Analysing Multiplier Impact of NREGA Works Through Village SAM Modeling[1]

Indira Hirway
M R Saluja
Bhupesh Yadav

This paper analyses the multiple impacts of employment guarantee programmes in India within the National Rural Employment Guarantee Act (NREGA) framework. A village level Social Accounting Matrix (SAM) has been constructed in order to assess selected dimensions of the above impacts.

The paper is divided into five sections. Section one presents the economy of the Nana Kotda village, which is selected for in-depth study. Section two discusses the performance of the employment guarantee scheme designed under the NREGA (i.e. NREGS) in Nana Kotda and identifies potential NREGS works for the village. Section three discusses the construction of SAM. Section Four presents the results of the multiplier analysis, and Section five draws conclusions from the study and makes recommendations to improve the impact of NREGS on the village economy in particular and the Indian economy in general.

1
Village Economy of Nana Kotda

The village economy of Nana Kotda is a small, open and a predominantly agricultural economy. The total production of all the sectors produced inside the village is Rs 186.00 million and items worth Rs 158.9 m comes from outside the village. However if we remove the large (and only) factory, i.e. the cotton ginning factory, which does not have much impact on the village economy (as it gets most of the raw material, labour, other inputs from outside and sends its products outside) the total output in the village is Rs. 18.62 million. Agriculture contributes 54 percent, animal husbandry 16 percent and the rest by services, trade and construction given in (table 1). The average annual income per household in the village is Rs 45296, which comes to Rs. 9846 per capita and is clearly a low income. The maximum income is earned by large farmers followed by service households and small farmers. The lowest income is earned by the labour households, who constitute 47.3 percent of the total households.

Agriculture is the most important economic activity in Nana Kotda. The major crops grown in the village are cotton, maize, Jowar, wheat, Tur, and other pulses as well as castor and groundnut. About 30 percent of the cultivated area is irrigated and 70 percent

[1] This paper is based on a larger study by the authors entitled "Employment Guarantee Progrrammes and Pro-poor Economic Development: Construction of Village SAM for Nana Kotda (India)." The larger study is a part of the project entitled "From Unpaid Work to Public Service Job Creation: Towards a Strategy for Pro-poor Economic Development and Gender Equity," undertaken at The Levy Economics Institute of Bard College. The author acknowledges with thanks the support provided by the Levy Insitute to this study.

area is rain fed. Agricultural production in the village therefore shows wide annual fluctuations due to the variations in the rainfall. In every five years there are 2-3 years of droughts or floods that result in agricultural losses. Such losses result in farmers mortgaging or selling their land and in incurring debts. In short, fluctuating crop production makes cultivation non viable in problem years, which makes small and marginal farmers highly vulnerable. Controlling fluctuations by ensuring stable supply of water is a major need in the village. In fact, ensured and increased water supply will also improve cropping intensity (by promoting multiple cropping) as well as crop yields in the village. NREGS can contribute considerably here.

Table 1: Sector wise contribution in the Total Production

Sector	Output (Rs)	% contribution in total
Agriculture	10019976	54
Animal husbandry	2989812	16
Construction	1927027	10
Self employed in Non-Agriculture	3687510	20
Total	18624325	100

In every five years there are 2-3 years of droughts or floods that result in agricultural losses. For example, in the year 2006-07, the year of investigation, the farmers in the village had experienced huge losses due to floods and diseases. The total agricultural production was Rs.40 lakhs, as against the total costs of Rs. 49.88 lakhs. The net loss was of Rs. 9.88 lakhs. As the following table indicates, all the categories of farmers, namely marginal farmers (with land up to 2.5 acres), small farmers (with land between 2.5 acres to 5 acres) and large farmers (with land above 5 acres) made losses. The rate of returns were – 29 percent for marginal farmers, - 36 percent for small farmers and – 11 percent for large farmers. Fluctuating crop production makes cultivation non viable for farmers, which makes small and marginal farmers highly vulnerable.

Animal husbandry is another important occupation in the village that provides main or secondary incomes to a large number of households. Since milk is a major output, there is a full fledged milk cooperative society in the village with more than 410 members (sometimes there are more than one member from a household). It collects all surplus milk from the village to send it to the district diary. In 2006-2007 about 4.15 lakh liter milk was collected by the cooperative society and earned profit of Rs. 1.14 lakh in 2006-2007. This came to an average of Rs. 285 per member (in addition to milk price) in the year 2006-07, which is very small. There is a very good scope for raising this amount by improved productivity of animals. Again, NREGS can help considerable by regenerating grass lands and promoting water harvesting.

Non-Agricultural sectors in Nana Kotda include non-agricultural enterprises, which are located in the village and non-agricultural employment located inside and outside the

village. This sector contributes 37 percent of the total output in the village. The different occupations under this group are services – government and private, vendors (Bangle vendors, fruits and vegetable vendors, barbers), rural artisans / manufacturing (carpenter), shops (a cloth shop, pan shops, a PDS shop) and services.

Employment and Labour in Nana Kotda

The workforce participation rates for men and women are high, 78.38 and 64.52 percent respectively. However, workers are highly under employed, with an average employment of 132 days in a year. There is not much difference in the days of work for men and women who work in the labour market. Except for those employed in government services no occupation provides full employment. This is mainly because of the predominance of single cropped farming and the lack of non-agricultural employment. In the absence of assured water supply, most farmers grow only one crop, i.e. Kharif crop, and suffer from low employment in the lean season.

Villagers in the workforce as well as outside the workforce (mainly women) want (additional) work. They are also willing to take up NREGS work if it is made available.

Hired labour and family labour constitute 61.36 percent and 38.74 percent shares respectively in the total workforce. Of these, women's shares are 20.05 and 10.03 respectively. In other words, women contribute 34.94 percent of the total family labour and 25.89 percent of the total hired labour. Of the total work force in agriculture, 53.87 percent are male labour and 46.13 percent is female labour. Women's share is more or less the same in total family labour (43.75 percent) and total hired labour (46.79 percent). This indicates that women's share is significant, slightly less than 50 percent in the total agricultural work force.

All workers in the village are local – except for some school teachers and some workers in the ginning factory who come from outside. Also, all employment except for employment of some government servants (60 percent of them are permanent) in the village is temporary, contractual or casual employment. Some operations in crop cultivation are paid on the basis of the work performed, i.e. by work rates. There is no social protection or social security provided to workers, and there is no legal regulation of work conditions implemented effectively in the village except in government services, where there are rules regarding working hours, leave and some times social protection.

2
NREGA in Nana Kotda

The first work under NREGS started on 10th April 2006; 2 months and 8 days after the Act came in to being. So far six works have been taken up under the Scheme. All the works are for de-silting the check dams in the village. NREGA works continued for 91 days during the first six months of the NREGS and Rs 586131 was spent on the scheme. The entire cost is reported as labour cost, as the money was spent on wages. In addition, 5

% of the total amount was spent on contingency, i.e. maintenance of implements and administration. It is observed that after July 2006 no amount has been spent on NREGS in the village, as no work has been taken up since then.

Employment Generated under NREGS: In all, 161 households and 238 persons (127 women and 111 men) participated in NREGS. The total 9812 person days of employment was generated: 5492 women days and 4320 man days. The average daily wage rate under the programme has varied between Rs 55 to Rs 74. The average wage rate has been Rs 60.Of the total 404 households, 161 households have participated in NERGS. That is, about 40 percent households have participated. The 127 women and 111 men who participated in the NERGS (from 161 households) got employment for 36.13 and 38.25 days respectively. At the household level, the participating households got employment of 53.62 person days during the first 18 months, against the target of 100 days per 12 months.

The highest participation in NREGS was of landless households (90 households participated), followed by farmers with less than 2.5 acres of land (i.e. marginal farmers), with 64 persons from these households participated in NREGS. The participation from medium and large farmers was very small. In terms of percentages of households participating from different categories however, the share of labour households is very low. The participation from the poorest income groups, up to Rs 10,000 is also much less than the participation from higher income groups. The highest participation is from the income groups Rs 10000-25000 and Rs. 25000-50000, i.e. the groups just below the poverty line and just above the poverty line. The poorest strata do not participate fully in the NERGS and that the poorest households (with less than Rs 10000 group) constitute less than 10 percent of the total participating households.

There are several reasons for the poorest to participate less in NREGS: To start with, many of the poorest commute to neighboring villages to work on farm and non-farm activities as manual labourers. They have a long term contract, formal or informal, with the employers according to which the workers get continuous employment for several days. As against this, the work on NREGS is short term and scattered without any employment guarantee component. Even though many of the workers who commute reported that they prefer to work in their own village, they cannot do so as the NREGS work is not dependable. Secondly, the wage rates on NREGS works and outside are fairly comparable, around Rs 50-60 per day. There is therefore a general preference for local work as (1) it saves their travel cost and (2) spares them from the inconvenience of commuting. However, NREGS work is just not available on any significant scale. The guarantee component of the scheme is missing in practice. The poorest households who are mobile to migrate (as many of them are landless) therefore prefer to migrate rather than participate in NREGS work.

Potential NREGS Works for Nana Kotda: Suggestions about Works

During our first meeting the Sarpanch the Talati and other village leaders stated that there was not much scope for NREGS kind of works in the village. They could not think of

many works which can be undertaken under the NREGP. Our subsequent visits to the village and discussions with them as well as focus group discussions with different socioeconomic groups in the village did make a difference. In the focus group discussions attention of people was drawn towards the burden of unpaid work on the women (using time use statistics) and the needs of the village for infrastructure and for productive assets. The major contribution of FGDs was that (1) they helped people to view NREGS in the long term perspective in the sense that it made them realize how NREGS works in the coming 5-7 years can contribute to the development of the village, (2) how the drudgery of unpaid work was a major constraint of women and how NREGS work can help here. Villagers came out with concrete suggestions

The most important demand from the village is for constructing a water harvesting structure, i.e. deepening of the village tank for ensuring potable water. The other important demands were plantation on common lands; deepening of the tank and the small river that passes by the village; creating irrigation facility for the village and growing fodder on common lands - are all related to improved natural resource management in the village. The villagers also want cleanliness in the village, their major recommendations here being construction of drainage, paving of internal roads, construction of latrines etc. We have simulated the multiplier impact of the potential works on the village economy.

