GENDER, OPPORTUNITIES AND EMPOWERMENT: ASPECTS OF RURAL DEVELOPMENT

WORKING PAPER

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Dedicated to
the Memory of
Prof. Amiya Kumar Dasgupta

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Contents

CHAPTER 1

Income, Consumption and Asset Holding Position of Agricultural Labourers in West Bengal

Rathindra Nath Pramanik

The agricultural labourers have been leading a very poor economic life. They have small incomes, even not sufficient to meet their basis civic amenities. In virtual sense, their incomes are so meager that they can provide for only a part of minimum subsistence living. Our objective is to study the sources, composition and pattern of income and consumption of agricultural labourers across the villages of Uttar Dinajpur District of west Bengal. In addition, an attempt has been made to study the housing conditions and possession of consumer durables by the agricultural labour households.

It is a micro level study based on six villages of Uttar Dinajpur District. Total of 180 agricultural labour households were interviewed for collection of data regarding their income sources during 2004-05.

This paper is divided into five sections. The second section includes sources, composition and pattern of income. In the third section, consumption pattern of agricultural labourers has been discussed and in the fourth section, housing conditions and asset holding position of agricultural labourers have been discussed. The fifth section includes conclusion and suggestions

The living conditions of agricultural labourers are miserable because of low level of wages and income. Their main source of income is hiring out labour in agriculture. The share of income from non-agricultural activities is very marginal. They spend major part of their income on food items as compared to non-food items. Out of food items, they spend major part of their income on food grains. The share of expenditure on pulses and meat is very marginal. They did not get the minimum amount recommended by ICMR. They suffer from poverty and malnutrition. About 77.78 percent labourers live below the poverty line in this district. Most of them live in just one-room kutcha houses with no facility of kitchen, bath-room and latrine, drinking water and electricity.

The agricultural labourers have been leading a very poor economic life. They have small incomes, even not sufficient to meet their basis civic amenities. In virtual sense, their incomes are so meager that they can provide for only a part of minimum subsistence living. They do not have even the minimum clothing, education and medical facilities. Basic needs (BN) include two elements (ILO, 1976). First, they include certain minimum requirements of a household for private consumption: adequate food, shelter and clothing, as well as household equipment and furniture. Second, they include essential services provided by and for the community at large, such as safe drinking water, sanitation, health and education facilities. Our study indicated that the agricultural labourers far below the poverty line in extreme poverty were incapable of buying or producing the minimum food requirements of the basket because of two reasons: low employment availability and low wages, far below the minimum wages prescribed by the Government.

Our objective is to study the sources, composition and pattern of income and consumption of agricultural labourers across the villages of Uttar Dinajpur District of west Bengal. In addition, an attempt has been made to study the housing conditions and possession of consumer durables by the agricultural labour households.

It is a micro level study based on six villages of Uttar Dinajpur

District. First we have stratified the blocks of Uttar Dinajpur District into three strata according to their level of development. These three strata represent highly developed, moderately and least developed blocks. Then two blocks have been randomly selected. Next one village from each of these blocks i. e. total six villages has been selected. We have selected 30 households together from the categories of landless agricultural labourers and marginal farmers cum agricultural labourers from each village. So total of 180 agricultural labour households were interviewed for collection of necessary data during 2004-05.

This paper is divided into five sections. The second section includes sources, composition and pattern of income. In the third section, consumption pattern of agricultural labourers has been discussed and in the fourth section, housing conditions and asset holding position of agricultural labourers have been discussed. The fifth section includes conclusion and suggestions.

II

Pattern of Income

The total income of agricultural labour households is a function of the wage rate and number of days of employment. In the prevailing situation of wide spread unemployment and underemployments, the total incomes of agricultural labourers are bound to be low. The table 1 shows that an average agricultural labour household earns annually about Rs. 14235.77 in Uttar Dinajpur District. However, there are considerable variations in the income levels of agricultural labour households across the villages of Uttar Dinajpur district. For example, at Dharampur and Jagatagaon – villages under least developed blocks, agricultural labourers have recorded highest annual average income of about Rs. 15520.37 and Rs. 15515.31 from different sources of livelihood. The average annual income of agricultural labour household at Delwalpur and Malan – villages under highly developed blocks are only Rs. 14667.83 and Rs. 12 773.68. Similarly, the average annual income of agricultural

Table 1: Average Annual Household Income Received from Different Sources in Rupees Across the Villages of Uttar Dinajpur District

Sources	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jagatagaon	All Villages/ Uttar Dinajpur
1. From hiring out labour in agriculture	9132 (62.26)	811.50 (68.98)	8981 (66.12)	9185.50 (68.78)	8045.67 (51.84)	11446.50 (73.78)	9267.03 (65.10)
2. From cultivation	2383.33 (16.25)	1820.67 (14.25)	2251.33 (16.58)	1640 (12.28)	2362.67 (15.22)	431.67 (2.78)	1814.95 (12.75)
3. From hiring out labour in non-agriculture	1748.84 (11.92)	1448.67 (11.34)	1774 (13.06)	1042.83 (7.81)	3678.33 (23.70)	2528 (16.29)	2036.78 (14.31)
4 Business and household enterprises	925.33 (6.31)	383.67 (3.00)	250.66 (1.85)	914.96 (6.85)	820.20 (5.28)	429.14 (2.77)	620.66 (4.36)
5. Others	478.33 (3.26)	309.17 (2.42)	325 (2.39)	572.13 (4.28)	613.50 (3.95)	680 (4.38)	496.36 (3.490)
Total	14667.83 (100.00)	12773.68 (100.00)	13581.99 (100.00)	13355.42 (100.00)	15520.37 (100.00)	15515.31 (100.00)	14235.77 (100.00)
Per capita income	3235.55	2756.90	2877.35	2725.59	3189.12	3324.69	3018.20

Source: Field Survey

labourers at Tilna and Nakol – villages under moderately developed blocks are Rs 13581.99 and 13355.42 from different sources of livelihood. The per capita income of an agricultural labourer is worked out to be Rs. 3324.69 at Jogatagaon and Rs 3189.12 at Dharampur – villages under least developed blocks, Rs. 3235.55 at Delwalpur and Rs. 2756.90 at Malan – villages under highly developed blocks and Rs. 13581.99 at Tilna and Rs.2725.59 at Nakol – villages under moderately developed blocks. The average annual income and per capita income is found to be higher in least developed blocks as compared to highly developed blocks and moderately developed blocks. There are some reasons. At Dharampur, about 50 percent of agricultural labourers reported that they went out side state mainly Punjab, Haryana, Delhi for hiring out their labour in various industries. They stay there 5-6 months and earn some money. After 5-6 months, they return home and again engaged in agriculture. Some labourers reported that they went nearby town Dalkhola and siliguri to work as a rickshaw puller and as a day labourer in towns and various factories for 5-6 months. The wage rate in non-agricultural activities is higher than the agricultural activities. This will increase the annual income of agricultural labourers in this village. At Jagatagaon, 50 percent of the agricultural labourers engaged in tea garden works for 5-6 months. The wage rate of tea garden work is little higher than the wage rate of crop cultivation and did not vary with the seasonal change. The tea garden work also ensures regularity of employment of agricultural labourers for 5-6 months in this village. Some workers also reported that they went outside the state to get the work in various manufacturing industries for 5-6 to six months. These are helped to increase the average annual income of agricultural labourers of these villages.

The relative shares of individual components of income are given in table 1. It is clear from the table that the main source of income in the case of an average agricultural labour household is hiring out labour in agricultural sector. As already observed, an average agricultural labour household earns 65.10 percent of the total income

from this source in this district. The second important source of income is hiring out labour in non-agricultural sector. About 14.31 percent of the total income is earned from hiring out labour from non-agricultural sector in this district. The third important source is cultivation (12.75 percent) followed by business and household enterprises (4.36 percent). However, there are some differences in the relative shares of income across the villages of Uttar Dinajpur District. For example, an average agricultural labour household at Jagatagaon earns more than 73 percent of total income from hiring out labour in agriculture, more than 16 percent from hiring out labour from non-agriculture sector and only 2.78 percent from cultivation. At Dharampur, the share of wage income from hiring out labour in agriculture in total income is 51.84 percent, which is lower than all other villages but the share of wage income from hiring out labour from non-agriculture sector in total income is 23.70 percent, which is higher than all other villages of Uttar Dinajpur District. This is due to the fact that 50 percent of agricultural labourers of this village went outside the state for work and engaged in different non-agricultural activities, which ensures higher wage rates. And this village is also located near the Kishanganj town and location of the village increases the scope of non-agricultural activities, which increases the share of non-agricultural wage income in total income. The share of income from business and household enterprises is recorded highest i. e. 6.31 percent and 6.85 percent at Delwalpur and Nakol. At these villages, agricultural labourers engaged in various business activities like the business of rice husking. They purchase paddy from the market and converted into rice, sale these in the market and earn some money. At the same time, Women labourers supplement their income by producing village hand made goods such as basket making or jhuri making and Dhokra or mat making etc. The share of income from cultivation in total income is highest (16.58 percent) at Tilna followed by Delwalpur (16.25 percent), Dharampur (15.22 percent) and Malan (14.25 percent). This is due to the fact that the share of landed labour households at Tilna (60 percent) is higher than other villages of Uttar Dinajpur District. This is clear from the table that the share of income from

cultivation is second important source of income at highly developed Villages (Delwalpur and Malan) and moderately villages (Tilna and Nakol). Though most of the agricultural labourers are landless in the sample villages of Uttar Dinajpur District, they are now taking lease land for one crop from the landlords or employers under fixed rate tenancy system. This will enhance the share of income from cultivation in total income of labourers. The system of cultivation under fixed rate tenancy rather than share cropping system is widely prevalent in different villages of Uttar Dinajpur district. Under the share cropping system, there is more risk of recording the name of sharecroppers and the risk of production is to bear both by landowner and sharecroppers. Under such situation, the landowner interested to keep their land lying vacant instead of lease out their land to landless labourers and marginal farmers. But under fixed rate tenancy system, both landowner and agricultural labourers reported that they are benefited under this system. Their income increases, which improves their standard of livings. Under this system, the risk of recording the name of agricultural labourers as sharecroppers is less because the landowner lease out their land only for one crop and risk of production is not bear by landowner. This system is more found for boro paddy cultivation. The agricultural labourer increases their income by taking lease in land from their employers or from other landowners.

Poverty among Agricultural Labourers

The term poverty may be defined as inability of an individual to meet certain minimum desirable level of living. All those people who live below this minimum desirable level of living are said to living below the poverty line. The poverty line worked out by Dandekar and Rath is Rs. 180 per capita per annum at 1960-61 prices for the rural areas (Dandekar and Rath, 1971). The planning Commission estimated Rs. 327.56 per capita per month as the basic minimum needs for the year 1999-00 for the rural poor. On the basis of estimation, the minimum level of income for an average household with five members at the state level is worked out to Rs. 19653.6 per annum for the year 1999-00 for the rural areas.

Households below this floor level of income are treated as families living below poverty line (BPL). Households above this income level are called as Above Poverty Line (APL) households. It is observed from the table 2 that 77.78 percent of the sample households of this district are seen in BPL category. However, there are considerable variations in the percentage of households living below poverty line across the villages of Uttar Dinajpur District. It is found that a higher percentage of sample households in villages under moderately developed blocks are having below poverty line as compared to that in villages under highly developed and moderately developed blocks. In percentage terms, it comes to 83.33 and 90 at Tilna and Nakol – villages under moderately developed blocks. At villages under highly developed blocks mainly Delwalpur and Malan, the figures are 73.33 percent and 76.67 percent where as villages mainly at Jogatagaon and Dharampur under least developed blocks, it becomes 73.33 percent and 70 percent. So labourers lived in villages under least developed blocks are better off than the moderately developed blocks and highly developed blocks.

III

Food Consumption

The per capita availability of food determines the working capacity and efficiency of agricultural labourers. It is an established fact that deficiency in food availability retards the physical, social and economic growth of people. Per capita availability of food among sample labour households varied on seasonal and even day-to-day basis due to uncertainty in income and employment of labourers. But in our study areas, most of the sample households maintain a uniformly good diet from day to day. The food intake of agricultural labour households was measured in two ways. Firstly, the number of times consumed a particular food items by a household during the month prior to interview. This is shown in table 3. From the table 3, it is clear that an average agricultural labourer did not get two square meals in a day through out the year. In some months,

Table 2: Proportion of Agricultural Labour Households Below Poverty Line Across the Villages of Uttar Dinajpur District

	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
Proportion of Labour Households Below Poverty Line	22(73.33)	23(76.67	25(83.33)	27(90.00)	21(70.00)	22(73.33)	140(77.78)
Proportion of Labour Households Above Poverty Line	8(26.67)	7(23.33)	5(16.67)	3(10.00)	9(30.00)	8(26.67)	40(22.22)
Total	30(100.00)	30(100.00)	30(100.00)	30(100.00)	30(100.00)	30(100.00)	180(100.00)

Source: Field Survey

Table 3: Average Number of Times Consumed a Particular Items Per Capita per Month

Items	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
Cereals	59.25	55.83	58.30	57.75	59.30	58.85	58.22
Pulses	10.13	6.9	8.6	7.02	15.9	9.6	9.69
Edible Oil	59.25	55.83	58.33	57.75	59.30	58.85	58.22
Vegetables	57.30	50.54	56.40	54.45	58.75	57.10	55.76
Milk	1.48	.78	.8	1.27	.79	.77	.98
Meat	.58	.27	.44	.38	1.62	.36	.61
Sugar	7.83	3.63	7.76	5.68	9.6	8.4	8.82
Fish	4.75	4.5	3.9	5.03	5	3.5	4.45

Source: Field Survey

some agricultural labourers take one principal meal and labourers in an average have taken pulses 9.69 times in a month. The average number of times of pulse consumption was highest at Dharampur (15.9 times per month) because this village is located near Bihar. There is some tendency among Biharees to consume more amounts of pulses. The average number of times of pulse consumption was lowest at Malan (6.9 times per month) – a village under highly developed blocks due to low level of incomes. The average number of times of consumption of meat was also highest at Dharampur (1.62 times per month) because of high average income level and this village is Muslim dominated village. The price of beef meat is less than half of the goat meat. As a result they are able to eat meat every month of a year. In other villages, labourers are not able to purchase meat in every month. They ate goat meat two or three times in a year because of high prices of goat meat. The average number of times of fish consumption is 4.53 times in a month in all villages of Utar Dinajpur District. Here labourers consume fish by both buying and catching fish. The average number of times of fish consumption is highest at Nakol (5.03 times) in a month because this village is comparatively wet village as compared to other villages. As a result, the labourers consume fish mostly by catching instead of buying.

Secondly, in order to get an idea about availability of food to agricultural labourers, we examined the per capita per day food availability to agricultural labourers. The daily diet of the majority of the population is mainly based on cereals, pulses, vegetables, milk, sugar, fats and oils, flesh food. The main cereals in the study areas are rice and wheat but they reported that they consumed wheat occasionally mainly during harvesting periods of wheat. Most of the agricultural labourer reported that they consume sugar and jaggery on festival / occasions. Only few labourers reported that they use sugar in tea, in milk for children feeding. The commonly used spices were red and green chilies, cumin, turmeric, coriander seeds, mustard seeds, garlic and ginger, black pepper. The commonly consumed fruits were mango, jackfruits, banana, litchi, dates guava, orange etc.

The per capita per day cereals intake is 462.50 grams in all villages of Uttar Dinajpur District, which is slightly higher than the intake of 460 grams per capita per day recommended by ICMR (1989). Increasing areas under boro production (HYV seeds) in the study areas increases the per capita per day availability of cereals intake of agricultural labourers. But this figure varies across the villages of Uttar Dinajpur District. The per capita per day cereals intake was highest at Dharampur (483.70 grams) – a village under least developed blocks followed by Delwalpur (480.47 grams) and Jogatagaon (470.14 grams). In the case of villages under least developed blocks mainly Tilna and Nakol, the per capita per day cereals intake is less than the figure recommended by ICMR (1989). Pulses are important sources of proteins. Bengal gram (chana), green gram (moong), lentil (masoor) and red gram (arhar) are the main pulses available to the people of this district. But high prices of pulses are beyond the levels of purchasing power of agricultural labourers. The result has been a sharp decline in quality and quantity of the protein diet of the labourers. The per capita per day availability of pulses to the agricultural labourers in this district is very low; therefore, pulses have little share in the daily available food. Pulses (6.39 grams) have contributed only1.01 percent of the total food availability. The per capita per day availability of pulses is higher at Dharampur (8.82 grams) and Jogatagaon (8.20 grams) – villages under least developed blocks and Delwalpur (8.27 grams) – village under highly developed blocks as compared to other villages of this districts. The per capita per day consumption of pulses (6.39 grams) in this district is only 15.98 percent of the recommended minimum requirement (40 grams). The common vegetables found in the study villages found were leafy vegetables, brinjal, ladies finger, tomato, cauliflower, potato, carrot, pumpkin, papya, jackfruits etc. Per capita per day availability of vegetables (127.79 grams) have contributed 20.12 percent of the total daily food availability. The diet is highly deficient in milk (96.17 percent), meat (91.67 percent), pulses (84.03 percent), edible oil (80.28 percent), sugar (80.07 percent) and fish (72.60 percent) in fish. A moderate deficiency is found in vegetables (20.13 percent). But

Table: 4: Average Amount of Food available Per Capita per day among Agricultural Labourers in Uttar Dinajpur District

Food Items	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages	Require-ment (Grams)	Departure from Reqt. Grams Percent
Cereals	480.47 (71.14)	463.10 (74.56)	438.49) (74.48	439.10 (73.99)	483.70 (71.83)	470.14 (71.31)	462.50 (72.81)	460	2.5 .54
Pulses	8.27(1.22)	4.25(.68)	3.71(.63)	5.09(.86)	8.82(1.31)	8.20(1.24)	6.39(1.01)	40	-33.61-84.03
Vegetables	138.66 (20.53)	122.82 (19.77)	115.53 (19.62)	112.73 (19.00)	131.60 (19.54)	145.41 (22.05)	127.79 (20.12)	160	-32.21-20.13
Milk	4.03(.60)	3.61(.58)	1.84(.31)	5.70(.96)	5.25(.78)	2.56(.39)	3.83(.60)	100	-96.17-96.17
Edible Oil	8.69(1.29)	6.40(1.03)	7.50(1.27)	7.95(1.34)	8.78(1.30)	8.00(1.21)	7.89(1.24)	40	-32.11-80.28
Sugar	8.68(1.29)	2.69(.43)	4.28(.73)	3.46(.58)	9.41(1.40)	7.33(1.11)	5.98(.94)	30	-24.02-80.07
Fish	11.58(1.71)	8.55(1.38)	6.57(1.12)	7.27(1.23)	9.03(1.34)	6.34(.96)	8.22(1.29)	30	-21.78-72.6
Meat	2.34(.35)	1.02(.16)	1.53(.26)	1.76(.30)	5.92(.88)	2.42(.37)	2.50(.39)	30	-27.5-91.67
Others	12.67 (1.88)	8.68(1.40)	9.26(1.57)	10.78(1.75)	10.92(1.62)	8.92(1.35)	10.14(1.60)	-	-

Source: Field Survey

the per capita availability of cereals is surplus (.54 percent) in Uttar Dinajpur District.

The intakes of two principal nutrients, vize calories and protein have been examined across the villages of Uttar Dinajpur District. The per capita per day intake of calories and protein are presented in table 5. The average calories intake of agricultural labourers of Uttar dinajpur District is far short of the requirement judge by any norms. The minimum calorie requirement per capita per day depends upon a number of variables like age, sex, body weight, occupations etc. To determine calorie requirement, different individual economists, committee, commission provides different figures because. Dandekar and Rath had taken 2, 250 calories per capita per day as the minimum requirement. The Planning Commission now defined a 'poverty line' on the basis of recommended nutritional requirements of 2400 calories per capita per day for rural areas and 2, 100 calories per capita per day in urban areas.

As against this minimum requirement, the actual intake is 1, 798.83 calories per capita per day, the deficiency works out to be more than 25 percent in Uttar Dinajpur District. This calorie deficiency varies across the villages of Uttar Dinajpur district. The average daily intake of calories among agricultural labourers is highest at Dharampur (1913.30 calories) followed by Delwalpur (1884.56 calories), Jogatagaon (1839.86 calories), Malan (1752.97 calories), Nakol (1697.11 calories) and Tilna (1677.31 calories). The deficiency in calorie requirement works out to be 20.28 percent at Dharampur, 21.48 percent at Delwalpur, 23.34 percent at Jogatagaon, 26.96 percent at Malan, 29.98 percent at Nakol and 30.11 percent at Tilna. The deficient in calorie requirement is lowest at Dharampur because of high per capita consumption of cereals, pulses, meat, and sugar.

