

Sunamganj Community Based Resource Management Project

Impact survey of five roads, July 2010

This survey was carried out following a follow-up mission by an IFAD Project Management Advisor in February 2010. During this mission a questionnaire and survey plan was developed. Actual interviews took place in June-July 2010 with data being entered into computers in early July at the start of the IFAD Second Phase Review (SPR) mission. The SPR mission leader analysed the data while in Sunamganj and, with the help of PMU staff, corrected some data errors and omissions.

The survey covered five concrete village roads constructed between two and five years ago. These roads were the following:

Road 1

Upazila: Sadar	
Route of road: Berigaon to Khaitarmor via Krishnanagar school CBRMP Road	
Length of road: 3.4 km	Type of road: RCC Width: 3 m
Date built: 2004/5	
Details: connects six villages of two unions in a good agricultural area, high level of traffic, big economic impact.	

Road 2

Upazila: South Sunamganj	
Route of road: Ganigonj Bazar to Muradpur via Tehokia CBRMP Road	
Length of road: 2.1 km	Type of road: RCC, width: 2 m
Date built: 2004/5	
Details: connects five beels and six remote villages with a growth centre market, significant amount is seasonally submerged.	

Road 3

Upazila: Bishwambarpur	
Route of road: Bishwambarpur to Katakhal CBRMP Road	
Length of road: 3.5 km	Type of road: RCC Width: 3 m
Date built: 2004/5	
Details: connects 11 villages and a growth centre market in one union, high level of traffic	

Road 4

Upazila: Jamalganj	
Route of road: Behily Ghat to Radhanagar CBRMP Road	
Length of road: 1.6 km	Type of road: RCC Width: 2 m
Date built: 2006/7	
Details: connects two villages in one union	

Road 5

Upazila: Tahirpur	
Route of road: Ratansree to Kawkandi CBRMP Road	
Length of road: 6.2 Km	Type of road: Submergible , RCC & Block Width: 3 m
Date built: 2007/8 (4 km) and 2008/9 (2.2 km)	
Details: connects nine villages of four remote unions and a beel. Area has a low level of economic development, but road has an important social impact.	

The survey interviewed a total of 196 people living along the five roads – between 40 and 35 per road (Table 1). Of the total respondents, only 17 were women, making it difficult to draw any conclusions on the opinions of women regarding the impact of roads. Almost three-quarters of respondents gave the main occupation of their head of household as farming (Table 2).

Table 1: Number of survey respondents

Road no:	1	2	3	4	5	total
no.of respondents	40	40	41	35	40	196
male	39	40	39	31	30	179
female	1	0	2	4	10	17

Table 2: Occupation of respondent households

Road	1	2	3	4	5	total
Farmers	63%	63%	90%	83%	73%	74%
trader/business	23%	15%	15%	20%	20%	18%
Transport	5%	0%	10%	0%	0%	3%
service	10%	3%	7%	3%	5%	6%
Other	0%	20%	2%	6%	5%	7%
total*	100%	100%	124%	111%	103%	108%

* total can be more than 100% due to some reporting multiple occupations

Respondents reported a remarkable shift in the mode of transport using the five roads. Before improvement, most traffic was pedestrian and bicycles, with a significant number reporting carts (human or animal powered) and rickshaws. Overall 56% of respondents did not report any use of rickshaws or any form of motor-powered transport before road improvement. After improvement there has been a great increase in rickshaws, motor-cycle and light motor vehicles. Over a third of respondents mentioned that the roads were now used by tractors (2 wheel tractor pulling a light trolley) (Table 3).

Table 3: Mean of transport reported as using sample roads

	percent household reporting								
	pedest- rians	boat (in flood)	cart	bicycle	rickshaw / van	motor- cycle	light motor*	tractor	bus truck
Before	63%	22%	34%	65%	39%	5%	1%	0%	0%
After	6%	6%	6%	63%	95%	54%	48%	36%	1%

* auto-rickshaw, CNG, tempo, laguna, micro-bus

Almost all respondents reported that project roads had resulted in improvements in employment opportunities, household income and access to education, health services, markets and town. Over half of respondents said access to markets, education and health was much better (Table 4). Even

before roads were built, women from almost all households visited their local town, however the frequency of visits has increased, from an average of 1.59 times per month to 3.53 times.

Table 4: Changes attributed to sample roads

	percent household reporting				
	worse	same	little better	lot better	total
Employment opportunities	0%	6%	54%	40%	100%
Household income	0%	2%	59%	39%	100%
Access to education	1%	5%	37%	57%	100%
Access to health service	0%	2%	42%	56%	100%
Access to markets	0%	4%	38%	58%	100%
Access to town	0%	6%	56%	39%	100%

Table 5 shows how people have switched from travelling on foot to using motorised transport. However this table omits rickshaws and motor-cycles (important modes of transport) and people also report that it is now easier to travel by foot on the roads – with women travelling more than before.

Table 5: Net change in use of modes of transport

percent household reporting							
foot	bicycle	tempo	CNG	tractor	bus	boat	other
-80%	62%	96%	47%	34%	3%	-6%	37%

With the development of roads around three-quarters of respondents report increasing the area of crops grown (Table 6). Although the proportion of respondents reporting growing high-value crops has not changed, 66% report growing an increased area of these crops, with the average area increasing from 35 to 52 decimals. Crop sales have also increased. Although the proportion of respondents reporting such sales has only increased slightly (from 66% to 70%), but the average value of sales has increased by 69% from Tk127,000 to Tk203,000.