To sum up, one major observation coming out of the discussion in the chapter is that though the NREGP has a good potential in the village, the potential is far from being tapped. The programme has been implemented in a most ad hoc manner with a few scattered works undertaken under the programme. The size of the programme is very small, as the six works undertaken during 91 days on the first year have created an employment of only 8537 person days so far. Only six households get employment of 100 days.

3
Social Accounting Matrix (SAM) for the Village

A Social Accounting Matrix (SAM) can be defined as an organized matrix representation of all transactions and transfers between different production activities, factors of production and institutions (Like households, corporate sector and government) within the economy and with respect to the rest of the world. A SAM is thus a comprehensive accounting frame work within which the full circular flow of income from production to factor incomes, household income to household consumption and back to production is captured. All the transactions in the economy are presented in the form of a matrix in a SAM. Each row of the SAM gives receipts of an account while the column gives the expenditure. The total of each row is supposed to be equal to the total of each corresponding column. An entry in row i and column j represents the receipts of account i from account j.

A SAM can be regarded as an extension of input output (I-O) tables. I-O tables are a widely used framework to provide detailed information on the flow of goods and services as well as on the structure of production costs. In this matrix final consumption expenditure, capital formation and trade are shown by product or industry of origin and intermediate consumption both by product or industry of origin and destination. Income generation is shown by value added. However it is worth noting that the symmetric I-O table is based on the absorption (use) matrix and make (supply) matrix. Absorption matrix gives the inputs of the commodities into industries (activities) while each row of the make matrix gives the distribution of the output of different commodities produced by the industry of that row. Each column of this matrix gives the values of output of that commodity produced by different industries. Symmetric I-O table is obtained from these two matrices by making certain mathematical assumptions regarding technologies (CSO 2005). The I-O matrix does not show the interrelationship between value added and final expenditures. By extending an I-O table, showing an entire circular flow of income at macro level, one captures the essential features of a SAM.

The village SAM has the following account structure: (1) Commodity accounts, (2) Factor accounts, (3) Institutional accounts, (4) Capital accounts and (5) Rest of the World accounts. The SAM constructed for this study covers the entire village. The basic structure of this SAM is based on the following transactions and transfers in the economy given in (table 2):

Production requires intermediate goods and the primary factors of production, viz. labour and capital. These factor endowments are contributed by the institutions (viz. households, firms and government), which in turn, receive factor payment as value added. Apart from the value added, village institutions get income from other sources such as transfers from the government and from rest of the world. The income is spent as the consumption expenditure on goods and services and for payment of taxes and the rest is saved for the future. The total supply in the economy has to be matched by the demand made by the institutions and capital formation, i.e. purchase of investment goods. In the SAM, extra breakdown of the household sector is done to reflect the role of people in the economy

Table 2: The Structure of the SAM

			EXPENDITURES						
			ENDOGENOUS			EXOGENOUS			TOTALS
			FACTORS	HOUSE HOLDS	PRODUCTIVE ACTIVITIES	GOVERNMENT	REST OF THE WORLD	CAPITAL ACCOUNT	
RECEIPTS OR INCOMES	ENDO-GENOUS	FACTORS	0	0	T_{13}	X_{14}	X_{15}	X_{16}	Y_1
		HOUSEHOLDS	T_{21}	T_{22}	0	X_{24}	X_{25}	X_{26}	Y_2
		PRODUCT ACTIVIT	0	T_{32}	T_{33}	X_{34}	X_{35}	X_{36}	Y_3
	EXO-GENOUS	GOVERNMENT	L_{41}	L_{42}	L_{43}	t_{44}	t_{45}	t_{46}	Y_4
		REST OF WORLD	L_{51}	L_{52}	L_{53}	t_{54}	t_{55}	t_{56}	Y_5
		CAPITAL ACTS	L_{61}	L_{62}	L_{63}	t_{44}	t_{45}	t_{46}	Y_6
	TOTALS		Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	

Designing a SAM for Nana Kotda village

The Village SAM for Nana Kotda consists of the following components.

- **Production activities:** The following production sectors are included in the SAM.

Crop Husbandry: Wheat, jowar, bajra, maize, Tur, other pulses, oilseeds, cotton, fruits & vegetables and other crops- cultivation of these crops is divided for irrigated and rain fed areas , but in SAM we have only one column for each crop.
Animal husbandry: Milk and milk products, wool and meat, Cow dung manure and bullocks.
Construction
Service providers and self employed: Fruit & Vegetable vendor, Bangle vendor, cloth shop, pan shop, PDS shop, Transport, carpenter and other services.
Manufacturing: Cotton ginning factory.
Services: Government services (education, welfare), private services (petty services)

- **Factors of production:** The following factors of production have been included:

Labour: By sex: males and females.
Capital: Capital includes mixed income of self employed.

- **Institutions:** The following institutions have been covered in the SAM:

Households:
By occupation: Small farmers, Medium farmers, large farmers.
Labour
Self employed in non-agriculture
Service
Other households

(Note: The farmers are divided into three categories based on the cultivatable land owned by them. There categories are: Marginal Farmers up to 2.5 acres, Small Farmer with land from 2.5 to 5.0 acres, and Large Farmers with land above 5.0 acres)

Government: Only Village Panchayat (Local Body) is taken as the Government.

The village Panchayat receives land tax and house tax from households as income and government grants from other sources outside the village. It gives grants for the development activities like that for house construction, which are treated as expenditure for the Panchayat along with its other expenditures.

Savings in the economy including depreciation on capital consist mainly of household savings.

- **Out side the village**: Consists of values of sectors and labour going out of the village and coming into the village

Construction of the SAM

Construction of SAM for the village Nana Kotda required data on the output in different sectors, the value added by these sectors and sector wise consumption of different components of final demand. The value added for each sector is divided into labour income (hired) by gender and capital income (including mixed income). Although sex wise value of labour is separately available, for inverting SAM we have made it a single row for the entire hired labour.

In all there are 55 producing sectors: First 13 sectors from Rice to animal husbandry correspond to agriculture where many of the items are produced in the village. For the construction of SAM the normal yield for the crops has been taken for last two years, because 2006-07 happened to be a drought year. The 14 to 38 sectors are manufacturing sectors where all the items are brought from outside the village except for cotton ginning (for which there is only one factory), which produces cotton inside the village and sends the entire production, including that of cotton seed outside the village. The other remaining sectors are the service providing sectors in the village. The activities could not be separated from commodities because the data available was directly on commodity basis both for inputs as well as outputs. Hence the SAM is directly in the Commodity X Commodity form. The commodity X commodity matrix is derived from use and supply matrices.

A complete census of all households in the village was carried out to collect data on all entities and sector wise expenditure of different types of households and data about occupation and education level of all household members. Except for salaried and wage labour households, the details of costs and revenue earned were collected for all households. For example, data collected from wheat producers included data on the value of the output of wheat produced in the fields (area X yield X price), value of the by products, and consumption of different inputs like seed, fertilizers, pesticides, etc. For salaried and wage labour households, the details of their incomes were collected.

In addition, detailed information was collected from all institutions / organizations like schools, cooperative societies and Panchayats about their activities, costs and revenues. Details were also collected about the working of NREGA in the village.

In the SAM for cultivators there is one row under capital for each crop. This is the total for different categories of cultivators. In the column under capital these values have been given separately for different types of cultivators. The entry in the cell of capital and self employed row is equal to the total of capital column for all self employed non-agricultural categories. For all other households the entire earnings are put under 'capital'. The earning under labour consists of the labour as well as some helpers getting salaries. There are some labourers who go to nearby villages / Idar town to earn money. The major income from outside the village, however, is from services. The total of their income is put under service households.

For trading activities like fruit, vegetable and bangle vendor income is calculated as net profits earned by deducting the value of inputs from the gross receipts. In the case of fruits and vegetables the expenditure obtained from the census of household is adjusted for the expenditure by the fruits and vegetables vendors. Similar adjustments have been done in the cases of the cloth shop, the pan shop and PDS shops.

There are two cooperatives in the village, namely, the milk cooperative and the farmers' service society. Their income shown in the column is their profit. This profit is divided into its members who are agriculturists. There is a separate column for this in the SAM in order to show the importance of cooperatives in the village. For the construction of the SAM as well as for using it for multiplier analysis, we have merged the column with the different columns under crop production.

Household savings have been put in the capital account. The complete SAM has been presented in (Appendix1).

4
Multiplier Impacts of NREGS

The Village SAM can be used for estimating the direct and indirect impact of various external shocks on the economy with the help of multiplier analysis. With the help of multiplier models, questions related to the nature of linkages between the structure of production and distribution of income can be addressed.

Let us write SAM model as

$Y=W + X,$

Where W consists of endogenous accounts and X is the exogenous account.
Aij = Wij / yj where Aij gives the requirement of account i for one unit account j

The above equation can be written as

$Y = AY + X$

$(I-A) Y = X$

$Y = (I –A)^{-1} X = MX$, where M is SAM multiplier matrix, mij is the total impact on account i, because of a unit shock in account j. Different multipliers can be output, income and employment.

The multipliers measure the responses of the economy to a change in demand of a sector. When total output of a sector increases or decreases, it impacts the economy due to this sectors direct as well as indirect effect. Direct effects are the immediate effects associated with the change in the final demand for a particular sector or industry. In addition to the direct effects, the indirect effects or the secondary effects are due to backward linkages of sectors.

Output, Income & Employment Multipliers

The output multiplier for a sector is defined as the total value of production by all the sectors of the economy required to satisfy one unit of final demand for that sector's output. For example, if one unit of final demand is increased in animal husbandry sector (say milk), this will require inputs in terms of feed of live stock (different crops), which, in turn, will increase the demand for the output of these crops. To increase the output of these crops will require the inputs needed to increase the inputs (seed, fertilizers, labor etc). The increased employment of labour will result in their higher incomes, which will increase in their expenditure. The increased expenditure will need more output and so on. These are called indirect requirements. These direct and indirect requirements are estimated by the SAM multiplier matrix.