So the calorie intake is very much below our modest norms in our study areas. This reflects under nutrition and the distress conditions of agricultural labourers of Uttar Dinajpur District. The level of under-nourishment should bring out sharply the abject poverty to

Table 5: Average Amount of Calories and Protein Intake available Per Capita per day among Agricultural Labourers in Uttar Dinajpur District

Items	Delwalpur		Malan		Tilna		Nakol		Dharampur		Jogatagaon		All Villages	
	Cal-ories	Prot-ein	Calo-ein	Prot-ein	Cal-ories	Prot-ein	Cal-ories	Prot-ein	Cal-ories	Prot-ein	Cal-ories	Prot-ein	Cal-ories	Prot-ein
Cereals	1662.42	28.83	1602.33	27.79	1517.18	26.31	1519.27	26.35	1673.60	29.02	1626.68	28.21	1600.25	27.75
Pulses	28.37	2.07	14.58	1.06	12.72	.93	17.46	1.27	30.25	2.21	28.13	2.05	21.92	1.60
Vegetables	54.49	3.88	48.27	3.44	45.40	3.23	44.30	3.16	51.72	3.68	57.15	4.07	50.22	3.58
Milk	2.70	.12	2.42	.11	1.23	.06	3.82	.17	3.52	.16	1.72	.08	2.57	.11
Edible Oil	78.21	0	57.6	0	67.5	0	71.55	0	79.02	0	72	0	71.01	0
Sugar	34.59	0	10.71	0	17.03	0	13.77	0	37.45	0	29.17	0	23.80	0
Fish	12.74	2.00	9.41	1.50	7.23	1.14	7.98	1.26	9.93	1.56	6.97	1.10	9.04	1.42
Meat	4.54	.42	1.98	.18	2.97	.28	3.41	.32	11.48	1.07	4.69	.44	4.85	.45
Others	18.96	.62	12.97	.05	13.85	.07	15.53	.50	16.33	.54	13.35	.44	15.17	.50
Total	1897.02	37.94	1760.27	34.13	1685.11	32.02	1697.11	33.03	1913.30	38.24	1839.86	36.39	1798.83	35.41

Source: Filed Survey

which this group is condemned. Similarly the intake of proteins is found to be lower than the minimum requirement recommended by FAO/WHO expert groups. The protein available per capita per day among agricultural labourers is 36.39 grams, which is 39.35 percent lower than the recommended requirement (60 grams). The main sources of protein in the study areas are cereals, vegetables and pulses. The cereals, vegetables and pulses contributed 34.33 grams protein out of a total 36.39 grams protein per capita or a little over 94.34 percent of the total. The per capita availability of protein varies across the villages of Uttar Dinajpur District. The per capita per day protein intake is highest (38.24 grams) at Dharampur followed by Delwalpur (38.08 grams), Jogatagaon (36.39 grams), Malan (34.14 grams), Nakol (33.03 grams) and Tilna (32.02 grams). In brief, the protein intakes among the agricultural labourers in all villages of Uttar Dinajpur District leave nothing to be desired. It would appear from the foregoing analysis that agricultural labourers were found to be deficient in both calories and proteins.

Consumption Expenditure

Income, no doubt is one of the criteria of measuring the economic status of a household. Yet, studies have shown consumption expenditure as a better measure in this regard. Studies (Nayak and Prasad, 1984) have confirmed the view that the level and pattern of consumption expenditure are better yardstick to measure the standard of living / economic status of a household. By correlating income with consumption expenditure, we can also know the adequacy / inadequacy of income to maintain a reasonable standard of living. Taking all these into account, data on the level and pattern of consumption expenditure of the sample agricultural labour households are analyzed in this section.

The average levels of household consumption expenditure, per capita consumption expenditure, distribution of consumption expenditure between food and non-food items are analyzed in this section. Table 6 gives the mean values of consumption expenditure of agricultural

labourers across the villages of Utar Dinajpur District. On an average an agricultural labour household spends of Rs. 16379.11 annually on different items of consumption in Uttar Dinajpur district. However, there are considerable variations in the household consumption expenditure across the villages of Uttar Dinajpur District. For example, the household consumption expenditure is highest at Dharampur (Rs. 17282.84) – a village under least developed blocks followed by Delwalpur (16,860.64) – a village under highly developed blocks and Tilna (16,851.90) – a village under moderately developed blocks.

The estimation of per capita consumption expenditure has been necessitated to get a better picture on the level of living of agricultural labourers in the study area. The average per capita consumption expenditure of agricultural labourers is shown in table 7. The per capita consumption expenditure of agricultural labourers at Delwalpur is Rs. 3457.04, which is higher than all other villages of Uttar Dinajpur Distict. But per capita expenditure on food items at Dharampur (Rs. 2293.29) is higher than all other villages of Uttar Dinajpur District. This may be due to higher average household income and lower family size. The analysis carried out in terms of absolute values does not give a correct picture of the pattern of consumption, since average consumption levels of the six villages are different. In such a situation, the consumption pattern may better be studied by comparing the relatives shares of individual items of consumption in the total consumption expenditure of agricultural labour households in the district.

The table clearly shows that in Uttar Dinajpur the expenditure on food items accounts for the major proportion of the total consumption expenditure, followed by clothing, health, washing and toilet articles. Agricultural labour households spend about 64.28 percent of their total consumption on food items in this district. Out of food items, an average agricultural labour household spends about 44.27 percent on food grains. The percentage share of expenditure on food grains will decline with the increase in level of income but the share of expenditure will increase on pulses, meat. Agricultural labourers of

Table 6: Average amount of Consumption Expenditure per Households Per Annum Across the Villages of Uttar Dinajpur district

Items	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
Cereals	6360.14(40.58)	6264.28(44.10)	6359.24(42.17)	6282.64(42.64)	6873.71(41.53)	6406.45(41.82)	6424.41(42.10)
Pulses	410.33(2.62)	215.47(1.52)	202.07(1.34)	273.55(1.86)	469.80(2.84)	419.20(2.74)	331.74(2.17)
Vegetables	945.33(6.03)	622.40(4.38)	792.80(5.26)	747.50(5.07)	894.13(5.40)	928.93(6.06)	821.85(5.39)
Edible Oil	575.20(3.67)	433.06(3.05)	543.73(3.61)	568.67(3.86)	624(3.77)	544.83(3.56)	548.25(3.59)
Fish	546.13(3.48)	560.00(3.94)	428.27(2.84)	362.47(2.46)	559.33(3.38)	532.14(3.47)	498.06(3.26)
Meat	358.50(2.29)	173.17(1.22)	251.67(1.67)	236.17(1.60)	534.33(3.23)	583.33(3.81)	356.20(2.33)
Tea	233.73(1.49)	140.19(.99)	174.27(1.16)	115.33(.78)	516(3.12)	337.34(2.20)	252.81(1.66)
Sugar	230(1.47)	72.67(.91)	124(.82)	99.10(.67)	267.40(1.61)	199.70(1.30)	165.48(1.08)
Milk	135.60(.87)	61(.43)	33.33(.22)	101.87(.69)	93.17(.56)	43.67(.29)	78.11(.51)
Others	433.23(2.76)	277.95(1.96)	316.37(2.10)	370.36(2.51)	328.77(1.99)	271.27(1.77)	332.99(2.180
Sub-Total	10228.19	8820.19	9225.77	9157.66	11160.64	10266.86	9809.90
	(65.26)	(62.10)	(61.10)	(62.15)	(67.43)	(67.02)	(64.28)
Clothing	1664.80(10.62)	1223.83(8.61)	1396.87(9.26)	1426.00(9.68)	1298.17(7.84)	1279.23(8.35)	1381.48(9.05)
Tobacco	388.27(2.48)	407.60(2.87)	924.67(6.13)	391.73(2.66)	398.80(2.40)	563.10(3.68)	512.36(93.36)
Fuel & Lighting	490.13(3.13)	375.43(2.64)	345.60(2.29)	430.07(2.92)	423.47(2.56)	375.80(2.45)	406.75(2.67)
House Construction	539.33(3.44)	461.67(3.25)	511.67(3.39)	618.33(4.20)	471.67(2.85)	390(2.54)	498.78(3.27)
Education	107.66(.69)	230.67(1.62)	130.67(.87)	196.17(1.33)	330(1.99)	330(2.15)	220.86(1.45)
Health	871.67(5.56)	1076.67(7.58)	855(5.67)	980(6.65)	856(5.17)	616.67(4.03)	876.00(5.74)
Washing	403.33(2.57)	542.71(3.82)	611.20(4.05)	604.20(4.10)	520.53(3.14)	579.10(3.78)	543.51(3.56)
Marriage & Other Ceremonies	538.19(3.43)	638.33(4.49)	677.67(4.49)	609.67(4.14)	641.87(3.88)	633.33(4.13)	623.15(4.08)
Others	440.27(2.81)	428.77(3.02)	400.17(2.65)	320.69(2.18)	450.67(2.72)	285.34(1.86)	387.65(2.54)
Total	15671.84	14205.87	15079.29	14734.52	16551.82	15319.43	15260.44
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Source: Field Survey

Table 7: Per capita Consumption Expenditure Per Annum Among Agricultural Labourers Across the Villages of Uttar Dinajpur District

Items	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
Food grains	1402.97	1352.00	1280.39	1282.17	1412.41	1372.81	1350.46
Pulses	90.51	46.50	40.69	55.83	96.53	89.83	69.98
Vegetables	208.53	134.33	159.62	152.55	183.73	199.06	172.97
Edible oil	126.88	93.47	109.48	116.06	128.22	116.75	115.14
Fish	120.47	120.86	86.23	73.97	114.93	114.03	105.08
Meat	79.08	37.37	50.67	48.20	109.79	125.00	75.02
Milk	29.91	13.17	6.71	20.79	19.14	9.36	16.51
Tea	51.56	30.26	35.09	23.54	106.03	72.29	53.13
Sugar	50.74	15.68	24.97	20.22	54.95	42.79	34.89
Others	95.57	59.99	63.70	75.58	67.56	58.13	70.09
Sub-total	2256.22	1903.63	1857.55	1868.91	2293.29	2200.05	2036.27
Clothing	367.24	264.14	281.25	291.02	266.75	274.12	290.75
Tobacco	85.65	87.97	186.18	79.94	81.95	120.66	107.06
Fuel	108.12	81.03	69.58	87.77	87.01	80.53	85.67
House Construction	118.97	101.84	103.02	126.19	96.92	83.57	105.09
Education	23.75	49.78	26.31	40.03	67.81	70.71	46.40
Health	192.28	232.37	172.15	200	175.89	132.14	184.14
Washing	88.97	117.13	123.06	123.31	106.96	124.09	113.92
Marriage and Other ceremonies	118.72	137.77	136.44	124.42	131.89	135.71	130.83
Others	97.12	92.54	80.57	65.45	92.61	61.14	81.57
Total	3457.04	3068.20	3036.10	3007.04	3401.08	3282.72	3208.70

Source: Field survey

Dharampur and Jogatagaon – villages under least developed blocks spend 3.09 percent and 3.65 percent of their income on meat. But at Delwalpur and Malan – villages under highly developed blocks, agricultural labourers spend about 2.13 percent and 1.10 percent on meat. But at Tilna and Nakol – villages under moderately developed blocks, agricultural labourers spend about 1.49 percent and 1.51 percent on meat. The average households income of agricultural labourers of villages under least developed blocks is higher than the villages under moderately and highly developed blocks.least. It is clear from the above that higher income group labourers spend larger percentage of their income on meat as compared to lower income groups labourers.. Robert Giffen shows that in Ireland, poor people consume more amount of potato when the prices of potato will increase by curtailing the consumption of meat. Due to increase in the price of potato, they reduce the consumption of meat in order to maintain the minimum basic needs. So lower income group people spend less percentage of their income on meat but higher percentage of their income on food grains. But they spend less amount of their income (in absolute sense) on food items as compared to high average income of agricultural labour households of Dharampur, Jogatagaon and Delwalpur. So total expenditure on food items will increase with the increase in average household income because the poor household is not able meet the minimum requirement of food. Increase in income will lead to increase in consumption expenditure on food items.

Among the non-food items, clothing account for the largest proportion of expenditure. This is followed by the expenditure on health, marriage and other ceremonies. Clothing as a basic human requirement is essential for protection against the physical environment and weather and, to maintain the standarity and modesty of life. For a woman, one sari and one blouse are the minimum acceptable covering dimmed necessary for public appearance. Most of the women reported that they used three to five saris and three to four blouses in a year due to lack of money. Many older women were without blouses or petticoats in the study

area. Most of the women reported that they purchase better quality saris and blouses during Durga puja. The per capita expenditure on clothing is Rs. 290.75 per year. An average agricultural labour household spends 9.05 on clothing. The expenditure on clothing is highest at Delwalpur (10.62 percent) followed by Nakol (9.68 percent), Tilna (9.26 percent).

Agricultural labourers are suffering from different diseases like fever and headache, back pain, chest pain, high blood pressure, tuberculosis, small pox, polio and diphtheria and tetanus. They worked in muddy water, in pouring rain as well as under blazing sun. The nature of their agricultural work exposed them in particular health hazards: rice transplanting, increases susceptibility to ailments such as intestinal infections, arthritis, rheumatic joints, lechi bites, respiratory ailments etc. (Mencher and Saradamoni, 1982). To treat illness, all my sample agricultural labour households use allopathic treatment only. Allopathic treatment cures quickly, where as homeopathy or aurvedic treatment take time to cure. When the agricultural labourers were sick, the majority of them went to the village private quack doctors who practiced in the villages. There are some reasons. Even though state health care was free, the cost of transportation, medicines and related problems and the poor quality of treatment itself, caused poor labourers to refrain using the available facilities. The labourers spend 5.74 percent of their total expenditure on health. The per capita expenditure on health is Rs. 184.14 in Uttar Dinajpur District (table 8). The per capita expenditure on health is higher at Malan (Rs. 232.37) as compared to other villages of Uttar Dinajpur District. The agricultural labourers spend large proportion of their expenditure on marriage and other social ceremonies. The dowry system in rural areas increases the expenditure on marriages. The labourers spend 4.08 percent of their income on marriage and other ceremony purposes. The per capita expenditure on marriage and other ceremony purposes is Rs. 130.83. The per capita expenditure on marriage and other ceremony purposes is higher at Malan (Rs. 137.77) as compared to other villages of Uttar Dianjpur District. But agricultural labourers

spend a meager proportion of their total expenditure on the education of their children. Their children will read up to class iv to v. After that period, they employed their children in agricultural activities. So expenditure on education is very small.

Most of the agricultural labourers use firewood, crop residue and cow dung, twigs and dry leaves as a fuel. Labourers collected twigs and dry leaves from fields and distant bush areas. Generally women or girl children collected fuel from fields and spends one or two hours of time every day for this purpose. They generally did not purchase fuels but collected from different places. For lighting purposes, they use kerosene lamp like kupi or herikan. They purchase kerosene oil weekly from ration dealer. They spend 2.67 percent of their total expenditure on fuel and lighting.

IV

Shelter

Housing is a serious problem especially for the rural poor. Houses of agricultural labourers are not convenient to them because they do not give protection completely against wind, rain and cold; they have inadequate lighting and ventilation, no separate arrangement for keeping animals and lack of basic sanitation facilities. Most of the houses are kutcha houses with mud walls and thatched roofs. Table 8 shows that 50 percent of the total houses of agricultural labourers of Uttar Dinajpur District are Kutcha houses with mud walls and 68.80 percent roofs of the houses are thatched roofs. The percentage of kutcha houses with mud walls is highest at Delwalpur (66.67 percent) followed by Tilna (63.33 percent) and Malan (60.00 percent). Agricultural labourers at Delwalpur seem to be economically better off than Malan, Tilna. At Delwalpur, where only 26.67 percent labourers own bamboo slips walls and 83.33 percent labourers own thatch roof. At Jogatagaon and Dharampur, 73.33 percent and 56.67 percent labourers possess bamboo slips wall houses and 80 percent and 86.67 percent roofs are thatch roofs. At these two villages, soils are sandy soils; as a result mud

Table 8: Nature and Availability of Facilities in the Houses Owned by Agricultural Labour Households

	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
1. Nature of Wallsa.							
a. Earth/Mudb.	20 (66.67)	18 (60.00)	19 (63.33)	15 (50.00)	12(40.00)	6(20.00)	90(50.00)
b. Bamboo Slipsc.	8 (26.67)	11 (36.67)	10 (33.33)	13 (43.33)	17 (56.67)	22(73.33)	81(45.00)
c. Concrete	2 (6.67)	1 (3.33)	1 (3.33)	2 (6.67)	1(3.39)	2(6.67)	9(5.00)
2. Nature of Roofsa.							
a.Tinb.	5 (16.67)	4 (13.33)	3 (10.00)	5 (16.67)	4 (26.67)	6(20.00)	27(15.00)
b. Thatchc.	25 (83.33)	26 (86.67)	27 (90.00)	25(76.67)	26(86.67)	24(80.00)	153(85.00)
c. Concrete	-	-	-				
3. Number of Rooms per householdsa.							
a. One roomsb.	12 (40.00)	13 (43.33)	17 (56.67)	14 (46.67)	23 (76.67)	21(70.00)	100(55.55)
b. Two roomsc.	13 (53.33)	12 (40.00)	12 (40.00)	12 (40.00)	5 (16.670)	9(30.00)	63(35.00)
c. Three roomsd.	4 (23.33)	3 (10.00)	1 (3.33)	3 (10.00)	2 (6.67)	-	13(7.22)
d. Four Rooms	1 (3.33)	2 (6.67)	-	1 (3.33)	-	-	4(2.22)
3. Facilities Available per householdsa.							
a. Separate Kitchenb.	14 (46.67)	12 (40.00)	10 (33.33)	11 (36.67)	12 (40.00)	13(43.33)	72(40.00)
b. Bath roomsc.	2 (6.67)	1 (3.33)	2 (6.67)	1 (3.33)	2(6.67)	1(3.33)	9(5.00)
c. Toiletd.	22 (73.33)	20 (66.67)	18 (60.00)	17 (56.67)	14 (46.67)	16(53.33)	107(59.44)
d. Windowse.	20 (66.67	18 (60.00)	15 (50.00)	16 (53.33)	11 (36.67)	12(40.00)	92(51.11)
e. Doorsf.	-	-	-	-	-	-	-
f. Electricity	-	-	-	-	-	-	-

Source: Field Survey

walls are not lasting for a long time. So they form houses with bamboo slips instead of mud walls.

The labourers were further asked about the number of rooms they have their houses. It has been revealed that a large number of labourers (55.56 percent) live in a one-room house in all villages of Uttar Dinajpur District. Village wise also, a majority of labourers at Delwalpur (53.33 percent) have two room houses. But at Jogatagaon and Dharampur, the majority of labourers (70 percent and 76.67 percent) have only one-room houses.

The respondents were further asked about the facilities like kitchen, bathroom, toilet, ventilation, electricity etc. in their houses. Only 40 percent of labourers have the facilities of separate kitchen in their houses in Uttar Dinajpur District. At Delwalpur, 46.67 percent labourers have separate kitchen. But at Jogatagaon, only 43.33 percent labourers have separate kitchen. Only 5 percent of labourers of Uttar Dinajpur District have toilet facilities provided by the Government under Rural Sanitation Programme. But these toilets are not properly maintained as a result these toilets become unfit for use after some times. Most of the labourers habituated to use open field for toilet purposes. The facility of having windows is more prevalent at Delwalpur (73.33 percent) as compared to other villages of Uttar Dinajpur District. At Malan, Animals and their landless owners lived together in the same shark. Some of the huts had bamboo doors and others did not. All the labour households do not have electric facilities.

Possession of Consumers Durables

In the study area majority of the labourers are landless. Only 38.89 percent labourers have cultivable land (table 9). The percentage of landed households is highest at Tilna (60.00 percent) followed by Delwalpur (53.33 percent). It has been revealed from the study that majority of labourers (51.06 percent) possess bicycles. In Uttar Dinajpur District, village wise, at Jogatagaon, 60 percent labourers have a bicycle, which is followed by Delwalpur (56.67 percent), Nakol (53.33 percent) and Dharampur (46.67 percent). This is

followed by furniture (46.11 percent), watch (13.33 percent) and radio (12.22 percent). Televisions are owned by only 4 four families, comprising one from Delwalpur, another one from Nakol and two from Jogatagaon. Possession of bicycle, radio and furniture is almost equally distributed among the labourers from different villages. Among the live stock assets, most of the labourers (32.22 percent) are rearing duck. This is followed by goats (28.33 percent), Poultry birds (24.44 percent), cows-not-in-milk (22.22 percent) and cows-in-milk (18.89 percent). Possession of live stock assets is not equally distributed among the labourers from different villages. For example, 76.67 percent labourers at Delwalpur are rearing ducks but at Jogatagaon and Dharampur, only 3.33 percent labourers are rearing ducks.

