considerable pozzolonic activity. Pulverized fuel ash-lime bricks are obtained from materials consisting of pulverized fuel ash in major quantity, gypsum and lime as an accelerator, as a catalyst. These bricks are suitable for use in masonry construction just like common burnt clay bricks and although its production was started earlier in some parts of the country but in West Bengal this is a new one that too under MGNREGS. It is pertinent to mention that fly ash is collected from nearby thermal power station at free of cost. Earlier this fly-ash was thrown away.

Manufacturing process

The items like fly ash (70%), lime (10%), gypsum (5%) and sand (15%) are mixed into a pan mixer with water for thorough mixing. After mixing, the substance is put in to semi-automatic brick making machine where the bricks are pressed automatically. Then the bricks are placed on wooden pallets and kept for two days thereafter transported to open area where they are water cured for 18 -22 days.

It is pertinent to mention that the technology adopted for making fly ash brick is eco-friendly. It does not require steaming or auto-calving as the bricks are cured by water only. Since firing process is avoided so there are no emissions and no effluent is discharged. While making bricks, considerable energy could be saved while manufacturing it. During the course of field visit (February 2016, production started on 31st march 2015) it was reported that everyday 12000 bricks can be made each costing Rs 2.06 and selling rate was Rs. 4 per brick for the Government’s project albeit

PWD's scheduled rate was Rs. 6.50 per brick at Bankura District. The project was set up on the land of Gram Panchayat spread over to an area of five acres.

Altogether, forty two workers were eking out their livelihood from the project and working in two shifts – 7 Am to 1 PM and 2 PM to 8 PM. All were paid from MGNREGS fund. Electricity was available and necessary equipment was procured from the State's Third Finance Commission's fund. One water storage for drinking water was constructed by incurring an expenditure of Rs. 2.60 lakh clubbing together of MGNREGS and State's Third Finance Commission's fund. Further under Nirmal Bharat Abhiyan two toilets (1 for gents and 1 for ladies) each costing Rs. 10,900 were constructed so the labourers need not go for open defecation. In addition, 8000 banana saplings have been planted on three acres of land, fund of which was provided under MGNREGS. Also by incurring an estimated expenditure of Rs. 1.56, one tank locally known as 'hapa' was under the construction for fish-rearing and vegetables growing (while visited the area it was under construction). Moreover, one building meant for office room cum activity shelter was constructed by spending Rs. 1.66 lakh (MGNREGS fund).

MGNREGS Labourers' Cases

As mentioned already, forty two workers were employed and all were paid from MGNREGS fund so few of them were contacted and necessary data were collected from them to assess the ground reality.

Case 1) Ms. Putul Begum belonged to minority community (42 years) was working for about one year. As per minimum wage rate for unskilled labour she was paid at the rate of Rs. 174 per day and her husband was also a daily labourer and used to work in other's land as agricultural labourer. She expressed her happiness as this type of work was good for women but her only problem was that works were available for 14/15 days which should continue at least for 24 days. Moreover as payment is made through local RRB so after 30 days all the labourers are paid their wages, a great issue for all.

Case 2) Ms. Halima Khatun belonged to minority community (30 years, unmarried) was working for about last one year. As per minimum wage rate for unskilled labour she was also paid

at the rate of Rs. 174 per day. She had large family as with parents and with one brother and four sisters her earning contributes to a great extent to the family. She also expressed her contentment as this type of work was decent for women but like Begum her problem was that works were available for only 14/15 days with delayed payment of wages.

Case 3) Ms. Swarna Bauri, widow (50 years, SC) was working for about one year. Like others she also paid at the rate of Rs. 174 per day. Since her husband passed away so this is the main source of income. Out of three daughters, two got married but one was yet to be married (till the day of study).

Case 4) Ms. Kalpana Bauri, belonged to SC community (50 years, illiterate, widow) was working for about one year. Like others, she was also paid at the rate of Rs. 174 per day. She was staying with her parents as after daughter marriage she found difficult to stay alone. This work was her main source of income.

Case 5) Ms. Chhaya Bauri, SC, illiterate, 30 years of age was a worker in the project getting work for only 15/16 days. Husband was a casual labourer and with three children managing the family was difficult task. However, the work under MGNREGS had greatly helped her to earn to the family.

Conclusion

This is an innovative project as using fly ash (collected from nearby thermal project at free of cost) has facilitated to develop the brick project. (Earlier this fly-ash was thrown away). The project authority looking after brick project was paying transportation cost only (around 40 kilometers away). And it was observed that bricks were using for constructing of houses and brick pavement road (hexagon type). The project staffs suggested to have a shed to save the bricks from rain water so District Officials may look into this. Lastly, laborers informed that payment was made after 30 days of work so they had difficult time to run the family. They requested this author to highlight their case so that within 15 days payment is made and also work should be available for at least 24 days.

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Photos about the project





Reference:

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