The income or value added (Labour + Capital) multiplier gives an estimate of the direct and indirect income changes resulting from the one unit change in output. These are also obtained from the labour and capital rows of the SAM multiplier matrix.

The employment multiplier gives an estimate of the direct and indirect employment changes resulting from a change in unit output. These multipliers are obtained by multiplying the output multiplier of each sector with the relevant employment coefficient. The employment coefficient of each sector presents the number of person days generated per unit of output (say for per thousand rupees).

The inverse of the SAM (only those sectors are taken for the inverse for which there is production in village) is given in (table 3). Each column of this inverse (from row 1 to 24) gives the increase in output of different sectors because of one unit increase in the final demand of that sector. The total of row 25 and 27 of the sectors gives the corresponding income multiplier. Rows from 28 to 34 give the impact on the incomes of various sections of the households.

Table 3: Per unit change in Output & Income due to change in final demand from different sectors.

	Wheat	Jowar	Bajra	Maize	Tur	Pulses	Castor	Groundnut	Cotton	Fruits & Vegetables	Other crops
Wheat	1.184	0.067	0.029	0.082	0.015	0.026	0.074	0.076	0.002	0.014	0.068
Jowar	0.007	1.040	0.003	0.008	0.002	0.002	0.006	0.006	0.000	0.001	0.006
Bajra	0.005	0.005	1.006	0.006	0.001	0.002	0.004	0.004	0.000	0.001	0.004
Maize	0.021	0.019	0.008	1.047	0.004	0.007	0.019	0.020	0.001	0.004	0.018
Tur	0.014	0.011	0.005	0.014	1.006	0.005	0.013	0.014	0.000	0.002	0.012
Pulses	0.013	0.012	0.006	0.015	0.003	1.009	0.013	0.013	0.000	0.003	0.012
Castor	0.000	0.000	0.000	0.000	0.000	0.000	1.028	0.000	0.000	0.000	0.000
Groundnut	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.006	0.000	0.000	0.000
Cotton	0.004	0.004	0.002	0.005	0.001	0.001	0.003	0.003	1.002	0.001	0.003
Fruits & Vegetables	0.030	0.023	0.011	0.029	0.005	0.010	0.030	0.031	0.001	1.019	0.028
Other crops	0.039	0.045	0.021	0.052	0.011	0.013	0.035	0.035	0.001	0.009	1.054
Animal husbandry	0.137	0.166	0.077	0.188	0.042	0.047	0.121	0.118	0.005	0.031	0.107
Cotton Ginning	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Construction	0.025	0.020	0.009	0.025	0.005	0.008	0.024	0.024	0.001	0.004	0.022
Education	0.042	0.033	0.015	0.041	0.007	0.014	0.042	0.043	0.001	0.007	0.039
Bangle vendor	0.008	0.006	0.003	0.008	0.001	0.003	0.009	0.009	0.000	0.002	0.008
Fruit & Vegetable vendor	0.020	0.016	0.007	0.020	0.004	0.006	0.019	0.019	0.001	0.003	0.017
Barber	0.006	0.005	0.002	0.006	0.001	0.002	0.007	0.007	0.000	0.001	0.006
Carpenter	0.021	0.016	0.008	0.020	0.003	0.007	0.021	0.022	0.001	0.004	0.020
Cloth Shop	0.040	0.032	0.014	0.040	0.007	0.013	0.038	0.039	0.001	0.007	0.035
Paan shop	0.044	0.036	0.016	0.044	0.008	0.015	0.043	0.044	0.001	0.008	0.039
PDS Shop	0.030	0.024	0.010	0.030	0.005	0.010	0.028	0.029	0.001	0.005	0.026
Transport	0.052	0.066	0.023	0.068	0.027	0.010	0.054	0.041	0.002	0.009	0.026
Other services	0.051	0.023	0.015	0.059	0.005	0.009	0.035	0.032	0.001	0.010	0.025
Labour total	0.338	0.305	0.107	0.368	0.074	0.091	0.253	0.258	0.009	0.051	0.232
Labour Income from out side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Labour from outside	0.039	0.031	0.014	0.038	0.007	0.013	0.039	0.040	0.001	0.007	0.036
Capital	0.852	0.617	0.327	0.779	0.123	0.320	0.954	0.983	0.029	0.157	0.883
Small Farmer	0.320	0.232	0.123	0.293	0.046	0.120	0.359	0.370	0.011	0.059	0.332
Medium Farmer	0.188	0.136	0.072	0.172	0.027	0.071	0.211	0.217	0.006	0.035	0.195
Big Farmer	0.189	0.137	0.073	0.173	0.027	0.071	0.212	0.218	0.006	0.035	0.196
Self employed in non agriculture	0.114	0.083	0.044	0.104	0.016	0.043	0.128	0.132	0.004	0.021	0.118
Labour	0.329	0.297	0.104	0.359	0.072	0.088	0.246	0.252	0.009	0.050	0.226
Services	0.008	0.008	0.003	0.009	0.002	0.002	0.006	0.006	0.000	0.001	0.006
All other Households	0.040	0.029	0.015	0.037	0.006	0.015	0.045	0.046	0.001	0.007	0.042

	Cotton Ginning	Construction	Education	Bangle vendor	Fruit & Vegetable vendor	Barber	Carpenter	Cloth Shop	Pan shop	PDS Shop
Wheat	0.008	0.037	0.014	0.017	0.037	0.051	0.023	0.019	0.017	0.438
Jowar	0.001	0.002	0.001	0.001	0.003	0.004	0.002	0.001	0.001	0.095
Bajra	0.000	0.001	0.000	0.001	0.002	0.003	0.001	0.001	0.001	0.003
Maize	0.002	0.010	0.003	0.004	0.009	0.013	0.006	0.005	0.004	0.103
Tur	0.002	0.005	0.001	0.004	0.008	0.011	0.005	0.004	0.003	0.008
Pulses	0.001	0.005	0.002	0.003	0.007	0.010	0.004	0.003	0.003	0.097
Castor	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Groundnut	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cotton	0.895	0.001	0.000	0.001	0.002	0.002	0.001	0.001	0.001	0.002
Fruits & Vegetables	0.004	0.011	0.004	0.009	0.420	0.025	0.012	0.009	0.008	0.018
Other crops	0.004	0.009	0.003	0.008	0.019	0.024	0.011	0.008	0.138	0.025
Animal husbandry	0.014	0.028	0.012	0.028	0.064	0.081	0.037	0.027	0.028	0.090
Cotton Ginning	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Construction	0.003	1.011	0.004	0.006	0.012	0.017	0.008	0.006	0.006	0.015
Education	0.005	0.016	1.003	0.012	0.024	0.034	0.016	0.012	0.011	0.026
Bangle vendor	0.001	0.002	0.000	1.003	0.006	0.009	0.004	0.003	0.003	0.005
Fruit & Vegetable vendor	0.002	0.009	0.002	0.005	1.010	0.014	0.006	0.005	0.005	0.012
Barber	0.001	0.001	0.000	0.002	0.005	1.007	0.003	0.002	0.002	0.004
Carpenter	0.003	0.006	0.001	0.007	0.014	0.020	1.009	0.006	0.006	0.012
Cloth Shop	0.004	0.018	0.003	0.009	0.020	0.028	0.013	1.010	0.009	0.024
Pan shop	0.005	0.019	0.003	0.011	0.023	0.032	0.015	0.012	1.011	0.027
PDS Shop	0.003	0.014	0.003	0.007	0.014	0.020	0.009	0.007	0.007	1.018
Transport	0.005	0.006	0.002	0.009	0.021	0.027	0.012	0.009	0.008	0.033
Other services	0.004	0.006	0.001	0.009	0.020	0.026	0.012	0.008	0.008	0.028
Labour total	0.016	0.262	0.050	0.013	0.045	0.039	0.018	0.043	0.036	0.205
Labour Income from out side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Labour from outside	0.007	0.015	0.929	0.011	0.023	0.031	0.014	0.011	0.010	0.024
Capital	0.136	0.136	0.023	0.345	0.698	1.003	0.462	0.304	0.285	0.516
Small Farmer	0.051	0.051	0.009	0.130	0.262	0.377	0.174	0.114	0.107	0.194
Medium Farmer	0.030	0.030	0.005	0.076	0.154	0.222	0.102	0.067	0.063	0.114
Big Farmer	0.030	0.030	0.005	0.077	0.155	0.223	0.103	0.067	0.063	0.114
Self employed in non agriculture	0.018	0.018	0.003	0.046	0.093	0.134	0.062	0.041	0.038	0.069
Labour	0.015	0.256	0.049	0.013	0.044	0.038	0.018	0.042	0.035	0.200
Services	0.000	0.007	0.001	0.000	0.001	0.001	0.000	0.001	0.001	0.005
All other Households	0.006	0.006	0.001	0.016	0.033	0.047	0.022	0.014	0.013	0.024

Table 4 presents the total output, income and household income multipliers. The output multipliers in the table indicate the coefficients by which the outputs will increase if there is an increase in the expenditure due to an external stock (here NREGA works). For example, if the expenditure on the consumption of wheat increases by Rs 1000/- due to some NREGA works, its impact in terms of increase in total production will be Rs.1793 (1000 X 1.793). The total effect can by estimated by totaling all the effects on different sectors.