V

Conclusion and suggestions:

The living conditions of agricultural labourers are miserable because of low level of wages and income. Their main source of income is hiring out labour in agriculture. The share of income from non-agricultural activities is very marginal. They spend major part of their income on food items as compared to non-food items. Out of food items, they spend major part of their income on food grains. The share of expenditure on pulses and meat is very marginal. They did not get the minimum amount recommended by ICMR. They suffer from poverty and malnutrition. About 77.78 percent labourers live below the poverty line in this district. Most of them live in just one-room kutcha houses with no facility of kitchen, bath-room and latrine, drinking water and electricity.

To improve the economic conditions of agricultural labourers, employment opportunities should be increased in the rural areas both in the agricultural and non-agricultural sector. As our rural economy is based on agriculture, development of agriculture sector is essential to increase the employment opportunities in agriculture and allied sector. Through the establishment of small and cottage industries in the rural areas, scope of non-agricultural employment

Table 9: Possession of Consumer Durables Goods and Live Stock Assets by Agricultural Labour Households

A. Name of Durables	Delwalpur	Malan	Tilna	Nakol	Dharampur	Jogatagaon	All Villages
1. Land	16 (53.33)	12(40.00)	18(60.00)	12(40.00)	7(23.33)	5(16.67)	70(38.89)
2. Radio	5 (16.67)	3(10.00)	6(20.00)	3(10.00)	3(10.00)	2(6.67)	22(12.22)
3. Watch	7 (23.33)	2(6.67)	5(16.67)	4(13.33)	3(10.00)	3(10.00)	24(13.33)
4. T. V.	1(3.33)	-	-	1(3.33)	-	2(6.67)	4(2.22)
5. Furniture	13(43.33)	12(40.00)	9(30.00)	11(36.67)	20(66.67)	18(60.00)	83(46.11)
6. Bicycle	17(56.67)	13(13.33)	13(43.33)	16(53.33)	14(46.67)	18(60.00)	91(51.06)
B. Live Stock Assets							
1.Cows in Milk	8(26.67)	3(10.00)	7(23.33)	5(16.67)	6(20.00)	5(16.67)	40(22.22)
2. Cows Not in Milk	8(26.67)	8(26.67)	10(33.33)	5(16.67)	7(23.33)	2(6.67)	51(28.33)
3. Goat	18(60.00)	8(26.67)	19(63.33)	3(10.00)	2(6.67)	1(3.33)	51(28.33)
4. Pigs	-	1(3.33)	4(13.33)	2(6.67)	-	-	7(3.89)
5. Poultry Birds	4(23.33)	10(33.33)	2(6.67)	17(56.67)	11(36.67)	1(3.33)	44(24.44)
6. Ducks	23(76.67)	12(40.00)	18(60.00)	3(10.00)	1(3.33)	34(18.89)	58(32.22)

Source: Field Survey

will increase in the rural areas. Recently Government introduced MGNREGA to provide 100 days of employment per rural household who are willing to do unskilled job. But the progress of implementation of this employment programme is not satisfactory. So emphasis should be given on proper implementation of this programme to generate employment opportunities in the rural areas.

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CHAPTER 2

Trade Reform, Environment and Intermediation: Implication for Health Standard

Biswajit Mandal

Abstract

Health standard of a region or economy significantly depends on environmental quality. Informal sector has a noteworthy role for overall environmental quality as sometimes producers prefer not to produce in the formal sector as formal production calls for stringent environmental and other governmental regulations. Under such circumstances the informal counterpart of the economy becomes heaven for those producers who do not want to abide by the rules. Extralegality of informal production, by definition, indicates the emergence of intermediation activity. In light of these concerns here I build a standard general equilibrium structure to capture these phenomena and to focus on the effects of trade reform. It has been shown in this paper that tariff reform may lead to greater usage of abatement technology under certain factor intensity assumption. However, interestingly, this can not unambiguously ensure a better environmental quality in broader sense.

Keywords: Environment, International Trade; Intermediation; General Equilibrium.

JEL classification: O13, F1, D73, D5

Introduction

Broadly speaking general health standard and health related problems are intertwined with the environmental standard of a country in particular. And on the other hand the nexus between trade and environment related issues are in the forefront of economic research for quite a long time. Huge numbers of papers are produced concerning the world wide panic of environmental degradation that may arise due to non-usage of environmentally sound technology of production. Trade theorists more often than not look at such concerns from the perspective of globalization. A representative sample consists Anderson and Neary (1992), Barrett (1994), Beghin *et al* (1997), Conrad (1993), Copeland (1994), Hoel (1997), Markusen *et al* (1993), Motta and Thisse (1994), Neary (2005), Rauscher (1994, 1997), Ulph (1997), Ulph and Ulph (1996) *et al*. Surprisingly a relatively less attempt (Chaudhuri and Mukhopadhyaya, 2011; Biswas *et al*, 2012; Chung and Chung, 2012) has been made to analyse an important aspect of developing economy in particular and world economy in general, corruption which naturally co-exists with trade and environment related problems. Therefore trade and environmental issue must have some inference for health standard of an economy which almost a neglected area of research.

Sometimes stringent environmental regulation induces firms to go beyond the formal setup or sector and to continue production in the informal sector[1] where environmental strictures are not so binding

[1]Informal sector is an important ingredient of the contemporary world economy particularly in the developing regions as this segment occupies a formidable chunk of the unskilled labor force. This sector covers primarily the non-agricultural employment of unskilled labor. It accounts for 50-80% of total employment in South Asia, 30-50% in South East Asia, 40-50% in Africa, 55% in Latin America and Caribbean, 24% in Southern Europe, 10% in Western Europe, 18% in Canada and 8% in USA (ILO, 2002) . Yet, informal sector's jobs are not considered as respectable ones. The main derogatory feature of informal sector is its extra-legality or illegality by law since it does not conform to government regulations. These units do not abide by labor regulations of the government, and do not pay taxes. In fact a large part of it would have vanished if they had to confront government regulations. The paucity of legal protection makes the informal sector an easy pray for extortion and corruption. It has been reported in Ethiopia

that the urban informal sector of this rural country is comprised of almost one million people and is vastly distorted with extortion. While Morocco experiences an annual loss of $ 3.6 billion because of lack of transparency related extortion/ corruption/bribe (Drakard, 2009).

or non-existent. Since informal production itself is not permitted by law, it becomes a happy hunting ground for extortionists who actually negotiate between producers and bureaucratic officials or government representatives. In exchange of this service they demand pecuniary benefit which by definition is DUP activities (Bhagwati, 1982) in nature. This paper focuses on such concerns in light of a reformatory trade policies in a general equilibrium theoretical model. And subsequently try to look at the possible ill effects on health, if any, of a reformatory trade policy. The basic results that I derive here:

(a) tariff reform may lead to greater usage of abatement technology under certain factor intensity assumption;

(b) a tariff cut can not unambiguously ensure a better environmental quality and health standard, per se in broader sense.

The rest of the paper is arranged as follows. Section 2 builds the basic model and talks about the solution mechanism. Effects of tariff reform are discussed in Section 3. Section 4 concludes the paper.

The Model

There are three goods *X, Y* and *Z* produced in the neo-classical framework using four factors such as skilled labor *(S)*, unskilled labor (L) and two types of capital (K and T). K is perfectly mobile across X and Y but T is specific to Z. X and Y are produced in the formal set up whereas Z is produced in the informal set up[2]. The point to be noted very carefully is that the moment producers shift

[2]For details about the way we define informal sector see Marjit and Kar (2011).

from formal to informal sector they are denied the formal capital/ credit represented by K. They bank on informal credit, T. In addition both X and Y require another intermediate input as abatement technology which is not needed in Z. That is the way we bring in informality and environment together. Furthermore, S is specific to X and gets Ws as wage. L is mobile between Y and Z. Unskilled labors (L) are unionized in Y. They get $\overline{W}$ as their wage. K gets identical return r across X and Y while T gets R in Z. Who are not fortunate enough to work in Y, have to go out of the formal segment. Producers of Z need to comply with some institutional and political menace as it is an extra-legal, if not illegal, activity. To combat such menace producers obtain service of intermediaries who actually watch out for institutional perils. Their marginal productivities in terms of the volume of goods are zero though they get positive return for their work[3]. However, without such an arrangement production of Z could not have taken place. We call sector Z as informal productive sector. Therefore, in a nutshell production can take place anywhere between formal and informal segments. Production in informal sector requires less costly labor as $\overline{W} > W$ but possible return to capital is higher as informal units are not entitled to get loans from legal or government recognized sources. On top of that they need to, however, rely on intermediation activity as informal production does not abide by environmental regulation. This is reflected by the non-existence of abatement cost and existence of cost of intermediation or extortion in form of α in tandem. resembles an ice-berg kind of cost. Therefore the amount lost from Z is entirely spent for employing intermediators who actually negotiates with administrators for the survival of environment non-friendly sector Z. Intermediation is done only by unskilled labor. Let L_N be the people and N be the sector representing intermediation/extortion. The return to extortionists,

[3]We can coin this sort of intermediations as directly unproductive profit-seeking activities (Bhagwati, 1982). This is the concept of corruption and/or related extortion that we are going to use in our model.

is identical with with competitive informal wage, W. Perfect labor mobility between Z and N ensures this equality.

We have a small open economy with competitive markets for production as well as for extortions related intermediation or corruption. Competitive corruption market implies that the lost output due to intermediation is fully exhausted in paying out extortionists. Moreover, we have the standard neo-classical assumptions of constant returns to scale and diminishing return to factors. The following set of equations describes the model and the interpretations of symbols are usual and well used in trade models (Jones, 1965, 1971)[4]. Y is the importable commodity and subject to a tariff t[5]

Competitive commodity market guarantees the following equalities:

$$W_S\, a_{SX} + r\, a_{KX} + \mu\, a_{CX} = P_x \qquad (1)$$

$$\bar{W} a_{LY} + r\, a_{KY} + \mu\, a_{CY} = P_Y(1+t) \qquad (2)$$

$$W a_{LZ} + R\, a_{TZ} = P_Z(1-\alpha) \qquad (3)$$

μ is the per unit price or cost of abatement technology or cleansing act. a_{CX} and a_{CY} represent how much unit of abatement technology is required to produce one unit of environment friendly X and Y respectively. μ, a_{CX} and are given and constant.

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[4]The symbols that would be used extensively in this paper are: $P_j \Rightarrow$ price of the j[th] commodity (*j= X, Y, Z*); $W_S \Rightarrow$ skilled wage; $\bar{W} \Rightarrow$ unskilled formal wage; $W \Rightarrow$ unskilled informal wage; $r \Rightarrow$ rate of return to *K;* $R \Rightarrow$ rate of return to *T;* $a_{ij} \Rightarrow$ production requirement of the i[th] factor in one unit of j[th] commodity *(i = S,L,K,T* and *j = X,Y,Z*); *S*

[5]One can effortlessly disagree to argue that Y should not be the importable commodity for any developing economy as it uses unskilled workers. But we do not find any harm in assuming this. Here skilled good (X) is exportable. In order to avoid the possibility of complete specialization we have taken the remaining good (Y) as importable. Introduction of any other commodity as importable, instead of Y, would not matter much to the basic results of the paper.

Note that,; a low *a* will mean lower fee of extortion and conversely.

We have mentioned earlier that N people are paid out of the amount lost from the value of Z. And in a competitive set up the value of output lost in Z must be identical to the payment made for extortionists. Thus,

$$\alpha . P_Z . Z = W L_N \quad (4)$$

Full employment of all the factors ensures the following:

$$a_{SX} . X = S \quad (5)$$

$$a_{KX} . X + a_{KY} . Y = K \quad (6)$$

$$a_{TZ} . Z = T \quad (7)$$

$$a_{LY} . Y + a_{LZ} . Z = L - L_N \quad (8)$$

We further know that $a_{CX} . X = C_X$ and $a_{CY} . Y = C_Y . C_X$ and C_Y represent total amount of abatement technology used in X and Y respectively. So

$$\mu(a_{CX} . X + a_{CY} . Y) = \mu(C_X + C_Y) = \mu C \quad (9)$$

Subsequently health standard (H) is a function of environmental quality and thus in turn depends on Z which does not abide by environmental regulations. Therefore

$$H = f(Z);\ f'(Z) < 0 \quad (10)$$

This completes the structure of the model. Now let us solve for the unknown variables. Note that $\{t, \alpha, \overline{W}, K, T, L, S\}$ are exogenously given and we need to solve for $\{W_S, W, r, R, X, Y, Z, L_N \text{ and } C\}$ from equation (1) - (9). We have nine equations and nine unknown variables. Thus the system is solvable. Given the tariff rate, we solve for r from (2) as $\overline{W}$ is exogenously determined by workers' union. Equation (1) would determine Ws for already determined r. Thus $a_{SX}, a_{KX}, a_{LY} \text{ and } a_{KY}$ are determined through CRS

assumption. Hence (5) gives us the value of X and given this value of X we can solve for Y from (7) as endowment of S and K are constants. However, W, R, P_Z, Z and L_N are still to be determined.

Turning to (8)

$$L_Z + L_N = L - \frac{a_{LY}}{a_{KY}}\left(K - \frac{a_{KX}}{a_{SX}}S\right) \qquad (11)$$

Given the commodity prices we know the values of $a_{LY}, a_{KY}, a_{KX}, a_{SX}$ and L, K and S are given. Thus RHS of (11) is constant. This implies a negative relationship between L_Z and L_N.

Again equation (4) can also be represented as

$$\frac{\alpha Z}{L_N} = \frac{W}{P_Z} \qquad (12)$$

Here $\frac{W}{P_Z}$ is the real wage of informal workers. Following an increase in L_Z the RHS of (12) would fall as the marginal productivity of Lz falls. And simultaneously the numerator of the LHS must go up as the supply of variable factor increases. Thus to bring back equality in (12) L_N has to increase. Therefore, L_N and L_Z are positively related following equation (12).

In what follows we can represent equation (11) and (12) in space (Figure-1) to determine the equilibrium values of and.

Given the equilibrium values of and one can easily calculate Z. In what follows W is derived from (4) and subsequently R from (5). In fact, the equilibrium value of L_N can also be calculated for any given value of Lz . In addition we have the equilibrium value of C as are given and we know X and Y. C implies total cleansing act or abatement input/technology used in the economy as a whole. Eventually we derive H, the quality of health standard (H) which by assumption is a function of Z.

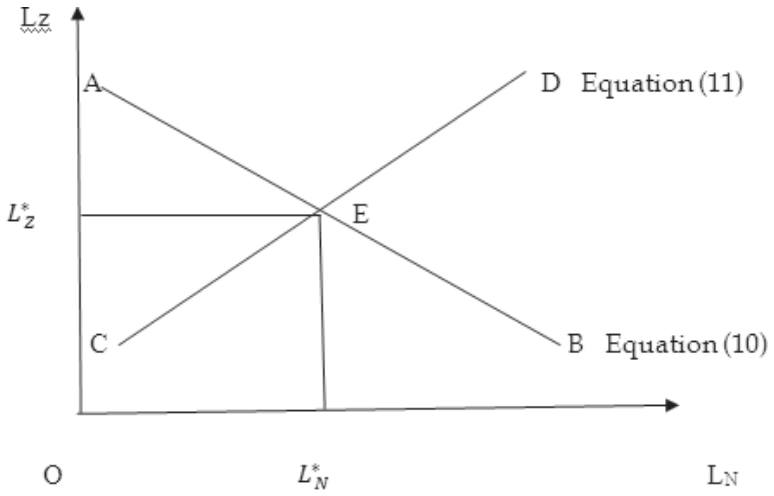

Fig. 1: Determination of equilibrium L_N and L_Z.

Effects of Tariff Reforms

There is no wonder that restrictive trade policies are gradually becoming an issue of past. An era of reform has set in and the entire developing world in some form or the other has responded to such transformation thanks to the negotiations at the WTO. Therefore to start with the analysis of trade reform we assume that the government has initiated the liberalization strategy and accordingly opted for a tariff cut in the importable sector. Following Jones (1965, 1971) and using the Heckscher-Ohlin nugget structure (developed in Jones and Marjit 2009) drawing from Gruen and Corden (1970) we can easily derive the values of X and Y consequent upon tariff cut.

$$\hat{X} = (-)\sigma_X \frac{\theta_{KX}}{\theta_{SX}} \frac{t}{\theta_{KY}} \hat{t} > 0 \text{ (as t falls)} \quad (13)$$

$$\hat{Y} = \sigma_X \frac{\theta_{KX}}{\theta_{SX}} \frac{\lambda_{KX}}{\lambda_{KY}} \frac{t}{\theta_{KY}} \hat{t} < 0 \quad (14)$$

Using (9) $$\hat{C} = \sigma_X \frac{\theta_{KX}}{\theta_{SX}} \frac{t}{\theta_{KY}} \hat{t} \left(\lambda_{CY} \frac{\lambda_{KX}}{\lambda_{KY}} - \lambda_{CX} \right) \quad (15)$$

Two opposing forces are working for the change in C. As t falls X increases and thus demand for and /or use of C rises. Whereas, a reduction Y acts in opposite direction. Hence

$$\left.\begin{aligned} &\hat{C} > 0 \; iff \; \left(\lambda_{CY}\frac{\lambda_{KX}}{\lambda_{KY}} - \lambda_{CX}\right) < 0 \\ &or, \frac{a_{CX}}{a_{KX}} > \frac{a_{CY}}{a_{KY}} \; or, \frac{a_{KX}}{a_{KY}} < \frac{a_{CX}}{a_{CY}} \end{aligned}\right\} \qquad (16)$$

Therefore, if X uses the abatement technology more intensively than Y, a policy of tariff reform leads to more usage of abatement technology in the economy. It can not, however, ensure a better environmental situation in the country. Because the moment Y falls, it relinquishes some unskilled labor and capital. Capital goes to X and raises the production. Labor goes to Z and N simultaneously. Thus if Z goes up, this will pollut the environment further. But, if entire labor force gets employed in N, then the extent of pollution in the economy will remain unchanged. In what follows we propose that:

PROPOSITION I: *If* $\frac{a_{CX}}{a_{KX}} > \frac{a_{CY}}{a_{KY}}$*, tariff reform leads to greater usage of abatement technology.*

Proof: See discussion above

Now let us move to the condition under which Z may rise, fall or remain constant. This would help us commenting on the overall quality of the environment due to reform. Change in the production of either X and Y can not influence the quality of environment as both are produced by using environmentally sound technology. Whether the environmental effect is bad or good that naturally depends only on Z. And that consequently determines H.

Manipulating the system of equations a bit we get

$$\hat{Z} = S_X\hat{X} + S_Y\hat{Y} + S_Y^t\left(\hat{Y} + \hat{t}\right) \qquad (17)$$

$$\hat{Z} > 0 \; iff \; S_X > \frac{S_Y^t}{\sigma_X}\frac{\theta_{SX}}{\theta_{KX}}\frac{\theta_{KY}}{t} + (S_Y + S_Y^t)\frac{\lambda_{KX}}{\lambda_{KY}}$$

where, $S_X = \frac{\beta.X}{(1-\beta).P_Z.Z}$ and $S_Y = \frac{\beta.Y}{(1-\beta).P_Z.Z}$ and $S_Y^t = \frac{t\beta.Y}{(1-\beta).P_Z.Z}$.

It is apparent from (17) that if the share of expenditure coming from X is sufficiently large, environmental quality of the economy would be worse off. The economic underpinning is as follows: since X expands and Y shrinks, the change in demand for Z is uncertain. Along with it as t falls the effective price of Y also falls indicating a less income from Y that can be spent on Z. Negative demand effect on Z is two-pronged: one for less production of Y and other for less price of Y. Hence equilibrium supply of Z will increase if and only if the share of X is sufficiently large to outweigh the negative demand effect generated from Y. hence the following proposition is immediate.

PROPOSITION II: *Overall environmental quality and health standard will be degraded if* $S_X > \frac{S_Y^t}{\sigma_X}\frac{\theta_{SX}}{\theta_{KX}}\frac{\theta_{KY}}{t} + (S_Y + S_Y^t)\frac{\lambda_{KX}}{\lambda_{KY}}$.

Proof: See discussion above

Conclusion

In this paper I have developed a general equilibrium model of trade where both formal and informal sector exist in tandem. Tight environmental guidelines lead to the emergence of informal sector which crucially hinges upon the intermediation done by extortionists. Intermediators make the production by informal units possible. It has been shown here that a policy of tariff cut may induce greater usage of abatement technology. And the environmental quality and the health standard of the country may be worsened under a certain condition.

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CHAPTER 3

Differential in Gender Related Livelihood Constraints and Opportunities: Case Study of Some Rural Regions in Bankura District

Soumyendra Kishore Datta

Abstract

Despite having entered the 21st century, India still confront withgender constraints in every sphere of the society, starting from education, health, occupation and livelihood. Keeping this aspect in mind the primary focus of this paper is to find out the main factors which act as hindrance to women in their way of survival in the society. This aspect is taken account of by recent evolution of the concept of livelihood diversification.Females and males in rural sphere often take resort to multiple activities and different contractual arrangements simultaneously**.** Unequal access to opportunities for diversification leads to exacerbate cumulative gender inequalities. In this backdrop it is felt imperative to focus on the diversification strategies adopted by females compared to their male counterparts, gender differential in access to physical and social capital, analyse the factors that explain the participation of females in sectors not associated with farm activity that generally take place within the surroundings of domestic periphery and identify the factors that act as constraints on their

access towards labour market both in farm and non farm sector together. Inverse of HH index is used to conceptualise livelihood diversification and equality of male female diversification of activities is analysed by employingt-test. Multiple regression is used to explain the gendered impact and diversification on individual income, Logit regression is carried out to explain female participation in non- farm sector and Borda index is calculated to focus on the relative ranking of constraints perceived by females as obstructing their diversified livelihood option. Tabular methods are also used to focus on gender differential in livelihood. The entire analysis is carried out on the basis of primary data collected from two villages in Bankura district.

Keywords: Diversification, Society, Counterparts, Livelihood

Introduction

Now-a-days the rural economy is not based solely on agriculture but relies on a diverse array of activities and enterprises. This aspect is taken account of by recent evolution of the concept of livelihood diversification as a survival strategy of rural households in developing countries and stabilizes their incomes.Females and males in rural sphere often take resort to multiple activities and different contractual arrangements simultaneously. Depending on the seasonality of jobs they sometimes have to shift from one job to other, or may remain unemployed or underemployed in different periods of the year.Rural people very often need to combine the domestic sphere and market production activities relative to people in urban set-up. But the job of rural women gets further encumbered by shouldering the onus of reproductive activity that puts a time problem before them. In the absence of proper facility and awareness about the importance of care during maternity period, rural women often get confined to long sustaining diseases that robs them of the prospects of getting employed in diversified jobs in a continuum of job market scenario.Thus rural women can hardly exercise their choice regarding proper diversification strategies and are driven by the compulsions of taking to survival strategies to glean the bare necessities of life, as opposed to their male counterparts.

Unequal access to opportunities for diversification leads to exacerbate cumulative gender inequalities. While the need to diversifying out of farming is often equally felt among women as well as men, there is no doubt that women activities in most cases tend to be concentrated at low return, easy entry end of the market. This is likely to broaden the gender inequalities in rural income. It hardly needs any iteration that a diversified livelihood structure leads to consumption smoothing and labour smoothing processes thereby contributing towards maintenance of a continuous flow of income stream and employment so important for sustaining the livelihood. In India farm income earning prospect still remain a gamble on monsoon and hence arises the importance of alterative jobs that can somehow enable the maintenance of at least the subsistence levelof earnings. The more the diversification practised by both types of gender within a family, the more the scope of earning increased income.However it is often observed that females within a family are usually disadvantaged with respect to opportunities to earn income from a diversified employment structure. This may of course vary depending on spatio-demographic distribution of population across different regions.

In this context the broad objectives of this paper are:

(a) To focus on the diversification strategies adopted by females compared to their male counterparts

(b) To analyse the effect of income diversification index, gender aspects and other factors that explain individual income earnings across the study region

(c) To focus on the levels of gender differences in the attainment of capabilities with respect to health, education and skill as well as access to ownership of resources like available land, labour and livestock etc that cater to discriminatory status of female livelihood diversification and their relatively less empowerment.

Apart from this

(d) It also seems imperative to analyse the factors that explain the participation of females in sectors not associated with farm activity that generally take place within the surroundings of domestic periphery and

(e) Identify the factors that act as constraints on their access towards labour market both in farm and non farm sector together.

Data and Methods

In this backdrop it seems imperative to analyse the issue of gender differential in diverse aspects of livelihood as well as diversification strategies followed by people in two villages in a backward district in West Bengal. A wide variety of data on many aspects (viz.employment status, sectors of employment, hours of both paid and unpaid work,earnings, wealth level, demographic features, social and cultural constraints etc.) at the household as well asatindividual level were collected to understand the complexity of rural livelihoods and their gender issues governing male-female divide in livelihood pattern. The data are varied in dimension and there is no way to find this disaggregated form of data from secondary sources excepting undertaking primary survey.The data were collected from two villages (Namely PaharpurandMana) under the Borjora gram panchayat in Bankura district of West Bengal. From each village 40 households were surveyed giving a total 80 sample household sizes although corresponding to employed individual specific type the number is far greater.

Individual livelihood diversification is measured by using the inverse of Hirschman- Herfindahl (HH) index in the form $1 / SA_{ij}^{2}$ where A_{ij} represents the proportional contribution of livelihood activity j to overall individual income. Since HH index is a measure of concentration, its inverse is supposed to indicate the relative spread of activities in contributing to total income. The less the value of HH index the greater is the measure of diversification and vice

versa. The minimum possible value of the inverse is one when all income is obtained from one activity and maximum possible value equals the number of activities when there is equal contribution from each activity (Ellis, 2000). Individual income regression is carried out based on individual diversification index and some other socio-economic factors.Logit regression has been carried out to explain the participation of females in non- farm activities.Borda indexing method has been applied to focus on the relative ranking attached to diverse constraints that inhibit female participation in non-farm jobs.

Literature Review

The conventional livelihood framework suffers from inadequate attention to the analysis of differential opportunities for living available to different social groups, especially men and women. It is now well recognized that there exist differences in female and male capabilities, their access to assets and activities and income earning opportunities. This gender differential related approach to livelihood finds little mention in conventional livelihood literature (Ellis 2000; Gladwin 2001; Jiggins 1989; Kang et al. 2004). The conventional framework tends to consider each livelihood component of specific social groups in isolation with its interaction with that of other groups.This undermines the understanding of a shared livelihood experience within social groups. Usually the household is often taken as focal area for undertaking any livelihood related study, however according to some researchers (Quisumbing 2003 and De Haan, 2005) household should not be considered as a homogeneous unit of uniform interest, as gender-specific differences in access to different opportunities are quite common within the household. This is reflected in terms of internal power dynamics, socio-cultural norms, differential in household resource allocation, and often incoherent objectives of the different members within the same household. In a study related to Uganda, Smith (2001) finds rising income differentials between men and women in the same activitiy despite a general increase in diversification.

Women were generally benefitting less than men even in the presence of a decreasing poverty. According to his findings, male had a significant weight in overall diversification as they enjoyed an improved access to diverse better non-farm jobs because of their superior access to education, physical and social capital.

Based on data,collectedfrom the Ghana Living Standards Surveys 1991/92, Newman and Canagarajah (2001) report that while about 80% of men and women are involved in primary livelihood activity like agriculture / livestock rearing, bothactively participate in non-farm secondary activities. Women are traditionally engaged as market traders through their high participation in wholesale/retail trade. Beer brewing and snack food preparation are also major activities for Ghanaian women. Apart from farming men are employed in a widerange of secondary activities, but found in the greatest numbers in manufacturing. According to Charles Benjamin (2004) gender divisions across activities in Ghana are not as acute as in case of Mali. Based on primary data he observed that men earned a much greater percentage of their incomes from farming and remittances than women. Wage/industry activities constituted twice more important sources of income to women compared to men. In the exchange, animal and non-timber forestproduct (NTFP) sectors, the relative contributions towards men's and women's incomes were similar. Based on her research in the Inner Delta region of Mali, Suzanna Davies (1996) observed that all livelihood systems, are characterized by women usually spending more of their time involved in coping/adaptive activities compared to men.

According to Ellis (2000), Haggblade (2007) women are less likely to participate in diversification strategies than men and less likely to be found in higher return activities. Women generally suffer from greater access constraints and hold ownership to less of household assets than men, which hinder them from diversifying into more remunerative activities (Gladwin 2001, Haggblade 2007; Sardier 2003). According to Gladwin (2001) males dominate the high return non-farm activities compared to females. Faming activity usually tends to together most of the womenfolk as this is

closelyrelated to their customary roles in the domestic sphere. As socio-demographic and cultural inhibitions as well as household constraints put a barrier before women to undertake migration and take to high return non-farm activities, they have often no other option than to resort to low return, easy entry income earning options, easily available in farm related activities.

According to Jiggins (1989), even though women contribute to household food security and economic viability, in a patriarchal family and social structures they are denied property right in land, allowed limited access to and control over the proceeds of their own labor, resulting in a complex web of constraints that choke their role in decision making in the family sphere. Again, Whitehead (2001) identified inequalities in the ability to access better paid non-farm opportunities which often leads to aggravation of gender inequalities in rural income scenario.

Livelihood Diversification Strategies and Income

The following table 1 displays the gendered percentage distribution of individuals according to dimensions of activity pursued in the two study villages. The fact that adopting diverse activities has become an important source of earning for some people is well manifest from this table. For purposes of expositional convenience we categorise the individuals into three broad groups (i) individuals that solely depend on farming and allied jobs(ii) individuals that pursue both farming and non-farm jobs (iii) individuals adopting only non-farm activities.The types of non-farm activities available in rural areas can largely be divided into five categories; self-employed enterprise, small business, production, casual labour and formal /informal employment (Smith *et al*, 2001, Ellis 2005). Small business includes works like rice business, vegetable vending, grocery, sharee business etc. Casual labour refers to Khalasi, contract labour, driving, work in brick kiln, masonry etc, production includes carpentry, fabric work, Balaposh Making etc, Deputed Teacher,Anganwari workers, NREGA constitute formal employment while SHG activity constitute self employed job.From

Table 1: Percentage Dependence of Female and Males on Farm and Non-Farm Sectors

Activity Status	Paharpur		Mana	
	Female	Male	Female	Male
Only Farming	3(10.71)	6(9.23)	23(56.1)	20(27.03)
Farming and one more occupation	10(35.71)	20(30.77)	7(17.07)	12(16.22)
Farming and two moreoccupations	N.A	5(7.69)	N.A	N.A
Without Farming and one more occupation	14(50)	28(43.08)	9(21.95)	42(56.76)
Without Farming and two more occupations	1(3.57)	6(9.23)	2(4.88)	N.A
Total Employed Person	28(100)	65(100)	41(100)	74(100)

*Note:*Bracketed figures show percentages
Source: Field Survey

the following table-1 it appears that pure farm dependence is relatively lowfor both females and males in

Paharpur. However dependence on non-farm activities together with farm sector appears to be 35.71% for females while slightly larger at 38.46% for males. If pure non-farm dependence be considered together with the aforesaid combined case then the figure stands as 89.28% for females while 90.77% for males indicating almost the equal stress put on diversification into non-farm sector by both sexes. In case of Mana however pure farm dependence is found to be more important for women. And dependence on farm income in combination with non-farm earning is almost the same (17.07% for females and 16.22% for males). But when pure non-farm dependence with mixed dependence be considered together, females reveal a relatively lower percentage of 43.9 contrary to 72.98% in case of males. These figure are clearly indicative of the fact females here are mostly engaged in low return farm sector while males mostly seek to diversify into high return non-farm areas.

In this context, we can test about the equality of average diversification indices of both males and females for the two villages this is done by setting hypotheses of the following type

$$H_0 : \mu_1 = \mu_2$$

While, $$H_1 : \mu_1 \neq \mu_2$$

Where, μ_1 stands for population mean of diversification indices in case of males and μ_2 is the corresponding value for females.

The corresponding test statistic is,

$$t = \frac{(\overline{x_1} - \overline{x_2})}{S\sqrt{(1/n_1) + (1/n_2)}}$$

Where, $\bar{x}_1 \& \bar{x}_2$ are the mean of diversification indices (i.e inverse of Hirschman- Herfindahl index), $n_1 \& n_2$ are the sample size of males and females respectively and S is defined as

$$S^2 = \frac{(n_1 s_1^2 + n_2 s_2^2)}{(n_1 + n_2 - 2)}$$

In case of Paharpur the value of t is 0.556 which is not significant, but in case of Mana this value is 2.83 which is significant. This result accords well with the tabular explanation of livelihood related data of the two villages given earlier.

Having focused on the activity status of the households, it seems pertinent to analyse the differential in income across female and males in different income groups.It is evident from the table 2 that at very low income group like less than Rs. 10000/-, there do not exist any male earners in Paharpur corresponding to age group 16-45 and above 60. This is true for Mana for age group 46-60.As the income groups rise, average earnings of males outshoot that of females. And what is more important is that at very high income brackets there do not exists any female participant in earning activity.Thus at a very high income group in the range of Rs. 75001 to Rs. 100000/- and above Rs. 100000/- there exist only male earners while female representation is nil. Possible reasons are that women generally get occupied in low return earning occupations like farm wage labourers low productive SHG activities while in case of high return activities like business, service and production their participation is far overshadowed by that of male counterparts. Problem of time allocation in outdoor activities,needs to keep contact with towns and hazards involved in migration related activities lead to constrained female participation in these activities. This sort of observation is observed to be valid for the villages at the respective income groups or even at the group immediately preceding the closed end group mentioned above. However in the

Table2: Gender Wise Frequency of Earners and Average Income in Different Income Groups

Village	Age Group	Gender	Earning Persons	less than Rs 10000	Rs 10001-Rs 25000	Rs 25001-Rs 50000	Rs 50000-Rs 75000	Rs 75001-Rs 100000	Above Rs 100000
Paharpur	Age(16-45)	F	28	10 (4670.00)	9 (18563.89)	7 (31414.29)	2 (64050.00)	N.A	N.A
		M	39	N.A	9 (19422.22)	26 (33726.92)	1 (51100.00)	1 (98400.00)	2 (143250.00)
	Age (46-60)	F	6	2 (7850.00)	1 (12000.00)	2 (33450.00)	1 (60000.00)	N.A	N.A
		M	14	2 (4550.00)	2 (17050.00)	5 (35600.00)	5 (62310.00)	N.A	N.A
	Age Above 60	F	2	1 (3600.00)	N.A	1 (283775.00)	N.A	N.A	N.A
		M	5	N.A	N.A	2 (28900.00)	1 (56210.00)	2 (48000.00)	N.A
Mana	Age(16-45)	F	28	6 (4800.00)	13 (19292.31)	9 (36612.50)	N.A	N.A	N.A
		M	53	1 (1300.00)	6 (20800.00)	2436722.22	18 (59263.89)	2 (93000.00)	2 (112000.00)
	Age (46-60)	F	9	1(1300.00)	4(20150.00)	4(25200.00)	N.A	N.A	N.A
		M	13		3 (22200.00)	7 (39842.86)	2 (54000.00)	1 (91250.00)	
	Age Above 60	F	0	N.A	N.A	N.A	N.A	N.A	N.A
		M	8	1(1300.00)	1(24000.00)	5(31022.00)	1(51000.00)	N.A	N.A

*Note:*Figures within bracket revealsaverage yearlyincome within the corresponding income group
Source: Field Survey

income group less than Rs 10000/-, it is observed that either average female earning outweigh that of male earners or male earners do not exist. This is because of basically two factors. In both the villages most of the surveyed families belong to SC/ST and women of such families traditionally prefer farm work. As they are low skilled they mostly engage in low productive farm operation, allocate a higher time and days to such job which earn them a greater average income compared to males from such low remunerative farming. Further women forming most of the SHGs engage in low remunerative livestock rearing, mid day meal cooking etc andthrough devoting a substantial time for such job,earn greater average income than the males in this group. Males adopting mostly non farm sector job, do not exhibit their presence at a dominant scale in this group since they perceive low earning opportunities in farm sectorincluding livestock rearing, cooking etc.

It also seems of interest to analyse the livelihood strategies for both the gendersin order to find the relative importance of farm income vis-a-vis non-farm income across different income groups.

It is interesting to note from the above table-3 that in the lower income groups the share of women from farm income is greater than that of men. Even at the lowest income sextile female share of income from low productive non-farm activities exceed that of males. But with rising income groups, female share in both farm and non-farm sector begins to decline while that of males in both the cases registers an increase. Even in some of the cases in upper income groups female activity is non-existent. This is a clear pointer to the fact that female participation in labour market remains segmented and their presence seems to be crowded mostly in low yielding farm and non-farm jobs. Further they also seem to remain deprived of ownership of bigger plots of land and access to better yielding inputs unlike the males and this also tends to reduce their share from activities in high income yielding farming occupation.

Table 3: Gender Specific Income Share from Farm and Non-Farm Sector Across

Village	Economic Sector	Gender	less than Rs 10000	Rs 10001-Rs 25000	Rs 25001-Rs 50000	Rs 50000-Rs 75000	Rs 75001-Rs 100000	Above Rs 100000
Paharpur	Farm	F	0	56.23	21.26	18.03	0	
		M	100	43.77	78.74	81.97	100	
	Non- farm	F	98.07	34.01	25.2	34.35	0	0
		M	1.93	65.99	74.8	65.65	100	100
Mana	Farm	F		62.07	35.34	0	0	0
		M		37.93	64.66	100	100	100
	Non- farm	F	76.79	41.9	10.2	0	0	0
		M	23.21	58.1	89.8	100	100	100

Source: Field survey

I. Effects of Diversification, Gender and Other Issues on Individual Income

Enhanced access to asset and opportunities of activity diversification are considered to be the primary condition for achieving a successful livelihood. An individual who can enjoy increased command or ownership of diverse types of assets (e.g. build a more secure house, increase livestock herds, own agricultural land or have increased access to information through social networks) is likely to have more opportunities to diversify his/her activities and earn a more steady and secured income than a person having ill and insecured access to assets and low diversified portfolio of income. This livelihood activity options are dependent on an individual's assets and their ability to convert assets to activities (Ellis 2000; Rakodi 2002).In this section the impact of individual diversification and other socio-economic features on individual income are analysed. The regression is of the following form

$$IND\_INCOME_i = \alpha_0 + \alpha_1(AGE)_i + \alpha_2(SQAGE)_i + \alpha_3(GEND)_i + \alpha_4(EDU)_i + \alpha_5(HHI)_i + \alpha_6(ACT)_i + \alpha_7(OCC)_i$$

Here HH index indicates individual diversification index. It is assumed that as diversification rises, income earning prospect also rises through access to varied sources. Education of individuals denoted by EDU and measured by years of schooling is usually supposed to have a positive relation with income. Gender is a qualitative variable assuming value one if the individual is female and 0 if male. In a patriarchal society socio-cultural taboos imposed on women is supposed to constrain their diversification opportunities and hence lower income prospects relative to male counterparts. So males are assumed to earn more on an average than females. Age is assumed to have a U-shaped impact on earnings.

Table 4: Regression Results of Individual Income

Explanatory Variables	Villages		
	Paharpur	Mana	Combined
AGE	1064.02	2343.25*	1322.44*
SQ AGE	-5.74	-28.56*	-11.62
GENDER	-10086.87	-21093.26*	-14805.58*
EDU	3922.41*	8.73	2594.15*
HHI	22827.52*	12353.56*	21535.52*
ACT	-1851.86	879.19	-465.56
OCC	1628.38	5291.86	2819.06
Constant	-21530.69	-22677.09	-23662.69
R^2	0.51	0.32	0.42
F	11.97	6.06	18.49

Source: Field survey

The results indicate that all the regressions are good fit. HH index as expected positively and significantly influences individual income in respective villages and combined case, implying that as diversified sources of employment rises , income earning also goes up. Age has significant positive impact on earnings in case of Mana and combined case, while education reveals positive significant impact in case of Paharpur and combined case.Gender reflects the expected negative sign in all cases but appears to be significant only in case of Mana and combined villages. This very sign is indicative of the fact that women face with constraints in having increased earning opportunities compared to men.

2. Asset Profile and Gender Bias

As already indicated, access to a diversity of asset base greatly influence the earnings from pursuing a diversified livelihood. Thus assets are supposed to form the foundation of a livelihood framework. They can be tangible (land, livestock, jewelleryetc) or even intangible type (i.e. education, training, social networks etc).

Bebbington provides a broad understanding of assets. According to him, “Assets are not simply resources that people use in building

livelihoods: they are assets that give them the capability to be and to act. Assets should not be understood only as things that allow survival, adaptation and poverty eradication: they are also the basis of agents' power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources" (1999: 2022). The term 'access' indicates the social dynamics of institutions that govern the relative control exercised by different groups of people over available resources. Ian Scoones (1998) defines access by 'the rules and social norms that determine the differential ability of people in rural areas to own, control, otherwise claim or make use of resources such as land and common property.' Not everybody in the society or even within the household enjoys equal access to assets. An individual's access is determined by the social institutions or relations, or their social and demographic status within households, comprising factors like gender, caste, class, age, and religion etc.