Education sector has a forward linkage with the wheat sector as wheat is used for preparing mid day meals in village schools. Similarly per unit change can be studied for all the sectors in which change is instituted. The maximum impact on the increased output generated in the economy is due to increase in the consumption of PDS services with multiplier of 2.08 followed by Maize with value 1.80 and wheat sector with multiplier of 1.79. Within the economy the sectors which have maximum impact in absolute value terms due to the increased expenditure are wheat, Animal husbandry, pan shop, cloth shop and education as these sectors have the maximum consumption within the village and more demand for these items would be generated

Table 4: Total Output, Income and HH Income Multipliers

Sr No	Sector	Output Multipliers	Income Multipliers	HH Income Multipliers
1	Wheat	1.793	1.228	1.189
2	Jowar	1.671	0.953	0.922
3	Bajra	1.291	0.448	0.434
4	Maize	1.805	1.185	1.147
5	Tur	1.165	0.204	0.197
6	Pulses	1.219	0.423	0.410
7	Castor	1.666	1.246	1.207
8	Groundnut	1.636	1.281	1.241
9	Cotton	1.024	0.039	0.038
10	Fruits & Vegetables	1.144	0.215	0.208
11	Other crops	1.576	1.151	1.116
12	Animal husbandry	1.936	1.108	1.074
13	Cotton Ginning	1.966	0.158	0.152
14	Construction	1.217	0.413	0.398
15	Education	1.063	1.002	0.073
16	Bangle vendor	1.157	0.369	0.358
17	Fruit & Vegetable vendor	1.742	0.765	0.743
18	Barber	1.456	1.074	1.042
19	Carpenter	1.210	0.494	0.480
20	Cloth Shop	1.157	0.358	0.347
21	Pan shop	1.278	0.331	0.321
22	PDS Shop	2.085	0.744	0.721
23	Transport	1.430	1.013	0.983
24	Other services	1.463	1.089	1.057

The multipliers are small because more than half of the impact is on the commodities obtained from outside the village. It needs to be underlined however that the value the multipliers will increase with the NREGS interventions because (1) the consumption of locally grown crops, i.e. food crops, vegetables etc will increase (as shown below), (2) stability as well as increase in incomes will encourage local processing of food grains, oil seeds etc, (3) with improved infrastructure, more services will be made available locally.

Impact of NREGS works on the village economy

The de-silting of the six check dams during the year 2006-07, improved the ground water status in the village at the cost of Rs. 586131, all of which was the labour cost. The effect of this cost (Rs. 586131) on the economy is worked out by assuming its distribution as that of the total income of labour. The effect will be in terms of increase in expenditure on items produced in the village and also the items brought from outside the village. The effect of the increase in output of sectors having production in the village will increase the income of the hired workers as well as those of the capital. This will again have the indirect impact on the expenditure structure of different occupational households. The results of this effect denoted as effect1 and of the seven proposed effects denoted as effect 2 to effect 8 are given in the table 5 .

Of the additional GVA generated in the village, 34 percent is contributed by labour from inside and outside the village, and 66 percent is contributed in form of capital. Of the 34 percent contribution, 15 percent is contributed by internal male labour, 6 percent is contributed by internal female labour, and the rest 13 percent is contributed by labour from outside. Similarly in the increased income of the households the share of marginal farmers is 28 percent, followed by labour households (24 percent). In all, the cultivator households will share 62 percent of the increase in the household incomes.

The expenditure on six check dams has been Rs. 586131. Out of this the labour households spends Rs 297579 (approximately 50 percent of Rs 586131) on items which are produced inside the village (such as, wheat, jowar, bajra etc) and the rest of the expenditure is incurred on items which are imported or bought from out side the village (rice, pesticides etc). By distributing the amount Rs 297579 among the sectors in the ratio of household expenditure, we get a column. This column is multiplied with the inverse matrix, and by adding these, we get an additional output of Rs 452219, additional value added of Rs 226577 and additional household income of Rs 196823 in the village economy.

The above effects are of the NREGS work (Construction of six check dams) that has already taken place in the village. Now let us have a look at the effects of the proposed works, which can be carried out in the village. There will be an additional expenditure of Rs 1559882 in the village. This will raise the form of output generated in the village, GVA to the tune of 781554 and household income amounting to 678920.The per unit change in output is maximum within the sector itself in which change is instituted. For example, take the wheat sector from (table 3). It can be seen that the per unit change in wheat is maximum with value 1.184 followed by animal husbandry & transport sector as these sectors have better linkages with the wheat sector as cow dung manure forms part of the animal husbandry sector and goes as substantial input in the wheat production, similarly wheat sector gets inputs from transport sector in form of tractor & bullocks.

The change in the expenditure level of labour households will have maximum impact on the household incomes of marginal cultivators followed by labour households and then large farmers. The marginal cultivators will get maximum benefits because they cultivate

their small farms and also work as agricultural workers in others' farms. The least affected by this change are services households.

Table 5: Increased Output in Sectors Achieved through Increased Expenditure of Labour Households under NREGA works – Past and Proposed Works (Rs)

Sector	Effect1	Effect2	Effect3	Effect4	Effect5	Effect6	Effect7	Effect8
Wheat	82961	59985	5662	28308	23354	56616	34394	77847
Jowar	4298	3108	293	1467	1210	2933	1782	4033
Bajra	2304	1666	157	786	649	1572	955	2162
Maize	21625	15636	1476	7379	6088	14758	8965	20292
Tur	12001	8678	819	4095	3378	8190	4976	11262
Pulses	10086	7293	688	3442	2839	6883	4182	9465
Castor	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0
Cotton	1436	1038	98	490	404	980	595	1347
Fruits & Vegetables	21550	15582	1471	7353	6066	14707	8934	20222
Other crops	18274	13213	1247	6235	5144	12471	7576	17147
Animal husbandry	53077	38377	3622	18111	14941	36222	22005	49805
Cotton Ginning	0	0	0	0	0	0	0	0
Construction	25451	18402	1737	8685	7165	17369	10552	23882
Education	32132	23233	2193	10964	9045	21928	13321	30151
Bangle vendor	2917	2109	199	995	821	1991	1209	2737
Fruit & Vegetable vendor	18933	13690	1292	6460	5330	12921	7849	17766
Barber	2335	1688	159	797	657	1593	968	2191
Carpenter	11413	8252	779	3894	3213	7789	4732	10709
Cloth Shop	38744	28014	2644	13220	10907	26440	16063	36355
Pan shop	40838	29528	2787	13935	11496	27869	16931	38320
PDS Shop	30618	22138	2090	10448	8619	20895	12694	28731
Transport	10131	7325	691	3457	2852	6914	4200	9506
Other services	11094	8021	757	3785	3123	7571	4599	10410

Note: The effects imply the following:
Effect 1= Desalting of six check dams, Labour cost: Rs 586131
Effect 2= Laying Pipelines to distribute water in the wards, Labour cost: Rs 423800
Effect 3= Deepening of the tank, Labour cost: Rs 40000
Effect 4= Construction of child care centers, Labour cost: Rs 200000
Effect 5= Paving of Internal roads- Phase I, Labour cost: Rs 165000
Effect 6= Paving of internal roads- Phase II, Labour cost: Rs 400000
Effect 7= Construction of Toilets, Labour cost: Rs 243000
Effect 8= Digging two more tanks (Digging + Pitching), Labour cost: Rs 550000

The above table implies that the output multiplier will increase the total output in the economy due to the NREGS works. The increase of Rs 452218 has already occurred (Effect 1) due to the works under taken in the village. The other effects are potential effects, which will take place if the other NREGS works are taken up in the village.

The table given below presents the increase in the incomes that has occurred due to the NREGS works in the village. For example, it shows that due to the works already taken up in the village (Effect 1), the income has already increased by Rs 423399/- per year. The potential works will increase the income by Rs 1460475/- per year.

Table 6: Increase in Income of Labour, Capital and Households Arising from Increase in Expenditure of Labour Households under NREGA works - Past and Proposed Works (Rs)

	Effect1	Effect2	Effect3	Effect4	Effect5	Effect6	Effect7	Effect8	Total (Effect2 to Effect8)
Labour M	34976	25289	2387	11934	9846	23869	14500	32820	120645
Labour F	13202	9545	901	4505	3716	9009	5473	12388	45537
Labour from outside	29754	21514	2031	10153	8376	20305	12336	27920	102635
Capital	148645	107477	10144	50721	41845	101442	61626	139482	512737
Small Farmer	55891	40412	3814	19071	15734	38142	23171	52445	192789
Medium Farmer	32851	23753	2242	11209	9248	22419	13619	30826	113316
Big Farmer	32999	23860	2252	11260	9290	22520	13681	30965	113828
Self employed in non agriculture	19918	14402	1359	6797	5607	13593	8258	18691	68707
Labour	46973	33964	3206	16028	13223	32056	19474	44077	162028
Services	1204	871	82	411	339	822	499	1130	4154
All other Households	6986	5051	477	2384	1967	4768	2896	6556	24099
Total	423399	306138	28895	144473	119191	288945	175533	397300	1460475

Employment Multiplier

Employment multiplier for different sectors can be interpreted as the number of person days generated in the economy due to increase in per thousand rupees of output in the sector. For example, if there is an additional expenditure on wheat, due to the increase of

Rs 53540 in the expenditure by labour, the final demand for wheat increases, and due to this the employment in terms of person days generated in the whole of the economy due to this sector will be (2.63*53540)/1000 = 140 person days. Similarly multipliers of all the sectors are multiplied by the additional expenditure incurred by the labour in respective sectors and are given in (table 7). But this will give us employment generated in whole of the economy due to change in different sectors. To get the detailed employment generated in each sector we multiply the employment coefficients of each sector given in (table 8) by the effect 1 to effect 8 columns in table 5.

Table 7: Employment Multipliers

Wheat	2.639
Jowar	8.024
Bajra	1.834
Maize	4.796
Tur	8.844
Pulses	2.440
Castor	2.084
Groundnut	1.999
Cotton	1.811
Fruits & Vegetables	2.989
Other crops	1.229
Animal husbandry	1.695
Cotton Ginning	2.868
Construction	1.987
Education	5.609
Bangle vendor	3.950
Fruit & Vegetable vendor	7.277
Barber	12.501
Carpenter	5.348
Cloth Shop	0.588
Pan shop	1.870
PDS Shop	3.538
Transport	2.966
Other services	7.925

Table 8: Employment coefficients

Sector	M	F
Wheat	0.56	0.41
Jowar	3.89	2.71
Bajra	0.63	0.63
Maize	1.65	1.40
Tur	4.26	4.26
Pulses	1.09	0.89
Castor	0.32	0.32
Groundnut	0.29	0.29
Cotton	0.90	0.86
Fruits & Vegetables	1.34	1.34
Other crops	0.00	0.00
Animal husbandry	0.43	0.00
Cotton Ginning	0.79	0.02
Construction	1.52	0.00
Education	5.50	0.00
Bangle vendor	3.57	0.00
Fruit & Vegetable vendor	5.40	0.00
Barber	11.39	0.00
Carpenter	4.84	0.00
Cloth Shop	0.21	0.00
Pan shop	1.52	0.00
PDS Shop	1.18	0.00
Transport	1.93	0.00
Other services	6.80	0.00

It can be seen from the above table that the employment multiplier for the sectors like Barber, Other services, Fruits and Vegetable Vendor and Carpenter are higher than the production sectors except for the Jowar and Tur, which would generate more number of person days in the economy due to an increase in the output. Though more number of person days has been put into these two sectors, the returns in terms of output have been low. Also, the multipliers of the self-employed in non agriculture sector are higher than the producing sectors like wheat, Jowar etc. This is because when there is an increase in the income of the labour households due to NREGA wages, they spend more on Personal Care, Other Services, Fruits and Vegetables, Education and all other service providing sectors. Consequently, the output of these sectors rises and it requires more labour, which generates more number of person days in the economy.