The Lower level of earnings and relatively subdued form of employment diversification on the part of females compared to males can partly be attributed to the gender gap in access to and ownership of diverse tangible asset, intangibles like information and education in the study areas. Now-a-days state of having access to information and increased mobility greatly influence the pattern of adoption and switching across diverse form of jobs. In this context focus is made here on education, residence, agricultural land, livestock, assets regulating access to information and mobility as well as assets like jewellery that provide some sort of emotional fevor and security in the mindset of women. The following table -5 focuses on gender specific relative ownership of diverse type of assets in the two surveyed villages.

In Paharpur only 9 women out of 40 households and in Mana only 2 women out of 40 households possess ownership of houses they reside in. In both the villages only a few people have ownership of agricultural land out of whom only 14.29 % and 4.76 % of women have such ownership rights. In both the villages women SHGs exist to some extent and they mostly undertake livestock rearing

Table 5: Distribution of Assets across Gender in the Study Region

Ownership Ratio	Village	No Asset	Asset Holder	Man Ownership	Women Ownership	All HH Members Ownership	joint Ownership
Residence	Paharpur	0	40	29(72.50)	9(22.50)	1(2.50)	1(2.50)
	Mana	0	40	37(92.50)	2(5.00)	0(0.00)	1(2.50)
Agriculture Land	Paharpur	33	7	6(85.71)	1(14.29)	0(0.00)	0(0.00)
	Mana	19	21	19(90.48)	1(4.76)	0(0.00)	1(4.76)
Livestock	Paharpur	25	15	8(53.33)	7(46.67)	0(0.00)	0(0.00)
	Mana	13	27	13(48.15)	12(44.44)	0(0.00)	2(7.41)
Jewellery	Paharpur	27	13	1(7.69)	12(92.31)	0(0.00)	0(0.00)
	Mana	32	8	0(0.00)	7(87.50)	0(0.00)	1(12.50)
Vehicle	Paharpur	30	10	9(90.00)	0(0.00)	0(0.00)	1(10.00)
	Mana	17	23	16(69.57)	1(4.35)	0(0.00)	6(26.09)
cell Phone	Paharpur	14	26	24(92.31)	2(7.69)	0(0.00)	0(0.00)
	Mana	13	27	25(92.59)	1(3.70)	1(3.70)	0(0.00)

Source: Field survey

and midday meal cooking activities. In terms of ownership of livestock, females and males have almost similar standing with males still dominating the female counterparts. In terms of percentages of possessing cell phone or vehicles females far lag behind the males in both the villages as the data reveal in the table.This is supposed to seriously impair their mobility and act as constraints for undertaking a diversified livelihood option even if they may have desire to do so. Only in terms of possessing jewellery females far outnumber the males. However since this hardly helps in generating any income, it does not assist in adopting any diversified livelihood and acts only as some sort of security during extremely hard times.

Analysis of Women Participation in Non-Farm Sector

It is often found in developing regions that rural females driven by poverty or hard times occasioned through widowhood or separation, tend to get employed in low return informal non-farm jobs, apart from farming activity, for sustaining their livelihood. Lack of adequate education, training and skill, poor ownership of land and other asset, constrained mobility etc. confine their participation to already crowded limited number of activities with poor bargaining strength with their employers. Because of labour market segmentation women are disproportionately employed in low–quality jobs, including jobs in which their rights are not adequately respected. While women having little alternative skill tend to get mostly involved with farming related jobs and sometimes in NREGA work, their participation in a variety of non farm work still remains a far cry in most situations. Still however, inorder to supplement family earnings and gain economic independence sometimes some women seek to take to low return non-farm work.In this context it seems pertinent to analyse the factors that explain female job participation in non-farm work across the study region. The binary logit regression is fit in the following form to explain the likelihood of female participation in non-farm jobs.

$$P_i = \frac{1}{1 + e^{-z_i}}$$

Where

$$Z_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i}$$

It is assumed that caste (X_1), age (X_2), age squared (X_3), education of women (X_4), dependency burden (X_5), ownership ratio of household asset (X_6) and household activity time (X_7) exert effect in influencing the likelihood of female non-farm participation.

Caste is a binary variable, assigned value 1 for higher caste, 0 for lower caste. Low caste women with little familial inhibition, are more likely to resort to non-farm jobs. Up-to a certain age, it is assumed that females display a positive association in undertaking non-farm job while it decreases beyond that level. With rise in education, women are unlikely to take part in low return non-farm jobs and better like to spend time in helping their children to understand lessons at home.However as number of direct dependents rise, economic compulsions might propel them to resort to non-farm occupation. Further with access to more ownership assets and enhanced capability, likelihood of participation increases and as time spent in household activity rises, activity in non-farm sector by females is likely to decrease.It is observed from the following table-6 that all the variables excepting activity time are found to have intense to moderate degree of significance in explaining the likelihood of non-farm participation by females in the expected direction. The count R^2 is rather high (0.80) indicating that the regression is good fit on the whole.

Table 6: Results of Logistic Regression

Explanatory Variables	B	Wald	Sig.	Exp(B)
Caste	-1.895*	8.113	.004	.150
Age	.151***	2.355	.125	1.162
Age Square	-.002**	2.888	.089	.998
Edu	-.249*	10.854	.001	.780
Dependency	.649*	8.288	.004	1.913
Ownership Ratio	1.020****	1.740	.187	2.773
Activity Time	-.127	1.351	.245	.881
Constant	-2.347	.908	.341	.096
Log Likelihood	- 56.18			
Count R^2	0.80			
Nagelkerke R^2	0.44			

Source: Field survey

Perceived Intensity of Constraints in Female Job Participation

It is often observed that females in rural areas in developing regions are afflicted with several socio-cultural constraints that stand in the way of their entry in the labour market. In a patriarchal society, this is more intensely felt as males try to dominate the actions and behavour of females not only in economic and social sphere but also in the family environment. Further social taboos also often inhibit the participation of females outside the domestic sphere. Geographical constraints also often prove untoward for female job participation.In this context several constraints like distance from work, constraint in time allocation for work, problem of availability of work, social taboos, childcare burden, family objection etc were identified and placed before the females for purposes of ranking in order of their intensity of perception regarding entry into labour market. The most intensely felt constraint was ranked 1 while it increased in order with less intensive perceptions. It is observed from table-7 that problem of having adequate free time after doing household chores is perceived to be the most important obstacle inundertaking any earning activity.

Table 7: Ranking by Females of Perceived Constraints in Livelihood Diversification

Village	Statistic Measures	Distance of Work Place	Time Problem	Social Taboos and hazards	Childcare	Low availability of suitable job	Family Objection
Paharpur	Sum of Ranks	146	103	130	122	138	201
	Mean	3.65(5)	2.57(1)	3.25(3)	3.05(2)	3.45(4)	5.03(6)
	Standard Deviation	1.53	1.17	1.94	1.60	1.53	1.40
Mana	Sum of Ranks	162	102	109	115	174	186
	Mean	4.05(4)	2.55(1)	2.73(2)	2.88(3)	4.35(5)	4.65(6)
	Standard Deviation	1.47	1.71	1.47	1.44	1.50	1.37

Source: Field survey

It is ranked 1 in both the villages. Child care burden and social taboos are respectively ranked as 3 and 2 in Manawhile just the reverse in case of Paharpur.The land in Mana is situated around the bank of Damodarriver and is greatly fertile and suitable for cultivation by having some natural favour. All the village dwellings are located within a very short distance from this farming land. Further almost all the adult females here engage in making Balaposh as cottage industry in their house the inputs of which are supplied by the males. Inhouse facility of work serves to combine their child care responsibility better than females in the other village while distance of workplace from home do not pose a great burden compared to other factors. However even here total free time available after all duties is not perceived to be large enough to devote to a diversified earning jobs. In Paharpur land quality is not so fertile and located rather at a distance from the dwelling houses of the residents. Hence the females here face problems in combining child care while taking part in farming activities apart from social taboos and hazards. But still the urge of earning leads them to underrate the problem of distance of work place compared to those in Mana. Family objection in both cases are ranked as the least intensive constraint since most of the households being poor, the urge of earning income leads to relegation of household honour, when husbands and in-laws do not emerge as great inhibitors of women's outdoor job. Standard deviation figures show that, females in Paharpur are most consistent with respect to ranking of the constraint of time problem while in Mana this is so with respect to family objection factor.

Concluding Observations

From the above analysis we see that females are largely constrained by relative lower access to a diverse type of income generating asset base, perceived social taboos and time constraint involved in combining unpaid household chores and cares with earning activity within home or outside home andlabour market segmentation which tend to confine females to low return and low productive and unstable income earning opportunities. Differential access to asset

base acts as a great inhibiting factor towards women empowerment it is important to note that agricultural land which traditionally seeks to draw most of female work effort, reveals most uneven ownership bias against females. Deprived of land ownership women face problems in securing credit so necessary for investment and covering short-term expenses for inputs, in particular for cash crops. Thus time constraints in the family and input and asset constraint at entry point in labour market hinder women from adopting more labour intensive technology and accessing the advantage of cash cropping possibilities. Further low levels of human capital, i.e. education, health and nutrition, act as constraints to female labour productivity in farm and non- farm sectors alike. They are also crippled to access modern information and communication technologies (ICTs) such as radio, mobile phones, internet services etc due to a lack of education, financial and time availability barriers. Although there exists a number of female SHGs, these have virtually become non-productive due to lack of training, motivation and problem of access to credit. These are only generating some amount of monthly saving without getting the proper channel for the productive and collective investment. Apart from extending education, it seems extremely urgent to impart adequate skill and training specially suited to women so that they may pursue productive activity through SHG bank credit interlinkgae. Improved access to rural financial systems is very much important so that poor people are able to participate in the livelihood activities that require an initial financial investment. Frequent NGO counseling, extension services, Anganwari visits and interaction with women would enhance their social interaction capability, raise awareness about external world and erase the taboos that they themselves nurture in their mind.

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CHAPTER 4

Governance Reforms in India: Opportunities and Challenges

Soumyadip Chattopadhyay

Abstract

Good governance has been considered as the single most important factor in eradicating poverty and promoting development. Effective governance includes various elements such as accountability, transparency, an effective bureaucracy, regulatory quality, electoral competition, political checks and balances and rule of law. Although, these elements are valued and put in practice easily in developed countries, but the socio-economic-political milieu of the developing countries in general is not conducive for effective implementation of them. Against this background, the paper discusses changes that have taken place in India with regard to governance reforms. In particular, the paper focuses on reforms related to decentralization as it fits, more or less comfortably, into the policy ideas about governance by representing alternatives to the centralized state and is, therefore, considered to contribute to good governance. Review of available evidences does not provide any definitive conclusion about the effectiveness of decentralization in facilitating democratic deepening and in improving the responsiveness of the government. In majority cases, decentralization has failed to bring popular participation and accountability to local governance and, therefore, has made local government less responsive to

citizens' desires and less effective in delivering services. Appropriate institutions, rules and incentives mechanisms are needed to link the citizens with the government and their office bearers. Moreover, capacity development of the citizens is extremely crucial to exploit the opportunities generated through governance reforms. Conscious and combined efforts by the government and non-government organizations along with greater involvement of the citizens have the potentiality to improve both the governance system as well as delivery of services.

Keywords*:* Governance, Decentralization, Participation, Accountability, Service Delivery, India.

The Perspective

During the last three decades, most regions in the world have experienced major political and economic upheavals. The perceived success of market economies, the failures of central control and command system and inefficiencies of state enterprises have overturned the strong as well as controlling role of the state in previously publicly dominated economies. Emergence of a new model, with a much smaller role for the state in development processes and a much larger role for other actors, signifies a shift from 'government' to 'governance'. It is by now widely accepted that socio-economic development is very much affected by the quality of governance and institutions. However, the relationship between governance and development is multidimensional and complex. Government effectiveness, an efficient bureaucracy and rule of law are positively associated with improved investment and growth rates. On the other hand, some governance issues are seen as constitutive of development. For example, lack of voice and lack of access to basic services are considered as the crucial components of poverty. Here, there is an overwhelming international agreement about the intrinsic value of democracy, human rights and good governance and their impact on poverty (ODI, 2006). Since the significance of good governance for development is now universally recognized, it stands at the core of governance and

administrative reforms undertaken in developed as well as developing countries including transitional economies.

Literature on political processes and practical experience highlight six main 'arenas' of governance: civil society, political society, government, bureaucracy, economic society and judiciary. Researchers and governance stakeholders in developing and transitional societies around the world, further, identify six core principles having important implications for governance and these are: participation, fairness, decency, accountability, transparency and efficiency (Heyden *et.al.*, 2004). It is important to note here that the paradigm of governance has basically evolved in developed countries. Moreover, international development agencies interpret governance to suit their own official mandates. These discourses and approaches do not take account of institutional and developmental context of developing countries. Nevertheless, the particular conditions in each developing country provide both constraints and opportunities to improve governance and its developmental outcomes.

Against this background, the present paper reviews definitions of governance and contextualizes the notion of good governance for developing countries. The paper also chronicles the transformation in governance in India in order to understand the effectiveness of relevant reforms in improving the quality of governance in India. The plan of this paper is as follows. The second section discuses the conceptual frameworks of governance and presents a governance paradigm that recognizes socio-economic-political realities of developing countries. The Indian experiences with governance reforms from the point of view of delivery of public services and responsiveness of the governments have reviewed in the third section. The final section summarizes the main arguments of the paper.

Understanding governance – conceptual frameworks

Traditionally, the term 'governance' was understood as synonymous to government. 'Government' refers to "the formal institutional

structure and location of authoritative decision making in the modern state", embracing the legislative and executive branches of the state apparatus and those who control them (Stoker, 1998). Of late, Government's incapacity in formulation, implementation and realization of developmental goals and concurrent paradigmatic shift in the political thinking on the role of the state has given way to a concern with governance. Under the new mode of governance, government is one of the actors in the process of governance along with civil society and the private sector. Governance is thus about relationships between the state and civil society, rulers and the ruled, government and the governed; it is about the way the power structures of the day and civil society interrelate to produce a civic public realm (Swilling, 1997). Under the current spread of governance, there has been a transition from a state-led development ideology to a market-led model, from an idea that the state is the main actor in economic development to an idea of the state as facilitator, from government as a central regulatory authority to new forms of public management that include different actors in public-private partnerships, decentralized forms of governance and out-sourcing arrangements.

International development agencies have come up with their own conceptualization of the governance process. While the ideological and theoretical basis of all these diverse views on governance is the same, these competing views differ in their approach. Some focus on the normative aspects while others place emphasis on the descriptive aspects of governance (UNDP, 1997; World Bank, 1999). The World Bank defines governance as "the manner in which power is exercised in the management of a country's economic and social resources" (World Bank, 1992). The good governance criteria suggested by the World Bank, therefore, include accountability, transparency, the rule of law, responsiveness, effective and efficient management, freedom of association and expression and development oriented leadership (World Bank 1999). While defining governance, UNDP emphasizes on processes and institutions through which citizens and groups articulate their

interests, exercise their legal rights, meet their obligations and mediate their differences. UNDP's approach underscores the importance of equity and participation.

In essence, good governance is how the governance is structured in a country in six main 'arenas' of governance which are: (i) civil society (where citizen raise and become aware of political issues); (ii) political society (where societal interests are aggregated); (iii) government (executive stewardship of the system as a whole); (iv) bureaucracy (where policies are implemented), (v) economic society (refers to state market relations) and (vi) judiciary (where disputes are settled). Scholars have identified six universal principles of good governance in each of the six governance arenas and these are: (i) participation (the degree of involvement by affected stakeholders); (ii) fairness (the degree to which rules apply equally to everyone in society); (iii) decency (the degree to which the formation and stewardship of the rules is undertaken without harming people; (iv) accountability (the extent to which political actors are responsible to society for what they say and do); (v) transparency (the degree of clarity and openness with which decisions are made) and (vi) efficiency (the extent to which limited human and financial resources are applied without unnecessary waste, delay or corruption) (Hayden *et.al.,* 2004).

Importantly, each nation's path to good governance will be different depending on culture, geography, political and administrative traditions, economic conditions and many other factors (Hussain, 2008). The socio-economic-political conditions in the developing countries are not always conducive for realization of the potential benefits of governance reforms. A weak tradition of the rule of law is a major impediment to good governance in developing countries as one can get away with violation of law quite easily. A significant proportion of the population in these countries suffers from poverty with little or no access to adequate food, clean water, sanitation, health, education, and employment. Poverty creates distrust of people in the governance mechanism and the poor exclude themselves from the political and social processes, which further

restricts their participation and representation in governance. Various forms of corruption at individual, organizational and state levels result in inefficiency, setting up of wrong priorities, social isolation, disorder and distrust between the governing bodies and the general public contributing to the vicious cycle of poor governance. The quality of governance in developing countries is also constrained by the incapacity of the state, the private sector and civil society organizations to perform effectively their role in governance that includes capacity for policy formulation and coordination; monitoring and evaluation; performance management and accountability for results; budget and expenditure management; a capability to innovate; and transparency and accountability. Weak management and a weak control system, corruption and nepotism, low wages and incentives, and politicization of the bureaucracy and the judiciary and many other factors limits the capacity of these institutions. The new tools of governance such as public-private partnership, contracting out and decentralization presuppose good management in public, private, and civil society organizations beyond traditional management skills. These governance skills are not only scarce in developing countries, but they have not yet been recognized as a capacity issue (Jabeen, 2007).

In other words, governance reforms and concepts such as decentralization, citizen engagement, privatization, autonomy, and public-private partnership may work well in developed countries but may not produce the same outcomes in developing countries where the majority of poor people look towards their government for fulfilling their basic needs. Therefore, in recent times, emphasis has been put on the aspect of 'good enough governance' as a goal to achieve 'good governance' (Grindle, 2004). Good enough governance is defined "as a condition of minimally acceptable level of government performance and civil society engagement that does not significantly hinder economic and political development and that permits poverty reduction initiatives to go forward". The 'good enough governance' concept allows researchers and policy makers to determine a minimum acceptable level of good governance within

the historical, institutional and cultural context of each country. In other words, notion of good enough governance has attempted to replace an ambitious 'good governance' agenda by addressing basic questions such as what needs to be done, when it needs to be done, and how it needs to be done. The concept of good enough governance, though still in infancy, has the potential to replace idealistic governance agenda's with a realistic agenda.

In spite of the problems relating to application of concept of good governance at the implementation level in the developing countries, there are hopes, aspirations, and possibilities for good governance. State and society have not given up their quest for good governance which is regarded as vital for the future. India is also no exception to this trend. In the next section, the paper reviews evidences and argument concerning transformation in governance in the country since 1990s.

Governance Reforms - The Indian experiences:

India became a constitutional parliamentary democracy after achieving Independence in 1947. Interestingly, India was not particularly well prepared for democracy as "huge, impoverished, crowded with cultural and religious distinctions, with a hierarchical social order almost deliberately designed to resist the idea of political equality" (Khilnani, 1997). Truly, given the huge social and economic inequalities it was difficult to achieve political equality. Ambedkar, the architect of Indian constitution, was of the opinion that the union, distant from the caste and other conflicts of rural India, staffed by the western educated urban upper caste men is more likely to be just and impartial in it's treatment of oppressed caste and minorities than the rural elite led state government. There was almost no other alternative then that the state would have to play a major role in the required development (Mooij, 2005). Consequently, the Central government played a major role in social and economic transformation of India. The declared objective for the state/central government was to 'control the commanding heights' of the economy in order to ensure growth with social justice. Central

government and Planning Commission played the vital role even in subjects that were constitutionally the primary responsibility of the state governments. In general, Planning Commission prepared the five-year plans and accordingly, different ministries received funds from the central exchequer under central schemes. These schemes were implemented by the Ministries through agencies set by them in a uniform manner across the states. Elected representatives – MPs and MLAs and civil servants assumed important roles in conceiving and implementing the developmental programs at the central and state level. For example, a massive local bureaucracy had been created over the years with the block development officers as its head in the block level to implement the central schemes. Unfortunately, the impact of these schemes in terms of outcomes has been pathetic, especially in the social sector (Vyasulu, 2004)[1]. Naturally, it becomes imperative to identify the reasons for failures of government and, also, the measures taken to improve the quality of governance in India in recent times.

The above problem can be analyzed in terms of the simple principal –agent problem. In India, ordinary people delegate decision making powers to agents (elected representatives) and sub agents (bureaucrats). There is a possibility that the agents or subagents will act, not in the principals' interests, but on their own. Now, if both the elected rulers and the permanent civil servants begin to take decisions and use public resources in their own narrow interests, the principals can do little in representative democracies. In India, state monopolizes access to very substantial resources. Elected representatives and bureaucrats control and influence the allocation of these resources. In their attempt to consolidate the support base, politicians use public resources either for meeting individual demand or for promoting the interest of any particular group (Bardhan, 1998). Moreover, politicians exercise power over bureaucrats through the mechanism of 'transfer'. Naturally, in order to avoid difficult postings and to exploit the possibilities for securing rents, officials allocate resources as per the direction of the politicians (Wade, 1985). Prevalence of this type of 'patronage democracy'

(Chandra, 2004) resulted in inappropriate utilization of public resources for meeting the requirement of people in general and poor people in particular.

This governance failure indicates the inability of the (poor) people to hold politicians democratically accountability for poor public provisioning. Regular elections are the best democratic instruments through which the issue of accountability can be addressed with substantial positive results on accountability and service delivery (Mathew *et. al.*, 2003). It has been observed in India that relatively greater proportion of disadvantaged people, as compared to their wealthier counterparts, participate in elections at different levels and pledge their support for politicians with the expectation of getting benefit from better provisioning of public services (Harriss, 2010). In this context, 'the history of electoral competition', 'the extent of social fragmentation of voters' and 'availability of information among voters about the quality of services' have been marked as the crucial factors for ensuring democratic accountability (Keefer *et.al.*, 2004). The people of states with better 'history of electoral competition', e.g., Kerala, have been successful in holding the governments accountable as the voters in those states have been highly mobilized by the political parties over service issues. This mechanism did not work in other states, e.g. Uttar Pradesh, where the mode of allocating public resources as per individual/political discretion is more prevalent. Indeed, higher the level of political mobilization, lesser would be the extent of social fragmentation and this increases the possibility of government being accountable to the people. Higher levels of information among people also help them to hold the politicians/elected representatives accountable. It has been empirically observed that the states with highest newspaper circulation (e.g., Kerala, Maharastra, Tamil Nadu, West Bengal), one of the indicators of 'availability of information', have turned out to be more accountable and 'responsive' (Besley *et.al.*, 2000). In majority of other states in India, the accountability channel between voters and their representatives is extremely weak. Severe information constraints among voters and politicians force them to

favor co-ethnics in the delivery of benefits on the basis of caste, language religion etc. and these, in turn, result in 'a self-enforcing and reinforcing equilibrium of ethnic favoritism' (Chandra, 2004).

Proliferation of schemes and programs at both the central and state level is another important contributing factor for governance failure in India. Under the garb of populism, new administrations at the centre and in different states introduce many schemes even if they have the similar objectives. It has been observed that majority of the states have the limited administrative capacity to access grant from different schemes, spend money as per the conditions, maintain separate account and submit individual reports (Kapur, 2010). In fact, this capacity is most limited where it is needed most. Ironically, significant amount of money granted under different government schemes remained unspent and this adversely affects public provisioning of many essential services.

Moreover, middle class people are generally considered as the most capable of ensuring accountability of the politicians. But, these people have increasingly withdrawn themselves from using public services. Naturally, they have little interests in exercising their voice for improving the delivery of public services. Although, Indian middle classes are deeply committed to democratic values but they are disillusioned with the way the democratic policies work in the country under widespread corruption etc. The articulate section of middle class have turned, instead, to activism in civil society which plays crucial role in bringing about important innovations in government (through the Right to Information Act) and in social provisioning (through National Rural Employment Guarantee Act etc.) (Harriss, 2010).

Among the various reform measures with which the Indian government has been experimenting with, decentralization assumes special significance as it fits, more or less comfortably, into the policy ideas about governance by representing alternatives to the centralized state and is, therefore, considered to contribute to good governance. The justification of decentralization formalizes the

causal chain of devolution leading to more active citizen involvement and voice in the formulation and implementation of public policies. This, in turn, increases ability of the citizens to hold local politicians/ officials accountable. In this situation, the latter have more incentives to deliver public services efficiently than their provincial or national counterparts. In other words, strong decentralized system can make governments more responsive in terms of speed and quantity of responses (actions, projects, outputs) and, more importantly, quality of responses (the degree to which responses from governments conform to popular preferences). Further, the involvement and hence the influence of ordinary people over development projects infuses a great sense of ownership among the citizenry and, therefore, make the projects more sustainable.

Decentralisation in India

Decentralisation initiatives are not something new in the Indian context. Gandhi's vision of village *swaraj* represents, perhaps, the most enduring image of decentralisation in India. An important element of the independent village republic relates to the idea that the *panchayats* can and should serve as a forum that would represent traditionally marginal groups (such as women, backward class and so on) and a vehicle for social advancement. In the post-independence period, several commission and committee (most important among them were the B Mehta Commission of 1957, the Asoka Mehta Commission of 1978 and the G V K Rao Committee of 1985) have been set up to shape the decentralisation initiatives. These earlier initiatives towards decentralisation were never much successful, mainly because of (i) states' unwillingness to devolve substantive power, (ii) a resistant bureaucracy and (iii) the power of local elites (Rao, 2000). India's efforts towards decentralization have culminated in the enactment of 73rd and 74th Constitutional Amendment Act in 1993. The provisions of the 73rd CAA relate to local governance in rural areas whereas those of the 74th CAA relate to the local governance in urban areas. These Acts are designed to promote self-governance through statutory recognition of local bodies.

Evaluating Rural Decentralization in India

The important features of the 73rd CAA are as follows: (i) establishment of a three-tier *panchayat* structure, with elected bodies at village, block and district levels for five year terms; (ii) reservation of one-third of all seats for women and reservation for SCs and STs proportional to their populations; (iii) reservation for chairperson of the *panchayats* following the same guidelines; (iv) constitution of *gram sabha*, with all eligible voters within a *gram panchayat* area to serve as the formal deliberative body at the village level; (v) determination of functional domain of the *panchayats* by identifying 29 areas of operation and (vi) establishment of State Finance Commission (SFC) to review and revise the financial position of the *panchayats* on five year intervals

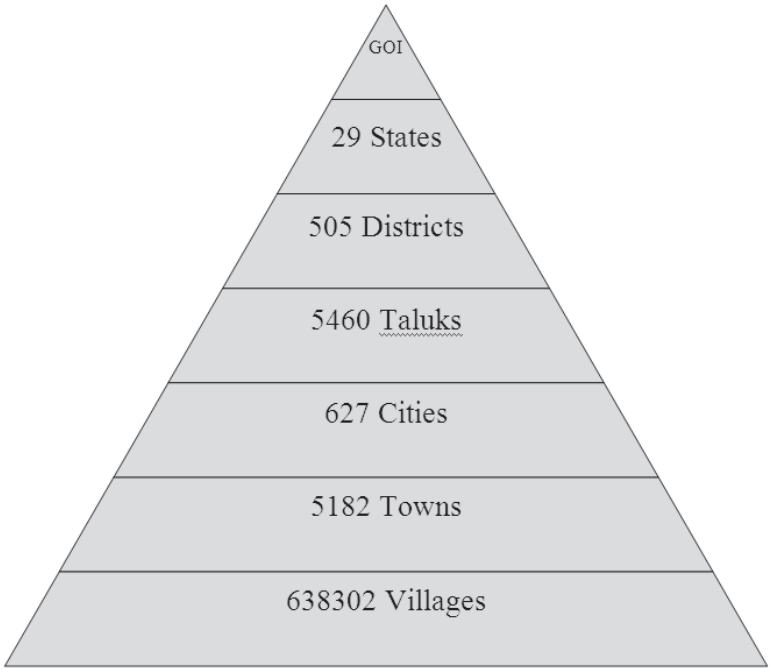

Fig.1: The structure of Indian federalism
Source: Kalirajan *et.al.,* 2010

Box 1: Major provisions of 73rd CAA

- Establishment of three tier PRI structure, with elected bodies at village, block and district levels
- Direct elections and five year terms for all members at all levels.
- One-third of all seats are reserved for women; reservation for SCs and STs proportional to their populations.
- Reservation for chairperson of the *panchayats.*
- Provision for creation of State Election Commission to supervise, organize and oversee *panchayat* elections at all levels.
- Constitution of *gram sabha* – a deliberative body at the village level.
- Specification of functional domain of the *panchayats.*
- Provision for establishment of State Finance Commission to review and revise the financial position of the *panchayats* on five years intervals and to make recommendations to the State Government about the distribution of *panchayat* funds.

and to make recommendations to the state government about the distribution of *panchayat* funds. In essence, the 73rd CAA covers many areas that would enable the *panchayats* to improve the lives and wellbeing of rural people. The Act contains specific provisions that guarantee the inclusion of traditionally excluded groups, such as women, SCs, STs in governance structure and also ensure transparency and accountability for rural institutions such as *gram panchayats* and *gram sabha*.

In the post amendment phase, different states have responded with varying degrees as the Act just provided the outline of the local governance system and state government enjoyed considerable discretionary power in implementing the provisions of the same (Table 1). In fact, in most states, government officials (e.g., district magistrate) and MPs and MLAs have the authority to interfere in the functioning of the local government (Chaudhuri, 2007). The World Bank's three volume study on decentralization ranks India as one of the best performers, internationally, in terms of political decentralization. Since 1993, at least one round of local election

Table 1: Status of PRIs in terms of selected indicators

States	Holding *Panchayat* Elections	Constitution of DPCs	Status of SFC recommendations	Devolution of funds, functions and functionaries	Status of DRDA/ZP linkage
Andhra Pradesh	Elections held	Not constituted	Accepted 54 recommendations fully, 11 with some modification, 19 not accepted at all	Funds 05 Function 17 Functionaries 02	DRDA and ZP not merged
Assam	Elections held	Not constituted	Recommendations accepted in part	Functions 29	Not transferred
Bihar	Elections held	Not constituted		Functions 20	Not merged
Goa	Elections held	Not constituted	Recommendations accepted in part	Funds 6 Functions 6	Merger under
Gujarat	Elections held	Not constituted	Recommendations accepted in part	Funds 15 Function 15 Functionaries 15	Not merged consideration
Haryana	Elections held	Constituted	Accepted major recommendations	Functions 29	Not merged
Himachal Pradesh	Elections held	Constituted	Recommendations accepted in part	Functions 26	Merged and headed by president of ZP
J&K					
Karnataka	Elections held	Constituted	Accepted major recommendations	Funds 29 Function 29 Functionaries29	Merged
Kerala	Elections held	Constituted	Accepted major recommendations	Funds 15 Function 26 Functionaries15	Merged and headed by president of ZP

(*Contd.*)

States	Holding *Panchayat* Elections	Constitution of DPCs	Status of SFC recommendations	Devolution of funds, functions and functionaries	Status of DRDA/ZP linkage
Madhya Pradesh	Elections held	Constituted	Accepted major recommendations	Funds 10 Function 23 Functionaries9	Merged
Maharashtra	Elections held	Constituted	Accepted major recommendations	Funds 18 Function 18 Functionaries18	Against merger of DRDA with ZP
Orissa	Elections held	Constituted	Accepted major recommendations	Funds 5 Function 25 Functionaries21	Merged and headed by president of ZP
Punjab	Elections held	Constituted	Accepted major recommendations	Function 7	Not merged
Rajasthan	Elections held	Constituted	Accepted major recommendations	Function 16	Merged
Tamil Nadu	Elections held	Constituted	Accepted major recommendations	Function 29	
Uttar Pradesh	Elections held	Constituted	Accepted major recommendations	Funds12 Function 13 Functionaries9	Merged and headed by president of ZP
West Bengal	Elections held	Constituted	Accepted major recommendations	Funds12 Function29 Functionaries12	Merged and headed by president of ZP

Source: UNDP 2007

was held in almost all the states. The constitutional provisions for reservation of seats for women and weaker sections of the society have also been respected. It was even found that some women had entered *panchayats* through unreserved seats also. In some states, the proportion of women elected representatives in gram *panchayats* was found to be higher than 33 per cent. Some of these states are: Karnataka (43.7 per cent), Madhya Pradesh (33.8 per cent), Manipur (37 per cent) and West Bengal (35.5 per cent) (*Panchayati* Raj Update, October, 2003). However, the states have been found to be unwilling to devolve function and functionaries and grant the *panchayats* fiscal autonomy (World Bank, 2000a; 2000b; 2000c)[1]. Even in recent year, poor level of own source revenue and it's declining trend and growing expenditure indicates fragile financial health of the local governments and their high level of dependency on the higher levels of governments (Oommen, 2010). Kerala and West Bengal (and to some extent Karnataka, Maharastra and Madhya Pradesh) have been recognized as the exceptions with significant devolution of power to the local level (Chaudhuri, 2007).

The most important provision of decentralization relates to creation of *gram sabha* which is constituted of all eligible voters within a *gram panchayat* and is meant to serve as a principal mechanism for transparency and accountability. However, utilization of this forum is reported to be far from satisfactory as several micro level studies showed that *gram sabha* often fail to fulfill their role as deliberative bodies or as a mechanism for accountability. Attendance at *gram sabha* meetings is very poor. Several studies have attempted to identify the reasons behind insufficient participation and the reasons identified are: lack of awareness about meetings, hesitation among women to actively participate because of social taboos, lack of awareness among people in general, and specifically among women and socio-economically backward sections, about their roles and rights in these meetings, inconvenient meeting time and venue, pre-conceived notion about futility of those meetings, disadvantaged sections or backward castes believing that

their voices will not be honoured as the leadership comes from the higher echelons of the society, corruption, and so on (Mathew *et. al.*, 2003: 48; Johnson 2003: 29; Ghatak *et. al.*, 2002: 50-51; Beher *et. al.*, 2002: 37).

Local elites controlled the local *panchayats*. In spite of the reservation for the marginalized groups, *panchayats* and *gram sabhas* have been usurped by more informal pattern of domination and power. For performing their role as the elected representatives, women have found to depend heavily on their male relatives. Similarly, people belonging to SC/ST groups refrained themselves form actively taking part in the democratic deliberations. The structural conditions pertaining to socio-economic inequalities that are ingrained in rural India actually contributed to the systematic exclusion of socially disadvantageous groups. Access to land, access to state officials etc allowed the rural elite to establish and maintain control over the other subordinate groups and this, in turn, helped them to capture the local *panchayats* (Johnson, 2003).

The PRIs are required to play an active role in the planning and implementation of rural development programmes. The success of PRIs will depend on the extent to which they are able to improve the delivery of programmes, which can be done through participation, transparency and accountability. In order to avoid malpractice and misuse of power by the functionaries and elected representatives of these institutions, all state governments have introduced relevant legislative provisions in their *panchayati raj* acts (Table 2).

Table2: State Acts for monitoring ***Panchayats***

Powers	*States*
Power to cancel /suspend resolutions	Andhra Pradesh, Himachal Pradesh, Kerala, Madhya Pradesh, Manipur, Orissa, Rajasthan, Sikkim, Tamil Nadu
Power to take action in default of a *panchayat*	Andhra Pradesh, Orissa
Power to remove elected representatives	Andhra Pradesh, Orissa, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh
Power to dissolve PRIs	Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, West Bengal
Power to give direction to PRIs	Arunachal Pradesh, Bihar, Himachal Pradesh, Sikkim
Power to call for records and inspection	Arunachal Pradesh, Assam, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tripura, Uttar Pradesh, West Bengal
Power to conduct an inquiry	Assam, Bihar, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa

Source: Mathew et.al., 2003

Nevertheless, available evidences suggest that the decentralized initiatives in India through *panchayati raj* have been facing difficulties in upholding transparency, accountability and democracy – the crucial elements of good governance. Analysis of available state specific evidences would provide us more insights about the problems and prospects of decentralization initiatives in India. Among the Indian states, in West Bengal, an ambitious and relatively well functioning decentralization program has been in operation for two decades. Following *panchayat* reforms, scope of participation by different socio-economic classes improved in West Bengal. A substantial group of 'middle class' or white-collar employees (e.g., school teachers, clerks etc.) and middle peasants became the *panchayat* representatives. These opportunist groups formed a new 'party elite' which, in turn, led to politicization of planning

process and the implementation of public projects. Nonetheless, the village constituency meetings provide an important platform for ideal participatory governance in West Bengal as people started to question the *pradhan* and local representatives on the progress of implementation of projects, allocation and use of funds, selection of beneficiaries etc in such meetings. Moreover, the reform process resulted in improved access and quality of basic services. The poorest people started to experience the benefits of the government development programs (Ghatak *et.al.*, 2002). Political reservation of socially disadvantageous groups improved targeting of publicly provided groups to those groups (Bardhan *et.al.*, 2010). There are, however, reports that indicate inter village allocation followed party lines in the sense that those not belonging to the party locally in power got discriminated against in accessing public resources (Bardhan *et.al.*, 2007). Importantly, it has been argued that decentralization campaign in West Bengal has been relatively successful as state level politicians have intervened at local levels in support of poorer peoples' against local power holders (Crook *et.al*., 1999).

Kerala is the other Indian state that has taken fairly ambitious steps towards democratic decentralization with significant devolution of fund and functions to the local level. The *Peoples' Campaign* initiatives attempted to strengthen people's participation in the development process. Kerala's socio-economic context and political culture helped to realize the goal of democratic decentralization. In the meetings of the *gram sabha*, women and SCs/STs participated somewhat disproportionately. Also, the decentralized planning had improved the provision of roads, housing and child services (Heller, 2010). The experiences of West Bengal and Kerala underscore the importance of 'enabling regime' for ensuring effectiveness of local governance as, in these states, relative success of local governance was strongly associated with a government that was highly committed to the goals social redistribution in rural areas (Echeverri-Gent, 1992).

Somewhat similar positive results have also been reported for the *panchayat* system in four states of south India. The study found that having a reserved *panchayat pradhan* improves targeting towards SC/ST households. However, the study expressed concern about bias in the allocation of resources to benefit *pradhan's* own villages. Another optimistic part of the study is comparatively greater attendance of the illiterate, the landless and SC/ST people in *gram sabha* meetings than other groups. The study reported better targeting towards the socially disadvantageous groups where *gram sabha* meetings are held. This indicates the value of poorer peoples' active participation in gram sabhas which may have a positive influence on targeting towards the poor (Besley *et.al.*, 2007).

Madhya Pradesh is considered as the other better performing state in respect of its initiatives towards democratic decentralization through the *panchayati raj*. Strong political will at the top level strengthened the *panchayat* system through framing of progressive Acts and continuous delegation and devolution of powers to *panchayat* institutions. However, the actual implementations of various provisions of the system were very weak as well as ineffective. Resistance and non-cooperation from the bureaucracy, prevailing socio-economic inequalities and resistance from rural elite and lack of capacities at the grassroots level critically hampered the smooth functioning of *panchayat* institutions. The *Gram Sabha,* despite its potential to make governance transparent, accountable and participatory, remained under-utilized. Participation in the *Gram Sabha* meetings, by and large, was found to be low in the state. This reduced the scope for people to hold elected representatives and government officials related to the system to account. Despite these limitations, the *panchayat* system resulted in empowerment of women and socially disadvantageous section of people. Moreover, collective community decision-making and incorporation of peoples' needs and desires in developmental policies were the other positive outcomes of the system. These achievements assumed greater importance in the context of largely unequal nondemocratic social and political order that prevailed in the state (Beher *et. al.*, 2002).

Andhra Pradesh deserves special mention here as the state took a different route to energize a political alternative to the *panchayat* system. In Andhra Pradesh, projects and public resources were channeled through 'parallel bodies' and the bureaucracy. The performance of one of the programs, namely DWCRA (Development of Women and Children in Rural Areas) has been particularly impressive as the scheme provided most tangible benefits to the rural poor, particularly in the form of low interest credit and subsidized grains. Scholars have explained the relatively clean functioning of this program in terms of the state government's desire to transmit an image of a government that is committed to principals of efficiency, transparency and accountability. In particular, in its attempt to consolidate the electoral support base among women, SCs and the poor, the state government created strong incentives so that the benefits of this program reach the intended beneficiaries. Here, the direct and predictable relation between local citizen and non-elected public officials provided the much needed accountability channel through which the citizens could interact with the state and, most importantly, obtain information about the programs and their entitlements. The targeting and selection of beneficiaries were under the authority of block and village development officers who are ultimately responsible for the implementation of rural development programs and are held accountable to their higher officials at the district level. The district officials had the power to monitor, transfer and suspend the concerned officer responsible for poor implementation (Johnson *et.al.*, 2005). Indeed, the government of Andhra Pradesh did not devolve power to the local level to the extent as envisaged by the proponents of decentralisation. Instead, it relied on bureaucrats and user committee members and the arrangement produced positive outcomes for the rural poor. This also highlights the importance of role that higher level of government and it's officials can play in counterbalancing the forces that tend to disfavor the poor.