The following two tables present data on the number of additional days (for men and women separately) generated due to the increased output of sectors arising from NREGS works:

Table 9: No of additional Male days generated due to increased output of sectors

Sector	Effect1	Effect2	Effect3	Effect4	Effect5	Effect6	Effect7	Effect8	Total (Effect2 to Effect8)
Wheat	46	33	3	16	13	32	19	43	159
Jowar	17	12	1	6	5	11	7	16	58
Bajra	1	1	0	0	0	1	1	1	5
Maize	36	26	2	12	10	24	15	34	123
Tur	51	37	3	17	14	35	21	48	176
Pulses	11	8	1	4	3	7	5	10	38
Castor	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0
Cotton	1	1	0	0	0	1	1	1	4
Fruits & Vegetables	29	21	2	10	8	20	12	27	99
Other crops	0	0	0	0	0	0	0	0	0
Animal husbandry	3	2	0	1	1	2	1	3	11
Cotton Ginning	0	0	0	0	0	0	0	0	0
Construction	39	28	3	13	11	26	16	36	133
Education	177	128	12	60	50	121	73	166	609
Bangle vendor	10	8	1	4	3	7	4	10	36
Fruit & Vegetable vendor	102	74	7	35	29	70	42	96	352
Barber	27	19	2	9	7	18	11	25	92
Carpenter	55	40	4	19	16	38	23	52	191
Cloth Shop	8	6	1	3	2	6	3	8	29
Pan shop	62	45	4	21	17	42	26	58	214
PDS Shop	36	26	2	12	10	25	15	34	124
Transport	20	14	1	7	6	13	8	18	67
Other services	75	55	5	26	21	51	31	71	260
Total	806	584	54	275	226	550	334	757	2780

Table 10: No of additional Female days generated due to increased output of sectors

Sector	Effect1	Effect2	Effect3	Effect4	Effect5	Effect6	Effect7	Effect8	Total (Effect2 to Effect8)
Wheat	34	25	2	12	10	23	14	32	118
Jowar	12	8	1	4	3	8	5	11	40
Bajra	1	1	0	0	0	1	1	1	5
Maize	30	22	2	10	9	21	13	28	105
Tur	51	37	3	17	14	35	21	48	176
Pulses	9	6	1	3	3	6	4	8	31
Castor	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0
Cotton	1	1	0	0	0	1	1	1	4
Fruits & Vegetables	29	21	2	10	8	20	12	27	99
Other crops	0	0	0	0	0	0	0	0	0
Animal husbandry	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0
Bangle vendor	0	0	0	0	0	0	0	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0
Pan shop	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0
Transport	0	0	0	0	0	0	0	0	0
Other services	0	0	0	0	0	0	0	0	0
Total	167	121	11	56	47	115	71	156	578

The tables indicate the number of man days and women days that will be generated in the village economy per year due to the different NREGS works. For example, the additional man days generated in these sectors due to "**Desilting of six check dams**" (Effect 1) will

be 807 man days and 168 female days per year. Total man days generated due to all the seven proposed (effect 2 to effect 8) programs will be 2782 and 579 female days per year.

The employment multipliers are expressed in person days because if we take the no of people then there would be duplication in estimation as in agriculture one person works in all the producing sectors if he grows more than one crop.

The impact of the NREGS expenditure on the output is Rs 4.52 lakhs. In absolute terms the increase is the maximum in agriculture (Rs 1.75 lakhs) followed by self-employed in non agriculture (Rs 1.67 lakhs). However the growth rate is the maximum in sectors under self-employed in non-Agriculture given in (table 11).

Table 11: Increased output due to de-silting of six check dams

Output	Base	Increased	Growth
	Rs	Rs	percent
Agriculture	10256406	174535	1.70
Animal husbandry	2989812	53077	1.78
Construction	1927027	25451	1.32
Self- employed in non agriculture	3687510	167023	4.53
Total	18860755	452218	2.22

The income multiplier gives an estimate of the direct and indirect income changes resulting from the one unit change in output. Table 12 below shows that the NREGS investments in de-silting the six check dams have raised the income by 1.97 lakhs through the income multiplier. That is, the base income of Rs 167.90 lakhs has increased by 1.17 percent. This is in addition to the direct increase in income of Rs 5.86 lakhs through NREGS works. In other words, NREGS has increased the income in the village by Rs 7.83 lakhs. The increase in income as a result of the expenditure by labour households is maximum for marginal farmers followed by labour households. It is negligible for service households. The increase in terms of percentage is the highest for large and small farmers.

Table 12 Increased HH Income due to construction of six check dams

HH Income	Base	Increased	Growth
Marginal Farmer	3879411	55891	1.44
Small Farmer	2043283	32851	1.61
Large Farmer	2057010	32999	1.60
Self employed in non agriculture	1423202	19918	1.40
Labour	4744524	46973	0.99
Services	2170760	1204	0.06
All other HH	472098	6986	1.48
Total	16790288	196822	1.17

If the potential NREGS works are taken up, there will be an increase of Rs 15.60 lakhs in the output and an increase of Rs 14.60 lakhs in the income. The cost of the identified NREGS works in the village is Rs 60.6 lakhs.

The six works of de-silting the six check dams in the village have been taken up under the NREGS in the village. These works have generated 9812 person days of work for 238 men and women from 161 households – all belonging to farmers or agricultural labour households. On an average, 53 days of work was generated for the participating men and women.

This direct employment generation had a multiplier impact on the village economy, due to which an additional employment of 994 person days (826 man days and 168 women days) was generated in the economy, the value of the multiplier being 1.84 for men and 1.30 for women. The present employment base is 59998 person days (44861 mandays and 12768 woman days), and the additional indirect employment is of 994 person days given in (table 13).

Table 13: Impact of NREGS works on Employment (person days)

	Direct Employment			**Indirect Employment (Multiplier)**		
	Male	Female	Total	Male	Female	Total
NREGS Works undertaken	4320	5492	9812	826	168	994
Potential NREGS Works	17932	22809	40731	2780	578	3358

The potential NREGS works are likely to generate much more employment in the economy if implemented. They are likely to generate 2780 man days and 578 woman days of work in the economy, brining the total to 3358 person days of employment. This will be in addition to the direct employment of 40731 person days generated in the implementation of the potential works.

Impact of Reduction in Unpaid Work

As seen above, women and men spend 18810 person days (3315 mandays and 15494 woman days) in the village on unpaid work that can be reduced through NREGS works. The potential NREGS works are likely to reduce this unpaid work considerably. If we assume that 80 percent of the unpaid work is likely to be reduced through the works, 15048 person days will be released for NREGS works in the village. At the wage rate of Rs 60/ per day, this will generate Rs 9.03 lakhs in the economy.

The expenditure on six check dams has been Rs. 902880. Out of this the labour households spends Rs 437688 (approximately 50 percent of Rs 902880) on items which are produced inside the village (such as, wheat, jowar, bajra etc) and the rest of the expenditure is incurred on items which are imported or bought from out side the village (rice, pesticides etc). By distributing the amount Rs 437688 among the sectors in the ratio of household expenditure of all the households put together, we get a column. This column is multiplied with the inverse matrix, and by adding these, we get an additional output of Rs 656848, additional value added of Rs 346385 and additional household income of Rs 294329 in the village economy.

This investment, in addition to the income / employment generated directly, will have an (output, income and employment) multiplier impact on the economy. This is presented in the following table. Out of Rs 9.03 lakhs, the households will spend Rs 437688 (approximately 50 percent of Rs 902880) on items which are produced inside the village (such as, wheat, jowar, bajra etc) and the rest of the expenditure is incurred on items which are imported or bought from out side the village (rice, pesticides etc). By distributing the amount Rs 437688 among the sectors in the ratio of household expenditure of all the households put together, we get a column. This column is multiplied with the inverse matrix, and by adding these, we get an additional output of Rs 656848, additional value added of Rs 346385 and additional household income of Rs 294329 in the village economy. This clearly indicates that reduction in unpaid work will have a large impact in terms of increase in employment. This will have an additional multiplier impact on the level of employment in the economy.

Table 14 Increased Output in Sectors, achieved through reduction in unpaid work of men and women

Sectors	Rs
Wheat	86831
Jowar	6113
Bajra	3741
Maize	22719
Tur	15298
Pulses	13784
Castor	0
Groundnut	0
Cotton	2801
Fruits & Vegetables	34129
Other crops	31575
Animal husbandry	103525
Cotton Ginning	0
Construction	29390
Education	56216
Bangle vendor	9417
Fruit & Vegetable vendor	22540
Barber	7489
Carpenter	23852
Cloth Shop	45356
Pan shop	48331
PDS Shop	33110
Transport	31245
Other services	29384
Labour total	60680
Labour Income from out side	0
Labour from outside	52056
Capital	233648
Small Farmer	87852
Medium Farmer	51636
Big Farmer	51870
Self employed in non agriculture	31309
Labour	59163
Services	1517
All other Households	10981

5
Conclusion

The present study shows that if the NREGS is undertaken on a scale and implemented well, it can reduce poverty at the bottom as well as empower the poor in the short run. The multiplier analysis has demonstrated the positive impact of NREGS on incomes, production and employment in Nana Kotda. For example the increase in terms of increased output is more than double than the increase in the expenditure because of increased income of labour households.

A striking feature of the above discussion is the low values of the multipliers. The main reason for the low value is the fact that (1) about half the products consumed in the village come from outside the village and therefore a considerable part of the impact will go outside the village – which is not really a loss to the economy, and (2) since the village is backward, the output, income and the employment coefficients are quite low. It needs to be underlined however that the value the multipliers will increase with the NREGS interventions because (1) the consumption of locally grown crops, i.e. food crops, vegetables etc will increase (as shown below), (2) stability as well as increase in incomes will encourage local processing of food grains, oil seeds etc, (3) with improved infrastructure, more services will be made available locally. Again, the value of the multiplier for the village economy will depend, in addition to the extent to which people consume local goods and services, on (1) the distribution of income in the village (the higher is the share of the poorer sections the higher will be the value of the multiplier and (2) the labour intensity of the production (for the employment multiplier) in the village. Since both these factors are likely to improve with growth, the value of the multipliers will get a further push. That is, these coefficients will increase rapidly once the village experiences growth in productivity.

Going Beyond Multiplier Analysis

The multipliers tend to underestimate the impact of NREGS works primarily because SAM is a static model, and it assumes that all multiplying coefficients are static. For example, it is assumed that the cropping pattern remains the same even after water harvesting increases the water supply for agriculture. If we try to go beyond the multiplier analysis, there are many other positive likely positive impacts on the economy.

Impact on Health Status in the Village: The health status of the village is likely to improve in the village due to (1) regular availability of clean potable drinking water, (2) construction of drainage that will improve the cleanliness in the village, and thereby reduce the chances of occurrence of diseases, (3) construction of toilets will also improve the level of cleanliness in the village and public health status, (4) reduction in unpaid drudgery of women will reduce their time stress and provide them more time to relax or to work and (5) construction of child care center will improve general health of children, who will receive nutritious food and clean environment. This will reduce their expenditure on health (which is usually private expenditure) and improve their productivity at work. Considering the fact that ill health is one of the major risks that

throws people in poverty, the improved status of health will go a long way in reducing vulnerability and poverty of people.

Impact on Education Status in the Village: Many children in school going age in the village are engaged in collection of fodder, fuel wood, water etc or in animal grazing. Assuring water supply at the door step, regeneration of common lands for fuel and fodder as well as child care centers will reduce unpaid work of children. This will enable them to attend the school regularly. This will particularly be beneficial to girl children, who stay back at home either to take care of younger siblings or to help in collection of water, fodder etc and other household work.

***Improved Access of Women to Productive Work*:** Unpaid SNA and non-SNA work restricts women's entry into the labour market. Reduction in this work will release women for more productive work in the labour market. NREGS will provide productive employment to women immediately. In the long run more employment opportunities will occur in the economy.

Appendix I:

SAM for village Nanakotda-2006-07

	Rice	Wheat	Jowar	Bajra	Maize	Tur	Pulses	Castor	Groundnut	Cotton	Fruits & Vegetables	Other crop
Rice	0	0	0	0	0	0	0	0	0	0	0	0
Wheat	0	198450	0	0	0	0	0	0	0	0	0	0
Jowar	0	0	7580	0	0	0	0	0	0	0	0	0
Bajra	0	0	0	350	0	0	0	0	0	0	0	0
Maize	0	0	0	0	33510	0	0	0	0	0	0	0
Tur	0	0	0	0	0	4932	0	0	0	0	0	0
Pulses	0	0	0	0	0	0	850	0	0	0	0	0
Castor	0	0	0	0	0	0	0	4900	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	800	0	0	0
Cotton	0	0	0	0	0	0	0	0	0	233490	0	0
Fruits & Vegetables	0	0	0	0	0	0	0	0	0	0	5720	0
Other crops	0	0	0	0	0	0	0	0	0	0	0	17828
Animal husbandry	0	91200	21872	4100	145200	36785	3450	5000	3200	260180	6250	17828
Wood	0	0	0	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	0	0	0	0	0	0	0	0
LPG	0	0	0	0	0	0	0	0	0	0	0	0
Cooking Oil	0	0	0	0	0	0	0	0	0	0	0	0
Sugar	0	0	0	0	0	0	0	0	0	0	0	0
Tea & coffee	0	0	0	0	0	0	0	0	0	0	0	0
Tobacco products	0	0	0	0	0	0	0	0	0	0	0	0
Salt	0	0	0	0	0	0	0	0	0	0	0	0
Spices	0	0	0	0	0	0	0	0	0	0	0	0
Other food products	0	0	0	0	0	0	0	0	0	0	0	0
Cosmetics	0	0	0	0	0	0	0	0	0	0	0	0
Fertilizer	0	67900	19600	1500	84175	24115	1275	5500	1500	174840	4425	0
Pesticide	0	15600	2400	0	7250	0	0	1100	500	104250	2150	0
Textiles	0	0	0	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	0	0	0	0	0	0	0
Two wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Four wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Bricks	0	0	0	0	0	0	0	0	0	0	0	0
Cement	0	0	0	0	0	0	0	0	0	0	0	0
Sand	0	0	0	0	0	0	0	0	0	0	0	0
Roof metal sheet	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0

Electricity	0	5179	0	0	5179	0	0	0	0	0	0	0
Medical & health	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Rent	0	0	0	0	0	0	0	0	0	0	0	0
Other Exp	0	5612	0	0	5612	0	0	0	0	0	0	0
Equipment & repair	0	1897	0	0	1897	0	0	0	0	0	0	0
Bangle vendor	0	0	0	0	0	0	0	0	0	0	0	0
Bangles	0	0	0	0	0	0	0	0	0	0	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0	0	0	0
Pan shop	0	0	0	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0	0	0	0
Transport	0	48675	10450	1200	61975	30518	0	4600	1600	126800	1500	0
Other services	0	48971	600	500	49381	1090	0	1200	500	500	1900	0
Labour M	0	301651	42908	3762	230454	39837	8404	17307	13200	531377	8077	71313
Labour F	0	224048	30936	3762	195796	39837	6876	17307	13200	507279	8077	71313
Labour income from outside	0	0	0	0	0	0	0	0	0	0	0	0
Labour from outside	0	0	0	0	0	0	0	0	0	0	0	0
Capital	0	1095425	98249	19476	642538	68360	51910	123982	97500	3055835	42673	534848
Small Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Medium Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Big Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Self employed in non agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Labour	0	0	0	0	0	0	0	0	0	0	0	0
Services	0	0	0	0	0	0	0	0	0	0	0	0
All other Households	0	0	0	0	0	0	0	0	0	0	0	0
Village panchayat	0	0	0	0	0	0	0	0	0	0	0	0
Capital A/C	0	0	0	0	0	0	0	0	0	0	0	0
From outside the village	428185	0	0	58854	0	0	145319	0	0	145321035	336072	92228
Total	**428185**	**2104608**	**234595**	**93504**	**1462967**	**245474**	**218084**	**180895**	**132000**	**150315585**	**416844**	**805358**

	Animal husbandry	Wood	Kerosene	LPG	Cooking Oil	Sugar	Tea & coffee	Tobacco products	Salt	Spices	Other food products	Cosmetics
Rice	0	0	0	0	0	0	0	0	0	0	0	0
Wheat	82095	0	0	0	0	0	0	0	0	0	0	0
Jowar	82095	0	0	0	0	0	0	0	0	0	0	0
Bajra	82095	0	0	0	0	0	0	0	0	0	0	0
Maize	82095	0	0	0	0	0	0	0	0	0	0	0
Tur	0	0	0	0	0	0	0	0	0	0	0	0
Pulses	82095	0	0	0	0	0	0	0	0	0	0	0
Castor	0	0	0	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0	0	0	0
Cotton	82095	0	0	0	0	0	0	0	0	0	0	0
Fruits & Vegetables	0	0	0	0	0	0	0	0	0	0	0	0
Other crops	713130	0	0	0	0	0	0	0	0	0	0	0
Animal husbandry	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0	0	0	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	0	0	0	0	0	0	0	0
LPG	0	0	0	0	0	0	0	0	0	0	0	0
Cooking Oil	0	0	0	0	0	0	0	0	0	0	0	0
Sugar	0	0	0	0	0	0	0	0	0	0	0	0
Tea & coffee	0	0	0	0	0	0	0	0	0	0	0	0
Tobacco products	0	0	0	0	0	0	0	0	0	0	0	0
Salt	0	0	0	0	0	0	0	0	0	0	0	0
Spices	0	0	0	0	0	0	0	0	0	0	0	0
Other food products	138930	0	0	0	0	0	0	0	0	0	0	0
Cosmetics	0	0	0	0	0	0	0	0	0	0	0	0
Fertilizer	0	0	0	0	0	0	0	0	0	0	0	0
Pesticide	0	0	0	0	0	0	0	0	0	0	0	0
Textiles	0	0	0	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	0	0	0	0	0	0	0
Two wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Four wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Bricks	0	0	0	0	0	0	0	0	0	0	0	0
Cement	0	0	0	0	0	0	0	0	0	0	0	0
Sand	0	0	0	0	0	0	0	0	0	0	0	0
Roof metal sheet	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Medical & health	5100	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Rent	0	0	0	0	0	0	0	0	0	0	0	0
Other Exp	0	0	0	0	0	0	0	0	0	0	0	0