Available studies provide us enough evidences to be skeptic about the process of devolution of funds and functions to the local level in

rural India. Prevailing socio-economic inequalities exposed the institutions of rural local governance to the risk of being dominated by local elites. Nevertheless, figuring out difficulties in the way of rural decentralization in India does not mean ignoring the positive benefits that people has received from this governance reform. There are places where functioning of the *panchayats* has been praiseworthy. Moreover, in areas where the development machinery has been facilitative, poor people receive highest benefits from development projects.

Evaluating Urban Decentralization in India

The 74th Constitutional Amendment Act (1992), provisions of which are directly relating to the process of decentralization, opened up a new chapter in the history of democratic decentralization in Indian cities. Under the aegis of this Act, more administrative and fiscal functions have been devolved to the urban local bodies. Cities now need to design strategies to maintain and improve public services and they need to come up with ways to finance these activities in a sustainable manner. In particular, under the new institutional framework, citizens can actively participate in their own administration and development through a two-tier system of local governance – the municipality and the Ward Committee (WC). The former is an elective body at the level of municipality consisting of elected representatives of the people (councilors) and the latter is a nominated body at the level of the ward. Moreover, recently launched Jawaharlal Nehru Urban Renewal Mission (JNNURM), the Government of India's flagship urban development program, has announced the objective of strengthening municipal governments and their functioning in accordance with the provisions of 74th CAA and, also, has emphasized on the aspect of community participation. However, progress of democratic decentralization in India varies from one state to the other (Table 3).

Table 3: State wise implementation of 74th CAA

Reform Measures	Name of the States
74th CAA (Transfer of 12 Schedule Functions)	11 States: Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Tripura, West Bengal
74th CAA (Constitution of DPC)	20 states: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal
74th CAA (Constitution of MPC) 6 States	6 states: Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Tamil Nadu, West Bengal
Transfer of City Planning Function	14 states: Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Tripura, West Bengal, Haryana
Transfer of Water Supply & Sanitation	17 states: Andhra Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Punjab, Orissa, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal
Repeal of ULCRA	29 states: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry, Punjab, Orissa, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttaranchal, Uttar Pradesh
Enactment of Community Participation Law	12 states: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tripura, Uttar Pradesh, West Bengal
Enactment of Public Disclosure Law	19 states: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal

The experience of urban decentralization in West Bengal, one of the states in India with its rich history of municipal reform even

before the advent of the 74th CAA, demonstrated that a large gap exists between the rhetoric surrounding the constitutional provisions and their actual implementations. Although an attempt has been made to institutionalize the citizens' participation through the formation of ward committees (WCs) in all municipalities, there seems to be complete lack of awareness on the part of the ordinary citizens about the existence of WCs. The information pertaining to the activities and meetings of the WCs are rarely percolated down to the general citizens. Political nature of the ward committee and thin attendance of the citizens in the WC meetings put a question mark on the efficacy of the WC as a true participative forum at the municipal level. The numerical representation has not transformed into effective representation with respect to participation of elected representatives and their accountability in municipal governments (Chattopadhyay, 2012). It is important to note here that the level of decentralisation has been higher in West Bengal and Kerala as, in these two states, WCs are provided for every ward. However, in states like Karnataka, Maharastra and Tamil Nadu, the Municipal Acts provide for WCs only in corporation areas for a group of wards and, thereby, move people away from elected representatives and reduce the scope of participatory governance (Mathur *et.al.*, 2006).

Scholars have also argued that, despite the rhetoric of 74th CAA, participatory involvement of citizens in and accountability of local governance structure are almost absent in urban areas in India. In urban Karnataka, the ratio of elected representatives to citizens has been estimated as 1:3400. The corresponding figure for Chennai has been 1: 20000. The Corporation of Chennai is divided into 155 wards which are organized into 10 zones; each having population of more than 400000 people. Although, following constitutionally mandated model of WCs, zonal committees have been set up but these odd ratios practically have ruled out any possibilities of setting up deliberative forums to discuss the needs and priorities of common people. To facilitate citizen participation, a proposal has been made to set up an *area sabha* at the level of the polling station with

every registered voter of a polling booth being a member of that formal space. These spaces are expected to give formal voice to every voter to participate in issues of local governance and, thereby, create accountability of the municipality directly to the citizens (Ramanathan, 2007; Harriss, 2007).

There are also experiences that have demonstrated that the urban development authorities, powerful people etc. tend to bypass the democratically elected urban local bodies for deciding on the vital matter of urban development in general. Most of the big Indian cities are said to be characterized by the existence of two economies. Among them, the 'local economies' develop outside the 'master plan' areas with diverse and complex economies and land tenure forms within which significant proportion of population find accommodation and work for their livelihoods. The settings for local economies are shaped essentially by local governance and local councilors and lower level bureaucracy play important role in local decision making process. In contrast, the 'corporate economies' are controlled by industrial, bureaucratic and IT sector elites who establish their links with governments through state and national parastatal agencies. Interestingly, these agencies enjoy access to most government funding and also control most of the cities development functions. With little power of local representative structure in corporate economic setting, poor people find themselves in disadvantageous position in terms of their access to land, infrastructure and services (Benjamin, 2000).

Ongoing urban governance reforms in India acknowledge the importance of citizen participation in improving urban service delivery. Apart from the constitution of ward committees, as mentioned earlier, a range of practices has been followed to operationalize the idea of participation in practice. Resident Welfare association and other urban neighborhood association are increasingly visible in recent reform processes as actors staking claims on public services and as institutions representing the voice of the citizens (Kamath *et.al.*, 2009). The RWAs in Delhi under Bhagidari Scheme, the Advanced Locality management Units in

Mumbai, RWAs in Chennai and Bangalore – all of them have sought to establish partnership between residents/citizens and the municipal authorities to improve the urban service delivery system and also to influence the urban development strategy as a whole. However, these associations have been found to be dominated by members of the middle classes who identify the urban poor, urban slums and squatter settlements as nuisance and quite threatening to any future urban development perspective. Disparate political and legal actions pursued by these groups have excluded poor people from their neighborhood. For example, in Delhi, middle class groups used public interest litigation (PIL) for pursuing their endeavors for cleaning up and beautifying their cities and thereby transforming them into 'global cities' that would be attractive to international capital. In some instances, people setting up dwellings or their businesses on public or private land were described as criminals and so were ineligible to access to public care. These clearly jeopardized the livelihoods of the affected people (Srivastava, 2009). The 'Advanced Locality Management Units' of Mumbai, in similar fashion, encouraged the discursive articulation of peoples' rights as taxpayers against illegal settlements (Zerah, 2007). In Chennai and Bangalore, the civil society activism opened up new opportunities for representation. But their practices were found to be exclusive in regard to the mass of informal working class people. Consequently, increasing opportunities for participation in such cases increased political inequality and is described as an elitist vision of democracy (Harriss, 2007).

As the vehicles of participation, under present urban governance system in India, being dominated by the interests of the middle classes, urban poor have organized themselves under different groups to make their demands. Interestingly, these groups, in general, were found to be more interested in claiming voting rights and citizenships by getting registered their names in the voter lists. These rights were crucial for their survival in the city, as politics is often the only resource in a system which may deny the benefits of policy decisions or legal remedies to the poor (Nair, 2005)[2]. Quite

naturally, the urban poor depend heavily upon the political parties and intermediation of their local leaders. In Delhi slums, poor people got access to the politicians and the state through their local leaders and used this channel to tackle their problems of access to public services (Jha *et.al.*, 2007).

Promoting formation of institutional intermediaries (e.g., special purpose vehicle or SPVs) is another key dimension of ongoing urban governance reforms in India. These bodies are dominated by the bureaucrats and are formed to take decisions on urban development projects, channel funds and monitor project progress. Interestingly, although these bodies operate in the jurisdiction of the local governments, they bypass local elected councils and report directly to the state governments. Formation of these types of bodies is justified in the name of avoiding political interference and promoting greater efficiency through increasing speed and effectiveness of project implementation. In Karnataka, one such SPV, namely Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC), was established in 1993 for projects with a focus on urban development. It was observed that locally elected representatives were not consulted on decisions regarding selection of projects, tenders etc. KUIDFC in consultation with the senior bureaucrats took these decisions. This undoubtedly reduced the scope of local participation and accountability as the local government virtually had no control over funds, project decisions and their implementations (Banidur *et.al.*, 2009). Here, the paradox is that the effort to depoliticize urban development process results in concentration of power at the state level which clearly contradicts the spirit of democratic decentralisation.

Recent reforms in India also encourage private sector participation, through public-private-partnership (PPP), in urban governance. This approach presupposes that PPPs can address the infrastructure deficits in the country for all groups, including the poor. It is important to note that the concept of PPP embraces a range of institutional structures and partnerships from subcontracting or outsourcing to joint financing and finally to policy formulation. In India, Bangalore

Agenda Task Force (BATF) with its version of PPP received wide scholarly attention for being one of the most promising PPP arrangements. Of late, its approach was enthusiastically taken up by the government in developing urban reform program at the state and national levels in general and in the formulation of JNNURM in particular. Government of Karnataka in 1999 constituted the BATF to take advantage of the expertise of the 'knowledge institutions' based in Bangalore to reverse the trends of deterioration caused by rapid growth in the city. The BATF members, primarily successful corporate leaders, worked with the municipal agencies for providing and improving the core infrastructure of the city. Interestingly, BATF excluded social welfare departments and institutions concerned with the needs of the urban poor[3] and, consequently, it had no active engagement at all with poor people and this, *at least* partially, resulted in diverting funds away from social program. In particular, BATF seemed to be interested mostly in technocratic solutions and bypassed the elected local representatives while making decisions. The operation of BATF created opportunities for lobbying by special interests in the sense that it promoted master-planning that provided a tool for increasing centralized control over land in the 'corporate' and 'elite' interests (Ghosh, 2005).

In essence, political and institutional conditions seem to provide the platform for more participatory and inclusive forms of urban governance in India. However, evidences indicate the unsatisfactory implementation of measures of urban decentralisation. The institutions of democratic decentralisation are dominated by the members of the middle classes and urban poor has very limited influence on the functioning of these institutions. Recent policies that are being pursued in regard to urban planning, e.g. PPP, further reduce scope of participation by urban poor in urban development process.

Summing Up

It has been a well accepted fact that governance acts instrumentally

for socio-economic development performance of a country. The concept of governance redefines the role of state in the development process *vis-à-vis* the non state actors. Importantly, the concept presupposes that the values related to efficiency, accountability, transparency, fairness, decency and participation, six pillars of good governance, are accepted and exercised universally. However, in practice, although these values are 'taken for granted' in developed countries, but the developing countries seem to lack them. Therefore, given the socio-economic-political realities of the developing countries, the concept of governance needs a relook with regard to it's form, mode and implementation processes in those countries. In other words, developing countries cannot have good governance purely on the basis of models and ideas prevalent in developed countries.

This paper has discussed changes that have taken place in India with regard to governance reforms. The earlier model, of a planned economy with a large role for the state has been replaced by a model where state has assumed the role of facilitator instead of command and control. This paper specifically has focused on reforms related to decentralization as the most fertile ground for experimentation with good governance practices is probably at the local level where the closer proximity between people and government representatives offers greater scope of participation and all the stakeholders can relate processes with outcomes.

Available evidences do not provide any definitive conclusion about the effectiveness of decentralization in facilitating democratic deepening and in improving the responsiveness of the government. There are some cases where the practice of democratic decentralization increased the capacities of the poor people and improved their access to basic services. But in majority cases, it has been observed that at the local level in India, the law may prescribe one thing, but what happens in practice may be quite another. In spite of the presence of participatory possibilities, it has been observed that the ordinary people failed to reap the benefits of such opportunities. Participation is inhibited by social dynamics

of exclusion and inclusion at the local level. Sometimes, some people are more inhibited in meetings, will not ask for clarifications and leave confused and frustrated and yet their attendance is classified as participation. In urban India, real governance is characterized by contradictions in the sense that democratization of the governance of Indian cities is promised on one hand through various participatory forums but these participatory opportunities on the other are taken over by the members of the middle class. In addition, governance measures like PPPs have become exclusive in regard to the needs and priorities of the urban poor.

Effective governance in India requires concomitant changes in *at least* three dimensions – the political, the administrative and the fiscal. And the key element to the quest for success is engagement of citizens with the government. Whether this is called participation, transparency or accountability is not important. Information is another important factor to effective citizenry. It is obvious that unless people know what is going on and what is the exact role of local government and their elected representatives, they cannot hold their elected representatives to account. So, it is necessary to reach out to the common people and apprise them about the role of the government in implementing developmental schemes affecting their lives. Moreover, citizens need skills along with motivation to take the full advantage of participatory possibilities provided by the governance setup. Indeed, citizen participation does not just happen, even when the political spaces and opportunities emerge for it to do so. Developing effective citizenship and building democratic institutions take effort, skill and attention. More the citizens get opportunity to deliberate in public forums; more will be their skills and motivation. This, in turn, paves the path for effective/meaningful participation. So, it is necessary to take steps to ensure greater and more effective participation by the citizens.

To conclude, given the complex nature of the governance system itself, it would be difficult to offer any unique solution to the problem of governance not only in India but also elsewhere. However, it stands out clearly that appropriate institutions, rules and incentives

mechanisms are needed to link the citizens with the government and their office bearers. Moreover, capacity development of the citizens is extremely crucial to exploit the opportunities generated through governance reforms. Conscious and combined efforts by the government and non-government organizations along with greater involvement of the citizens have the potentiality to improve both the governance system as well as delivery of services.

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Endnotes

[1]Nevertheless, central functions of the Indian government have been appreciated for being able to, e.g., control the high rates of inflation even in the period of low economic growth, a problem badly affecting many developing economies. The government majorly fails to deliver programs and services to the mass of the people and some scholars described India as a 'flailing' state (Pritchett, 2009; Kapur, 2010).

[2]In India, politicians lack incentives to transfer power and resources to the local bodies as that would entail loss of some of their powers of patronage. Increasing volume of resources coming from the central level to state and local level in recent times would further increase the incentives of state politicians to control local administration (Harriss, 2010).

[3]It has been observed that the attempts to organize slum dwellers outside party politics are mostly unsuccessful (Harriss, 2010).

[4]This exclusion was justified by branding those departments as 'political cesspool' and the BATF did not want to open that can of worms (Ghosh, 2005).

CHAPTER 5

Climate Change Creates Trade Opportunity in India

Soumyananda Dinda

Abstract

Climate change is an emerging challenge to developing economy like India however it also creates opportunity to grow through climate friendly goods production and new direction of trade. This paper focuses India's potential export trade in climate friendly goods. The estimated gravity model is defined as the potential trade and potential trade gap is measured as how well a bilateral trade flow performs relative to the mean as predicted by the model. Potential trade gap means that actual trade is less than predicted trade value. It suggests that there is a scope to increase the export of climate friendly goods (CFG) to trading partners. The total estimated CFG export potential trade gap in India is around 6 billion US dollar (USD) in 2008. This study contributes on the empirical measurement of potential trade of climate friendly goods in India. Paper suggests a possible climate smart export-led growth model in India and mitigates climate change problems.

Keywords: Bilateral trade flow, Climate friendly goods, Export, Gravity model, Potential Trade, Asia, EU, USA, UK.

Introduction

Climate change is a new 'avatar' to the developing countries like India. Truly, climate change is one of the greatest threats to the human civilization and the toughest challenge for the economic development in the 21st century. Accumulation of fossil fuel consumption in developed countries during industrialization is the main cause of climate change in the world. They have contributed a lot to change the climate. Less Developed Countries (LDCs) have contributed negligible or little to cause climate change, yet face its harshest impacts and have the weakest capacity to adapt to these impacts. In this context, even there is lot of limitations or obstacles for development; climate change also provides certain opportunity to grow with newly climate friendly products (CFP). Now, question arises as follows: Does climate change create any opportunity in India? Does climate change create trade opportunity for climate friendly goods and technology (CFGT) in India? How do we measure the trade opportunity? Can trade help to mitigate climate change? How much is the volume of trade opportunity for India in climate friendly goods? Who are the potential trade partners within Asia region and in the world? This paper attempts to quantify trade opportunities of CFGT in India.

Climate change emerges as a new constraint and creates obstacle for development as well as opportunity to grow. Truly it provides the opportunity to redesign the economic activities. For the supply driven economy still trade is the engine of growth. Trade can help developing countries with adaptation, through generating export earnings and accessing the updated technologies. Trade has also a role in mitigation of climate change through disseminating and exchanging the low carbon technologies. The objective of the clean technology is to improve energy efficiency and reduce environmental impacts. The Goods that have relatively less adverse impact on the environment is termed as climate friendly goods (CFG). The paper examines the potential trade in climate friendly goods and technology in India. This study provides evidence focusing on trade opportunity of CFG to form the policy opinion on '*climate change and trade*'.

This study highlights the export potential trade of CFG in India. It deals with the potential trade of India's CFG within Asia, with European Union (EU), North America (the USA and Canada) and rest of the world. This study is mainly based on the application of the gravity model. The gravity analysis is useful to explain determinants of exports potential of CFG in India with Asia, the US and the EU. Gravity model is adopted to explain the role of economic size and endowments, distance between trading partner, membership of multilateral agreement, among others on trade of such climate friendly goods or/and sub-categories. In particular, the gravity analysis considers the bilateral total trade of the CFG exports of India for the years 2008. This study is a cross- sectional data analysis for estimating the gravity equation.

Climate friendly goods

Climate friendly goods (CFG) are defined broadly as products[1], components, and technologies which tend to have relatively less adverse impact on the environment. CFG constitutes low carbon growth technologies. For example, one subcategory is the clean coal. Clean coal technology aims to improve energy efficiency and reduce environmental impacts, including technologies of coal extraction, coal preparation and coal utilization. Wind technology another sub- category of CFG focuses on wind energy generation and is composed of three integral components: the gear box, coupling and wind turbine.

The climate friendly goods (CFG) is a part of the wider group named environmental goods and services (EGS). An environmental good can be understood as equipment, material or technology used to address a particular environmental problem or as a product that is itself 'environmentally preferable' to other similar products because of its relatively benign impact on environment.

[1]It consists of articles of Iron and Steel, Aluminum, machinery and mechanical appliances, electrical machinery equipment, ships, boats and floating structures, glass and glass ware articles, among others.

Environmental services are provided by ecosystems or human activities to address environmental problems and help to minimize the environmental damages and protect the bio-sphere of the earth. EGS can be also classified as *Environmental Goods* comprising of pollution management products, cleaner technologies and products, resource management products and environmentally preferable products. EGS also has environmental services comprising of sewage services, refuse services, sanitation and similar services and others. The EGS were first discussed as part of the liberalizing agenda[2] in the DOHA round of the multilateral trading round in 2001. The countries had wanted the tariff and non-tariff barriers to go down for trade of such EGS as this may lead to adoption of cleaner and cost effective technologies by firms and country at large and possibly mitigate climate change and improve energy efficiency. The CFG (a subset of EGS) were discussed at the multilateral forums as countries wanted a smaller list to liberalize and where in negotiations could be easier done than concentrating on the entire list of environmental goods[3].

Free and liberalized trade can make available such goods for countries which have no access to the CFG or where in domestic industries are unable to produce them in sufficient scale or at affordable prices. For exporters additional market access can provide incentives to develop new products or technologies with less green house gas emissions. As a whole global climate impact will reduce definitely.

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[2]Liberalization has followed three routes namely the list approach, project/ integrated approach and request for offer approach. Environmental Goods were always part of trade agenda but were subsumed within industrial or agricultural negotiations.

[3]For example WTO came out with a list of 153 goods for liberalization. The World Bank identified 47 products out of 153 products list proposed by proponents of Env ironment Goods liberalizationin the WTO. These 47 products comprised diverse products from wind turbines to solar panels to water saving shower Similarly OECD and ICTSD had their own lists of environmental goods and services.

Most of the exporters of EGS are the developed nation but some of the developing countries are also becoming important players in the heat and energy management equipment, noise and vibration abatement, and in environmental services like air pollution control and solid waste management[4]. In this context developing country like India should focus on CFG trade and emphasis more on it.

This paper is organized as follows. Section 2 reviews the literature. Section 3 describes data and methodology. Section 4 presents results. Finally, Section 5 draws some concluding observations.

Literature Review

The gravity model of trade is based on the idea that trade volumes between two countries depend on the sizes of the two countries and the distance[5] between them. This simple model has been used extensively in analyzing trade and has been successful to a high degree in explaining trade[6]. There is debate on trade resistances that might limit or promote trade between particular trading partners, often relying on a number of variables to proxy total trade resistances, including trade related costs. Recently global climate change itself creates new resistances on international trade. This climate change resistances also create the opportunity for trade in new direction in the name of green businesses. The review of literature demonstrates the new direction of potential trade in climate friendly goods.