Equipment & repair	0	0	0	0	0	0	0	0	0	0	0	0
Bangle vendor	0	0	0	0	0	0	0	0	0	0	0	0
Bangles	0	0	0	0	0	0	0	0	0	0	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0	0	0	0
Pan shop	0	0	0	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0	0	0	0
Transport	0	0	0	0	0	0	0	0	0	0	0	0
Other services	0	0	0	0	0	0	0	0	0	0	0	0
Labour M	298981	0	0	0	0	0	0	0	0	0	0	0
Labour F	0	0	0	0	0	0	0	0	0	0	0	0
Labour income from outside	0	0	0	0	0	0	0	0	0	0	0	0
Labour from outside	0	0	0	0	0	0	0	0	0	0	0	0
Capital	1341101	0	0	0	0	0	0	0	0	0	0	0
Small Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Medium Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Big Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Self employed in non agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Labour	0	0	0	0	0	0	0	0	0	0	0	0
Services	0	0	0	0	0	0	0	0	0	0	0	0
All other Households	0	0	0	0	0	0	0	0	0	0	0	0
Village panchayat	0	0	0	0	0	0	0	0	0	0	0	0
Capital A/C	0	0	0	0	0	0	0	0	0	0	0	0
From outside the village	0	729200	254630	58789	780095	285284	329257	415823	31487	157150	176130	172121
Total	**2989812**	**729200**	**254630**	**58789**	**780095**	**285284**	**329257**	**415823**	**31487**	**157150**	**176130**	**172121**

	Fertilizer	Pesticide	Textiles	Cotton Ginning	Furniture	Bicycle	Fan	Two wheeler	Four wheeler	Electronics	Bricks	Cement
Rice	0	0	0	0	0	0	0	0	0	0	0	0
Wheat	0	0	0	0	0	0	0	0	0	0	0	0
Jowar	0	0	0	0	0	0	0	0	0	0	0	0
Bajra	0	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0	0
Tur	0	0	0	0	0	0	0	0	0	0	0	0
Pulses	0	0	0	0	0	0	0	0	0	0	0	0
Castor	0	0	0	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0	0	0	0
Cotton	0	0	0	150000000	0	0	0	0	0	0	0	0
Fruits & Vegetables	0	0	0	0	0	0	0	0	0	0	0	0
Other crops	0	0	0	0	0	0	0	0	0	0	0	0
Animal husbandry	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0	0	0	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	0	0	0	0	0	0	0	0
LPG	0	0	0	0	0	0	0	0	0	0	0	0
Cooking Oil	0	0	0	0	0	0	0	0	0	0	0	0
Sugar	0	0	0	0	0	0	0	0	0	0	0	0
Tea & coffee	0	0	0	0	0	0	0	0	0	0	0	0
Tobacco products	0	0	0	0	0	0	0	0	0	0	0	0
Salt	0	0	0	0	0	0	0	0	0	0	0	0
Spices	0	0	0	0	0	0	0	0	0	0	0	0
Other food products	0	0	0	0	0	0	0	0	0	0	0	0
Cosmetics	0	0	0	0	0	0	0	0	0	0	0	0
Fertilizer	0	0	0	0	0	0	0	0	0	0	0	0
Pesticide	0	0	0	0	0	0	0	0	0	0	0	0
Textiles	0	0	0	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	0	0	0	0	0	0	0
Two wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Four wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Bricks	0	0	0	0	0	0	0	0	0	0	0	0
Cement	0	0	0	0	0	0	0	0	0	0	0	0
Sand	0	0	0	0	0	0	0	0	0	0	0	0
Roof metal sheet	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	40000	0	0	0	0	0	0	0	0
Electricity	0	0	0	1600000	0	0	0	0	0	0	0	0
Medical & health	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Rent	0	0	0	0	0	0	0	0	0	0	0	0
Other Exp	0	0	0	800	0	0	0	0	0	0	0	0
Equipment &	0	0	0	150000	0	0	0	0	0	0	0	0

repair												
Bangle vendor	0	0	0	0	0	0	0	0	0	0	0	0
Bangles	0	0	0	0	0	0	0	0	0	0	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0	0	0	0
Paan shop	0	0	0	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0	0	0	0
Transport	0	0	0	0	0	0	0	0	0	0	0	0
Other services	0	0	0	0	0	0	0	0	0	0	0	0
Labour M	0	0	0	415099	0	0	0	0	0	0	0	0
Labour F	0	0	0	109863	0	0	0	0	0	0	0	0
Labour income from outside	0	0	0	0	0	0	0	0	0	0	0	0
Labour from outside	0	0	0	398438	0	0	0	0	0	0	0	0
Capital	0	0	0	15234238	0	0	0	0	0	0	0	0
Small Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Medium Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Big Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Self employed in non agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Labour	0	0	0	0	0	0	0	0	0	0	0	0
Services	0	0	0	0	0	0	0	0	0	0	0	0
All other Households	0	0	0	0	0	0	0	0	0	0	0	0
Village panchayat	0	0	0	0	0	0	0	0	0	0	0	0
Capital A/C	0	0	0	0	0	0	0	0	0	0	0	0
From outside the village	384830	133250	812010	0	172591	206650	209250	784000	753000	607280	756000	155400
Total	**384830**	**133250**	**812010**	**167948438**	**172591**	**206650**	**209250**	**784000**	**753000**	**607280**	**756000**	**155400**

	Sand	Roof metal sheet	Construction	Electricity	Medical & health	Education	Rent	Other exp	Equipment & repair	Bangle Vendor	Bangles	Fruit & Vegetable vendor
Rice	0	0	0	0	0	1557	0	0	0	0	0	0
Wheat	0	0	0	0	0	8327	0	0	0	0	0	0
Jowar	0	0	0	0	0	11	0	0	0	0	0	0
Bajra	0	0	0	0	0	48	0	0	0	0	0	0
Maize	0	0	0	0	0	1157	0	0	0	0	0	0
Tur	0	0	0	0	0	0	0	0	0	0	0	0
Pulses	0	0	0	0	0	1927	0	0	0	0	0	0
Castor	0	0	0	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0	0	0	0
Cotton	0	0	0	0	0	0	0	0	0	0	0	0
Fruits & Vegetables	0	0	0	0	0	2974	0	0	0	0	0	110000
Other crops	0	0	0	0	0	0	0	0	0	0	0	0
Animal husbandry	0	0	0	0	0	7410	0	0	0	0	0	0
Wood	0	0	168000	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	0	2100	0	0	0	0	0	0
LPG	0	0	0	0	0	2200	0	0	0	0	0	0
Cooking Oil	0	0	0	0	0	750	0	0	0	0	0	0
Sugar	0	0	0	0	0	160	0	0	0	0	0	0
Tea & coffee	0	0	0	0	0	0	0	0	0	0	0	0
Tobacco products	0	0	0	0	0	0	0	0	0	0	0	0
Salt	0	0	0	0	0	0	0	0	0	0	0	0
Spices	0	0	0	0	0	50	0	0	0	0	0	0
Other food products	0	0	0	0	0	0	0	0	0	0	0	0
Cosmetics	0	0	0	0	0	0	0	0	0	0	0	0
Fertilizer	0	0	0	0	0	0	0	0	0	0	0	0
Pesticide	0	0	0	0	0	0	0	0	0	0	0	0
Textiles	0	0	0	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	0	0	0	0	0	0	0
Two wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Four wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Bricks	0	0	756000	0	0	0	0	0	0	0	0	0
Cement	0	0	155400	0	0	0	0	0	0	0	0	0
Sand	0	0	96600	0	0	0	0	0	0	0	0	0
Roof metal sheet	0	0	168000	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	2227	0	0	0	0	0	0
Electricity	0	0	0	0	0	981	0	0	0	0	0	0
Medical & health	0	0	0	0	0	1204	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Rent	0	0	0	0	0	600	0	0	0		0	4800
Other Exp	0	0	0	0	0	9166	0	0	0	4400	0	16600

Equipment & repair	0	0	0	0	0	0	0	0	0	0	0	0
Bangle vendor	0	0	0	0	0	0	0	0	0	0	0	0
Bangles	0	0	0	0	0	0	0	0	0	75600	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0	0	0	0
Pan shop	0	0	0	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0	0	0	0
Transport	0	0	0	0	0	800	0	0	0	0	0	0
Other services	0	0	0	0	0	0	0	0	0	0	0	0
Labour M	0	0	462000	0	0	55122	0	0	0	0	0	0
Labour F	0	0	0	0	0	0	0	0	0	0	0	0
Labour income from outside	0	0	0	0	0	0	0	0	0	0	0	0
Labour from outside	0	0	0	0	0	1228907	0	0	0	0	0	0
Capital	0	0	121027	0	0	0	0	0	0	32000	0	146600
Small Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Medium Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Big Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Self employed in non agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Labour	0	0	0	0	0	0	0	0	0	0	0	0
Services	0	0	0	0	0	0	0	0	0	0	0	0
All other Households	0	0	0	0	0	0	0	0	0	0	0	0
Village panchayat	0	0	0	0	0	0	0	0	0	0	0	0
Capital A/C	0	0	0	0	0	0	0	0	0	0	0	0
From outside the village	96600	168000	0	2143761	970204	0	69200	128849	232633	0	75600	0
Total	**96600**	**168000**	**1927027**	**2143761**	**970204**	**1327678**	**69200**	**128849**	**232633**	**112000**	**75600**	**278000**

	Barber	Carpenter	Cloth Shop	Pan shop	PDS Shop	Transport	Other service	Labour M	Labour F	Labour Income from outside	Labour from Outside	Capital
Rice	0	0	0	0	72000	0	0	0	0	0	0	0
Wheat	0	0	0	0	144000	0	0	0	0	0	0	0
Jowar	0	0	0	0	36000	0	0	0	0	0	0	0
Bajra	0	0	0	0		0	0	0	0	0	0	0
Maize	0	0	0	0	36000	0	0	0	0	0	0	0
Tur	0	0	0	0		0	0	0	0	0	0	0
Pulses	0	0	0	0	36000	0	0	0	0	0	0	0
Castor	0	0	0	0	0	0	0	0	0	0	0	0
Groundnut	0	0	0	0	0	0	0	0	0	0	0	0
Cotton	0	0	0	0	0	0	0	0	0	0	0	0
Fruits & Vegetables	0	0	0	0	0	0	0	0	0	0	0	0
Other crops	0	0	0	74400	0	0	0	0	0	0	0	0
Animal husbandry	0	0	0	0	0	0	0	0	0	0	0	0
Wood	0	380000	0	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	36000	0	0	0	0	0	0	0
LPG	0	0	0	0	0	0	0	0	0	0	0	0
Cooking Oil	0	0	0	0	0	0	0	0	0	0	0	0
Sugar	0	0	0	0	0	0	0	0	0	0	0	0
Tea & coffee	0	0	0	0	0	0	0	0	0	0	0	0
Tobacco products	0	0	0	223200	0	0	0	0	0	0	0	0
Salt	0	0	0		0	0	0	0	0	0	0	0
Spices	0	0	0	37200	0	0	0	0	0	0	0	0
Other food products	0	0	0	37200	0	0	0	0	0	0	0	0
Cosmetics	4025	0	0	0	0	0	0	0	0	0	0	0
Fertilizer	0	0	0	0	0	0	0	0	0	0	0	0
Pesticide	0	0	0	0	0	0	0	0	0	0	0	0
Textiles	0	0	400000	0	0	0	0	0	0	0	0	0
Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	41200	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0
Fan	0	0	0	0	0	0	0	0	0	0	0	0
Two wheeler	0	0	0	0	0	0	0	0	0	0	0	0
Four wheeler	0	0	0	0	0	83000	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Bricks	0	0	0	0	0	0	0	0	0	0	0	0
Cement	0	0	0	0	0	0	0	0	0	0	0	0
Sand	0	0	0	0	0	0	0	0	0	0	0	0
Roof metal sheet	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	0	31200	1500	1200	1800	0	5190	0	0	0	0	0
Medical & health	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0
Rent	0	1320	0	7200	480	0	8600	0	0	0	0	0
Other Exp	3600	500	4800	15600	19200	33160	3800	0	0	0	0	0
Equipment & repair	7500	32000	0	0	40	17200	7100	0	0	0	0	0
Bangle vendor	0	0	0	0	0	0	0	0	0	0	0	0

Bangles	0	0	0	0	0	0	0	0	0	0	0	0
Fruit & Vegetable vendor	0	0	0	0	0	0	0	0	0	0	0	0
Barber	0	0	0	0	0	0	0	0	0	0	0	0
Carpenter	0	0	0	0	0	0	0	0	0	0	0	0
Cloth Shop	0	0	0	0	0	0	0	0	0	0	0	0
Pan shop	0	0	0	0	0	0	0	0	0	0	0	0
PDS Shop	0	0	0	0	0	0	0	0	0	0	0	0
Transport	0	0	0	0	0	0	0	0	0	0	0	0
Other services	0	0	0	0	0	0	0	0	0	0	0	0
Labour M	0	80	16000	0	6000	0	3000	0	0	0	0	0
Labour F	0	0	0	0	0	0	0	0	0	0	0	0
Labour income from outside	0	0	0	0	0	0	0	0	0	0	0	0
Labour from outside	0	0	0	0	0	0	0	0	0	0	0	0
Capital	74875	276000	137700	84000	20480	485640	350520	0	0	0	0	0
Small Farmer	0	0	0	0	0	0	0	0	0	0	0	3483429
Medium Farmer	0	0	0	0	0	0	0	0	0	0	0	2043283
Big Farmer	0	0	0	0	0	0	0	0	0	0	0	2057010
Self employed in non agriculture	0	0	0	0	0	0	0	0	0	0	0	1243202
Labour	0	0	0	0	0	0	0	2538458	1197048	181018	0	0
Services	0	0	0	0	0	0	0	66259	31245	2001256	0	0
All other Households	0	0	0	0	0	0	0	0	0	0	0	436098
Village panchayat	0	0	0	0	0	0	0	0	0	0	0	0
Capital A/C	0	0	0	0	0	0	0	0	0	0	0	0
From outside the village	0	0	0	108000	0	0	0	0	0	0	0	0
Total	**90000**	**721100**	**560000**	**588000**	**408000**	**619000**	**419410**	**2604717**	**1228293**	**2182274**	**2182256**	**9263021**

	Small Farmer	Medium Farmer	Big Farmer	Self employed in non agriculture	Labour	Services	All other HH	Village panchayat	Capital A/c	Going outside the village	Total
Rice	67136	28482	14576	18749	193797	20842	11047	0	0	0	**428185**
Wheat	138006	67993	71241	26312	429923	33450	19526	0	0	885285	**2104608**
Jowar	0	2433	0	0	0	0	0	0	0	106475	**234594**
Bajra	3346	1217	0	0	5718	0	730	0	0	0	**93504**
Maize	42743	8342	8636	9663	118032	12984	4698	0	0	1105109	**1462967**
Tur	29949	23818	22518	13739	78174	13635	3937	0	0	54773	**245474**
Pulses	23494	12593	7921	6156	38021	7191	1837	0	0	0	**218084**
Castor	0	0	0	0	0	0	0	0	0	175995	**180895**
Groundnut	0	0	0	0	0	0	0	0	0	131200	**132000**
Cotton	0	0	0	0	0	0	0	0	0	0	**150315585**
Fruits & Vegetables	79538	40500	21171	24896	81143	32741	18162	0	0	0	**416844**
Other crops	0	0	0	0	0	0	0	0	0	0	**805358**
Animal husbandry	272985	157899	127577	120260	256306	163221	51061	0	0	1238029	**2989812**
Wood	38080	13200	10060	12600	90380	9600	7280	0	0	0	**729200**
Kerosene	49200	16800	8400	12700	106330	14400	8700	0	0	0	**254630**
LPG	14702	4631	6768	6116	7448	14444	2480	0	0	0	**58789**
Cooking Oil	190110	80726	54628	73243	285044	67586	28008	0	0	0	**780095**
Sugar	73757	28275	16048	20172	111649	21559	13663	0	0	0	**285284**
Tea & coffee	82831	32084	22508	26365	126244	26158	13067	0	0	0	**329257**
Tobacco products	53327	13128	5110	18007	88634	5293	9125	0	0	0	**415823**
Salt	6661	2324	1351	2287	15008	2318	1539	0	0	0	**31487**
Spices	25343	8439	4718	9155	59202	6996	6047	0	0	0	**157150**
Other food products	0	0	0	0	0	0	0	0	0	0	**176130**
Cosmetics	16698	5701	3296	5339	126621	5640	4801	0	0	0	**172121**
Fertilizer	0	0	0	0	0	0	0	0	0	0	**384830**
Pesticide	0	0	0	0	0	0	0	0	0	0	**133250**
Textiles	101230	35618	23613	35469	164369	38552	13159	0	0	0	**812010**
Cotton Ginning	0	0	0	0	0	0	0	0	0	167948438	**167948438**
Furniture	14443	27708	7636	12863	35411	25668	7662	0	0	0	**172591**
Bicycle	51100	19400	11400	10900	90350	13800	9700	0	0	0	**206650**
Fan	49950	24150	13900	14100	75750	23500	7900	0	0	0	**209250**
Two wheeler	200000	147000	110000	32000	49000	206000	40000	0	0	0	**784000**
Four wheeler	300000	0	370000	0	0	0	0	0	0	0	**753000**
Electronics	107300	98200	79400	50800	120300	124700	26580	0	0	0	**607280**
Bricks	0	0	0	0	0	0	0	0	0	0	**756000**
Cement	0	0	0	0	0	0	0	0	0	0	**155400**
Sand	0	0	0	0	0	0	0	0	0	0	**96600**
Roof metal sheet	0	0	0	0	0	0	0	0	0	0	**168000**
Construction	70950	33290	20600	19750	171635	37320	10730	80000	1440525	0	**1927027**
Eletricity	100420	45500	29108	25800	200605	40500	22000	27600	0	0	**2143762**
Medical & health	318140	124070	27390	45150	337320	80050	31780	0	0	0	**970204**
Education	185583	39750	45670	40114	202590	187046	12595	0	0	614330	**1327678**
Rent	9000	0	1200	0	33600	0	2400	0	0	0	**69200**

Other Exp	0	0	0	0	0	0	0	6000	0	0	**128850**
Equipment & repair	0	0	0	0	0	0	0	15000	0	0	**232634**
Bangle vendor	40262	13744	7947	12873	12000	13597	11577	0	0	0	**112000**
Bangles	0	0	0	0	0	0	0	0	0	0	**75600**
Fruit & Vegetable vendor	55536	28278	14782	17383	126479	22861	12681	0	0	0	**278000**
Barber	32210	10995	6357	10298	10000	10878	9262	0	0	0	**90000**
Carpenter	100617	21012	36014	20057	63869	35282	11588	0	0	432660	**721100**
Cloth Shop	122700	43172	28622	42991	259836	46728	15951	0	0	0	**560000**
Paan shop	162784	40074	15599	54967	270565	16156	27855	0	0	0	**588000**
PDS Shop	82725	32306	28292	20813	207891	23234	12739	0	0	0	**408000**
Transport	90169	66863	50033	14555	22288	68780	18194	0	0	0	**619000**
Other services	112969	38564	22297	36119	35073	38152	31593	0	0	0	**419410**
Labour M	0	0	0	0	0	0	0	80146	0	0	**2604717**
Labour F	0	0	0	0	0	0	0	0	0	0	**1228293**
Labour income from outside	0	0	0	0	0	0	0	0	0	0	**2182274**
Labour from outside	0	0	0	0	0	0	0	0	0	554911	**2182256**
Capital	0	0	0	0	0	0	0	0	0	-14871956	**9263021**
Small Farmer	0	0	0	0	0	0	0	396000	0	0	**3879429**
Medium Farmer	0	0	0	0	0	0	0	0	0	0	**2043283**
Big Farmer	0	0	0	0	0	0	0	0	0	0	**2057010**
Self employed in non agriculture	0	0	0	0	0	0	0	180000	0	0	**1423202**
Labour	0	0	0	0	0	0	0	828000	0	0	**4744524**
Services	0	0	0	0	0	0	0	72000	0	0	**2170760**
All other Households	0	0	0	0	0	0	0	36000	0	0	**472098**
Village panchayat	70363	23122	15634	10531	0	9281	54069			0	**183000**
Capital A/C	293055	581882	684992	489909	37920	650618	-123622	-1537746	0	363518	**1440525**
From outside the village	0	0	0	0	0	0	0	0	0	0	**158738767**
Total	**3879411**	**2043283**	**2057010**	**1423202**	**4744524**	**2170760**	**472098**	**183000**	**1440525**	**158738767**	