Anderson (1979) introduced the gravity model theoretical legitimacy. He derived the gravity equation from expenditure systems where goods are differentiated by country of origin and distance is the proxy of all transport costs. The theoretical foundations of the gravity model as described by Anderson (1979), Bergstrand (1985), Helpman (1987) and Deardorff (1995) start with the assumption

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[4]See, Veena Jha (2008) for more details.

[5]Distance could be physical, cultural or/and political.

[6]Harrigan (2001) and Anderson and van Wincoop (2004) contain comprehen sivreviews

of frictionless trade or iceberg transport costs and then, with the exception of Bergstrand, derive a model where trade volumes between country pairs are proportions of the product of incomes or total world trade. Bergstrand (1985) made the next significant contribution to giving the model a theoretical underpinning and deriving the model as a 'partial equilibrium subsystem of a general equilibrium model'. Prices are generally considered endogenous in gravity models because they are general equilibrium models with exporter supply and importer demand clearing, but Bergstrand (1985; 1989) introduces and justifies the use of prices from underlying production functions and utility functions where he argues that strong assumptions, such as perfect international commodity arbitrage, are clearly not met in reality. Helpman (1987) derives the gravity model from an imperfect competition model and Deardorff (1995) derives it from the Heckscher–Ohlin model. Indeed, the gravity model can be derived from numerous trade theories in one form or another and can be used to find empirical evidence of many trade theories with different assumptions about preferences and whether goods are differentiated or homogeneous (Deardorff 1995; Harrigan 2001).

Trade shares 'fall naturally into a gravity-equation' (Deardorff 1995). This probabilistic method is comparable to the analysis of trade intensities (Drysdale and Garnaut 1982) which uses the relative size of a country's trade as a benchmark for what the country is expected to trade. Although they give the gravity equation theoretical backing, the assumptions of frictionless trade or iceberg transport costs to capture all the frictions are strong but are a poor proxy for trade friction. The 'border puzzle[7]', of large unexplained trade costs when goods are traded across a national border, has been the focus

[7]Anderson and van Wincoop (2003) claim to solve the border puzzle using McCallum's data by deriving the gravity equation from expenditure functions and importantly adding what they call multilateral resistance. The multilateral resistance terms are important and mean that if country *i*'s trade with country *j* is being analysed and there is no movement in the trade determinants, a change in country *k* 's trade with country *i* will affect trade between *i* and *j*, as would be expected. Their specification explains away most of the border

puzzle. McCallum (1995) found that trade between US and Canada was lower than trade within their borders by a factor, but Anderson and van Wincoop (2003) reduce this unexplained border effect to the border's lowering trade by 44 per cent. They assumed symmetric trade costs to solve their model, which is a significant but unrealistic assumption. Their results are disputed in an important paper by Balisteri and Hillberry (2006) who find that the theory consistent model of Anderson and van Wincoop (2003) does not explain away the border puzzle. Balisteri and Hillberry (2006) relax the assumption of symmetric border costs and account for structural bias in Anderson and van Wincoop (2003) that arises from the incorrect treatment of an adding up constraint which is implicit in the Anderson and van Wincoop (2003) model. The correct estimation of the Anderson and van Wincoop (2003) derivation shows that the literature still cannot explain the border puzzle, or what we prefer to de scribe here as unexplained resistances.

of much of the literature since McCallum (1995). He applied the gravity model to estimate a value for the loss in trade volume accounted for by goods crossing the US–Canada border as compared to intra-national trade (between states or provinces) in both countries. The findings show that international border effects are inferred and that they matter even with two economies that share a large border and are highly integrated through a regional trade arrangement (RTA) such as NAFTA. Trading across borders will cause disconnect in relative prices as insurance, freight, tariffs, non-tariff barriers, and different regulatory structures cause uncertainty and impede trade to some extent.

Linnemann (1966) started a process in the literature of adding trade explicators and inhibitors to the gravity model. Frankel, Stein and Wei (1997) undertake a comprehensive study[8] of regional trading

[8]There are many studies that measure the effects of bilateral and multilateral trade arrangements, both discriminatory and nondiscriminatory, but perhaps none as comprehensive and convincing as that of Frankel, Stein and Wei. They are able to quantify the amount by which different preferential trade arrangements (PTAs) and regional arrangements such as APEC, increase trade by adding trade agreement dummy variables into the standard gravity model. Analysis of regional or multilateral trade arrangements using gravity models is now commonplace and important in applied trade theory.

blocs using the gravity model as the main tool. The exchange rate volatility had been commonly included as a trade explanatory in the gravity model, Rose (2000) made an important contribution as the first to include a common currency dummy variable to explain trade[9].

The wide use of the model, and the policy implications drawn from its application that are quite significant in absolute dollar terms, have led to concentration in the literature on improving on the accuracy of the econometric specifications and techniques. Differing econometric specifications of the gravity equation are numerous[10]. Baldwin and Taglioni (2006) summarize errors that are frequently repeated in the literature. What they call the gold medal error, so named because of the relatively high effect it has on the estimates of all trade resistance variables, is due to the omission of the Anderson and van Wincoop (2003) multilateral

[9] The finding that an economy which is so highly integrated with another economy that there is a common currency, increases trade three fold, as his European Union dummy suggested, had a large impact on the literature with significant policy implications. The idea of increased trade from a common currency is intuitive, but the magnitude was surprising. Baldwin and Taglioni (2006) reduce the magnitude of the common currency effect significantly using Anderson and van Wincoop (2003)'s structural estimation with multilateral resistance.

[10]The question of using population as an explanatory variable is one example where the gravity equation is inconsistent. The theoretical underpinnings derived by Anderson (1979) Helpman (1987) Deardorff (1995), do not justify the inclusion of population, and its effect is positive sometimes and negative other times. A positive effect, implying that a country with a higher population trades more, would be the expected result for developing economies as they tend to be specialised in labour-intensive exports. A negative effect for population size could be due to economies with larger populations having an absorption effect (Martínez–Zarzoso and Nowak–Lehmann 2003). Then why do so many researchers include population? Including the log of GDP and log of population separately in the log linearisation of the gravity model for estimation, is equivalent to including the log of GDP per capita with a restriction on the estimated coefficients of GDP and population separately. However, many papers do not explicitly say this, and the population term is included in the model to control for country size but often ignored in the analysis. The reason GDP per capita is included in so many models is that it has meaning in the context of using the Linder hypothesis in explaining trade flows.

resistance terms which are explained above footnote. The second most important error they identify is related to when trade between countries *i* and *j* is analyzed as an average of both trade from *i* to *j* and trade in the other direction.

Baldwin (1994), Dinda (2011a, 2011b) Nilsson (2000) and Egger (2002) are the most prominent examples in the literature that use the term trade 'potential' as the expected volume of trade between country pairs that the gravity model predicts. They then measure how far above or below potential trade from actual trade. It gives a measure of performance of bilateral trade flow. This study quantifies the gap between expected and actual trade and contributes in the empirical measurement of potential trade gap of climate friendly goods in India. It also highlights the climate friendly export-led growth model for emerging India.

Data and Methodology

This study has been able to identify 64 climate friendly goods (CFGs) under 6 digit HS code (2002) by putting together various lists that have been defined by various international organizations recently. The list[11] is arrived by defining concordance series from the list given by the World Bank, ICTSD, WTO, APEC and the OECD. The study considers these CFGs as one category and estimates above mentioned trade indicators for this category. Following the World Bank (2008) we have been able to sub group these 64 goods further into clean coal technologies (HS code 840510, 841181 and 841182), Wind Energy (HS code 848340 and 848360), Solar Photovoltaic systems (HS code 850720, 853710 and 854140) and Energy Efficient Lighting (HS code 853931). The study besides these four sub groups have also considered 'Other Codes' as the fifth group which consists of all HS codes not considered in the four categories above. All these 64 CFG items are considered as single trade item for this study purpose.

[11]List of 64 climate smart goods with HS code is given in Appendix.

Climate friendly goods (CFG) trade data (in value, 1000 US dollar) is taken from UN COMTRADE data (www.comtrade.un.org) for the year 2008. Gross Domestic Production (GDP) and per capita GDP data are taken World Bank Development Indicators (www.worldbank.org/data) for corresponding years. Distance between countries and other dummy variables are taken from the dist_cepii.xls file of CEPII DATABASE (see the website: www.cepii.fr). Total observation is reduced after combining all the variables for each pair of trading partners[12]. This filtered data set is used in the empirical analysis. The following gravity model is considered for the analysis

$$X_{ij} = \beta_0 + \beta_1 GDP_i + \beta_2 GDP_j + \beta_3 PCGDP_i + \beta_4 PCGDP_j + \beta_5 DT_{ij} + \beta_6 D_{contig} + \beta_7 D_{comlang} + \beta_8 D_{comlang\_ethno} + \beta_9 D_{colony} + \beta_{10} D_{comcol} + \beta_{11} D_{col45} + \beta_{12} D_{smctry} + \beta_{13} Trf_j + \varepsilon_{ij} \quad (1)$$

Where X_{ij} denotes the value of country *i* exports to country *j*, GDP_i and $PCGDP_i$ denote the exporting country's gross domestic product and per capita GDP, respectively; and GDP_j and $PCGDP_j$ denote the gross domestic product and per capita GDP of the partner of the exporting country, respectively; DT_{ij} denotes the distance between the exporting country and its partner (importing country); Trf_j is the (weighted average) tariff rate imposed by partner of exporting country, D_{contig}, $D_{comlang}$, $D_{comlang\text{-}ethno,}$ D_{colony}, D_{comcol}, D_{col45}, and D_{smctry} are the dummy variables for contiguity, common language, colony, common colony, colony from 1945 and small country, respectively. In our regression analysis we have used the log values of all variables (except dummies).

Results and Discussions

Overall trade performance was quite satisfactory in Asia and especially in India in 2008. Initially the preliminary findings are summarized and discussed. Asia's actual export of CFG trade was nearly 119.74 billion USD in 2008. Out of it, intraregional and interregional trades were 61.19 and 58.55 billion USD, respectively.

[12]This study considers fully matched data only.

Intraregional demand was nearly 51% and only 49% for interregional demand of CFG. It is true that internal demand within Asia-Pacific region is very high for the climate friendly goods and over time it will increase with economic development. Correspondingly India's actual export trade value of CFG was nearly 3.55 billion USD in 2008. It was 1.95% of India's total trade to world in 2008.

Now we estimate the potential export of CFG in Asia in 2008. Using econometric techniques the above gravity equation (1) is estimated for analysis purpose. Table 1 presents the estimated results of the gravity model for the CFG in 2008. The coefficients of GDP reporter, GDP partner, per capita GDP of reporter, geographical distance between two countries, common colony and small country are statistically significant at 1% level. The coefficient of common language is significant at 10% level. Considering statistically significant coefficients the estimated export of CFG equation is

$$X_{ij} = -49.27 + 1.605\ GDP_i + 0.94\ GDP_j - 0.28\ pcgdp_i - 0.93\ DT_{ij} + 0.69\ D_{cmcl} + 2.99\ D_{smctry} \quad (2)$$

The equation (2) is the benchmark for predicting potential export trade of any country in Asia in 2008. The export elasticity of climate friendly goods (CFG) is elastic with respect to gross domestic production (GDP) of reporting country which suggests that export of CFG would be increased by more than 1.6 percent if income of the reporting country increases by one percent. So, the growth of CFG export is more than the reporter country's GDP growth. The CFG export led-growth is highly important to follow sustainable development to all reporting countries in Asia. In terms of scale effect, the export of CFG for reporter country is playing an important role for its economic growth. The export elasticity of CFG is inelastic with respect to partner country's GDP. It suggest that if partner country's GDP increases by one percent the export of CFG increases by 0.94 percent in reporter country's GDP. From this probably one can guess that one part of partner country's internal demand is fulfilled by their production of CFG. The export of CFG decreases by 0.28 percent as per capita GDP increases by one

percent. It is due to internal demand of CFG. It is true that internal demand of CFG increases in each country with their economic growth in Asia. It might help the emerging Asian nations to grow with sustainable development. It is clear that export of CFG increases in Asia due to possibly economics of scale that also raises per capita income which increase internal demand of CFG. Internal demand increases because of the awareness of global climate change and availability of CFG. So the opportunity of green business in Asia is growing and business of CFG is expanding. Countries in Asia are prepared to shape the economy towards sustainable development. The coefficient of distance between country pair is negative as it is expected in the gravity model. This observation supports the existing literature on trade gravity model. The exports of CFG are more in the common colony compared to others. Overall CFG exports are higher in small countries compare to others in Asia. Constant term is statistically significant which might capture other unknown other factors. Detail depth study is required to explore the reasons behind it.

Following Baldwin (1994), Nilsson (2000) and Egger (2002) many Asia countries are far below the expected trade performance as the literature define the term potential trade gap. Potential trade gap is measured as the difference between actual export and predicted value of export of CFG in this study. It is a measurement of how well a bilateral trade flow performs relative to the model predicted mean value for Asian countries. Using the gravity model we estimate the predicted export trade value of the reporting country with its trade partners. For the analysis purpose this study mainly focuses on the quantification of 'potential trade gap' in Asian countries especially in India. It is a gap that is defined as the actual trade less than predicted value. 'Potential trade gap of CFG' itself suggests that there is a scope to increase the export of climate friendly goods and technology. The total estimated export potential trade gap of climate friendly goods in Asia is around 30 – 35 billion US dollar and that of in India is nearly 6 billion USD in 2008.

Trade performances of CFG export are far below their predicted value in many Asian nations including India. This trade gap suggests that they could increase the export of CFG. These countries could be increased their potential export trade of CFG nearly 7.34 billion USD. Among these countries India (4.2 billion USD) is in the top followed by Russia (1.51 billion USD), Pakistan (0.98 billion USD), Hong Kong China (0.59 billion USD), Azerbaijan (6.7 million USD) etc. These major countries have huge untapped potential trade of CFG.

Intraregional demand for CFG is also very high. Actual intraregional import was 61.2 billion USD in 2008. Some countries could not fulfill its import demand during the crisis period in 2008. These countries could be increased their import trade of CFG nearly 19.84 billion USD only through intraregional trade. The major import potential countries are Korean republic (15.78 billion USD), Pakistan (2.79 billion USD), Armenia (7.37 million USD) and Bangladesh (1.26 billion USD) etc.

Now the paper highlights the potential trade of CFG in India. Using equation (2), total estimated potential export trade of CFG was 9.536 billion USD in India in 2008 while actual export was only 3.55 billion USD. Actually India utilized only 37.2% of its potential export trade of CFG in 2008. India could increase export of CFG by 62.8% in 2008. India can utilize moderately trade of CFG and has potential to increase its trade opportunity in CFG. Roughly total potential trade gap of CFG in India was 4.2 billion USD in Asia and 6 billion USD in the World in 2008.

Potential trade gap is measured for all trade partners of India. Figure 1 and Figure 2 show the trade gaps for countries in Asia Pacific region and European Union, respectively. In figure 1 and 2, the horizontal line is the benchmark line and bars indicate trade gaps. These bars are standardized trade gaps. Bars below the benchmark line show that actual trade of CFG is less than estimated potential trade. In other words, bars below the benchmark indicate the untapped trade opportunity for CFG. Definitely it suggests increasing trade with respective partners.

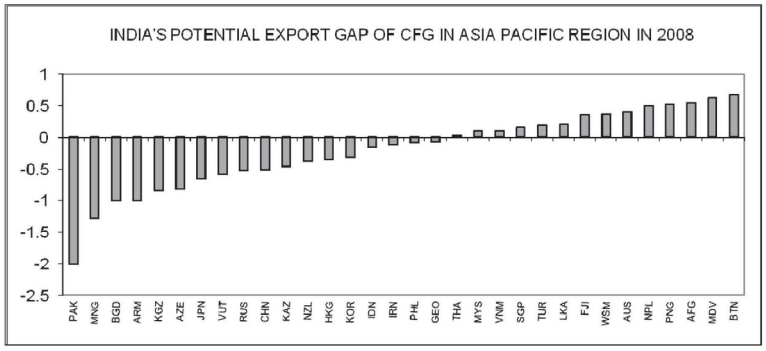

Fig 1: India's trade opportunity in Asia Pacific region

From Fig 1 it is clear that India's potential trade is huge in Asia Pacific region. Within Asia Pacific region, India could increase the CFG export to Pakistan, Mongolia, Bangladesh, Armenia, Kazakhstan, Azerbaijan, Japan, Vanuatu, Russia, China, Kyrgyz Republic, New Zealand, Hong Kong, Korean Republic, Indonesia, Iran, Philippines.

Fig 2 displays that India has a great potential export trade of CFG to developed countries. The most important and encouraging India's CFG trade partners are Luxembourg, UK, Latvia, Cyprus, Greece, Hungary, Slovenia, Slovakia, Austria, Finland, Ireland, Poland, Spain, Lithuania, Bulgaria, Romania, Denmark, Sweden, France, Italy and Czech Republic. India has trade potential to increase trade of CFG with Canada.

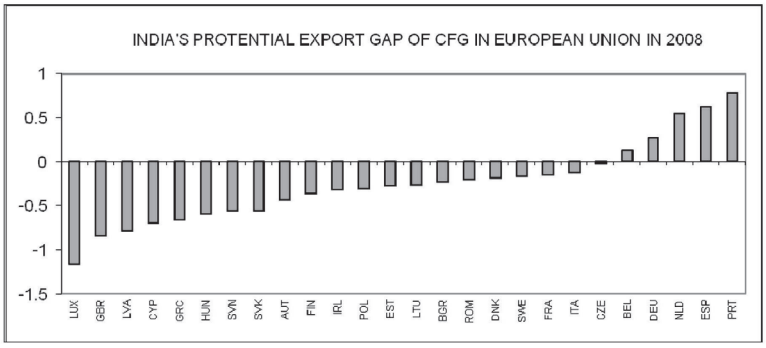

Fig 2: India's trade opportunity in the EU

The estimated India's CFG exports potential gaps are 4.976 billion US dollar within Asia Pacific region and 1.01 billion USD with EU. India's export potential trade gap of CFG is higher in Asia region than EU. India has strong trade potential with Pakistan, Bangladesh, China, Japan, Russia, and South Korea and estimated potential export gap of CFG to these countries is nearly 4.9 billion USD. India's CFG export potential gap to Pakistan and Bangladesh is 4.4 billion USD. India should explore this potential trade and revise the *East Look Policy* and can stimulate to control climate change in the region.

India's CFG potential trade top partners in EU are UK, France, Italy, Poland, Greece and Austria and the potential trade gap is nearly 1 billion USD. India has potential to increase its export of CFG to Asia and EU approximately more than 6 billion USD.

There is a huge variation in the potential trade gap among nations. Major reasons are lack of awareness and knowledge, insufficient technology, lack of skilled labour for production of CFG, lack of trade facilitations etc.

Table 1: Results of the trade gravity model for the export of climate friendly goods in 2008

	Coefficients	Standard Error	t -value	P-value
Intercept	-49.2722***	1.717189	-28.69	6.7E-156
GDP_reporter	1.6052***	0.045923	34.95	1.1E-216
GDP_partner	0.9400***	0.035135	26.75	3.3E-138
pcgdp_reporter	-0.2807***	0.052835	-5.31	1.17E-07
pcgdp_partner	-0.077	0.051787	-1.49	0.137275
Distw	-0.9346***	0.105363	-8.87	1.39E-18
Contig	0.1427	0.439915	0.32	0.74567
comlang_off	0.0177	0.356485	0.05	0.960385
comlang_ethno	*0.577**	0.314579	1.83	0.066769
Colony	0.8370	0.786272	1.06	0.287179
Comcol	0.6899***	0.246621	2. 8	0.00519
col45	1.1235	0.947884	1.19	0.236048
Smctry	2.9954***	0.79718	3.76	0.000176

Note: '***', '**' and '*' denote the statistical level of significant at 1%, 5% and 10%, respectively.

Conclusion

The paper highlights the estimated trade gap of CFG in India in 2008. Applying the gravity model this paper measures the *potential trade gap* and suggests possible expansion of the export trade of climate friendly goods among trading partners. The total estimated export potential trade gap of CFG in India was around 6 - 7 billion US dollar in 2008. This study contributes in the empirical measurement of potential trade of climate friendly goods in India and quantifies potential trade gap of individual partners. It supports the possible emergence of CFG export-led growth model in India and also mitigates climate change problems in future. India might adopt few policies to improve and raise CFG production and trade. The reasons for untapped potential export gap in CFGs might be the lack of awareness, unavailability of technology, lack of skilled labour for production of CFG, govt. policy towards climate friendly goods, lack of trade facilitations etc. Our next agenda is to explore these in details and forecast potential trade of CFG for 2020, 2030 and 2050. More depth study is needed to overcome these limitations. Next research agenda is to identify and estimate sub- regional and country specific trade potential in Asia and the World.

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