Table 6: Change in area of crops

	percent household reporting				
	less	same	more	not grown	total
Paddy	2%	19%	39%	40%	100%
Vegetable & potato	1%	15%	58%	26%	100%
Pulse & oilseed	1%	24%	38%	38%	100%
Other crops	0%	6%	23%	71%	100%

With intensification of agriculture, farmers are hiring more labour. While 45% of respondents reported hiring labour before road development, this increased to 68% after development. It has been difficult to get a reliable estimate on the amount of labour hired, but on average respondents said they employed 9 persons before development and 26 after development. Average daily wages paid have increased from Tk109 to Tk202. Farm transport costs to bring fertiliser to the farm and send crops to market have halved (Table 7).

Table 7: Change in farm transport cost

		before	now	change
fertiliser	Tk per 50 kg	53	26	-51%
crops	Tk per 40 kg	44	23	-49%

There has only been a small increase (from 18% to 22%) in the proportion of households reporting non-farm businesses. However on average their sales have increased by 159% and profits by 162%. The proportion of businesses employing workers increased from 49% to 58%, the number employed increased by 130% and average daily wages increased from Tk119 to Tk164. Better roads meant the cost of transporting one load from an upazila town fell by 49%, and from the district headquarters the cost fell by 62%.

Road construction has enhanced the value of land within reach of the road. All respondents reported increases in land prices, with the average price of homestead land increasing by 113%, agricultural land by 161%, and roadside land suitable for a business increasing by 190%.

In terms of changes in overall standard of living using four indicators, at least 90% of respondents reported improvements, with most reporting moderate improvements (Table 8).

Table 8: Change in living standards

Indicators	Percentage of respondents reporting:				Total
	worse	same	bit better	much better	
Quantity of food	1%	9%	60%	30%	100%
Quality of food	1%	7%	78%	15%	100%
Housing	0%	4%	89%	7%	100%
Household assets	0%	4%	75%	21%	100%
overall	0%	6%	75%	18%	100%

The results of this study show that the vast majority of people living along the line of roads developed by the project thought that the road development had resulted in significant benefits in terms of livelihoods and standard of income. There has been a significant switch to wheeled and motorised transport and the cost of transporting goods has halved.

Annex: Data on individual sample roads

Types of traffic		Sadar	South	Bish'pur	Jam'ganj	Tahirpur	total
before	Foot	90%	100%	68%	0%	48%	63%
	Boat	0%	0%	68%	0%	40%	22%
	Cart	0%	98%	34%	0%	33%	34%
	Bicycle	53%	100%	51%	100%	28%	65%
	rickshaw / van	13%	100%	39%	46%	0%	39%
	motorcycle	0%	0%	2%	0%	20%	5%
	light motor	0%	0%	5%	0%	0%	1%
after	Foot	3%	0%	15%	0%	13%	6%
	Boat	0%	0%	10%	0%	18%	6%
	Cart	0%	0%	5%	0%	25%	6%
	Bicycle	58%	100%	68%	31%	53%	63%
	rickshaw / van	95%	100%	88%	100%	95%	95%
	motorcycle	78%	3%	63%	51%	73%	54%
	light motor	95%	100%	39%	0%	0%	48%
	Tractor	0%	3%	61%	94%	30%	36%
	bus or truck	0%	3%	0%	0%	0%	1%

Impact on households

	Sadar	South	Bish'pur	Jam'ganj	Tahirpur	total
Employment opportunities						
Worse	0%	0%	0%	0%	0%	0%
Same	8%	0%	0%	0%	23%	6%
little better	80%	100%	17%	26%	45%	54%
lot better	13%	0%	83%	74%	33%	40%
	100%	100%	100%	100%	100%	100%
Household income						
Worse	0%	0%	0%	0%	0%	0%
Same	3%	0%	0%	0%	5%	2%
little better	30%	88%	63%	49%	65%	59%
lot better	68%	13%	37%	51%	30%	39%
	100%	100%	100%	100%	100%	100%
Access to education						
Worse	0%	0%	2%	0%	3%	1%
Same	0%	0%	0%	0%	23%	5%
little better	33%	33%	20%	74%	33%	37%
lot better	68%	68%	78%	26%	43%	57%
	100%	100%	100%	100%	100%	100%
Access to health service						
Worse	0%	0%	0%	0%	0%	0%
Same	0%	0%	2%	0%	8%	2%
little better	30%	30%	27%	74%	53%	42%
lot better	70%	70%	71%	26%	40%	56%
	100%	100%	100%	100%	100%	100%
Access to markets						
Worse	0%	0%	0%	0%	0%	0%
Same	0%	0%	7%	0%	10%	4%
little better	30%	38%	32%	31%	60%	38%
lot better	70%	63%	61%	69%	30%	58%
	100%	100%	100%	100%	100%	100%

		Sadar	South	Bish'pur	Jam'ganj	Tahirpur	total
Access to town							
	worse	0%	0%	0%	0%	0%	0%
	same	0%	0%	10%	6%	13%	6%
	little better	33%	55%	59%	76%	59%	56%
	lot better	68%	45%	32%	18%	28%	39%
		100%	100%	100%	100%	100%	100%
Visits by women to town							
before	percent HH	63%	100%	100%	100%	100%	92%
	avg visits	1.60	1.28	1.27	1.94	1.93	1.59
now	percent HH	100%	100%	100%	100%	100%	100%
	avg visits	2.55	3.28	3.93	3.17	4.65	3.53
Mode of transport							
foot	less	68%	100%	90%	100%	90%	89%
	same	0%	0%	0%	0%	3%	1%
	more	30%	0%	10%	0%	5%	9%
bicycle	less	0%	73%	0%	0%	8%	16%
	same	0%	0%	10%	3%	5%	4%
	more	98%	28%	90%	97%	83%	79%
tempo	less	0%	0%	0%	0%	0%	0%
	same	0%	0%	12%	0%	3%	3%
	more	100%	100%	85%	100%	95%	96%
CNG	less	0%	0%	0%	6%	0%	1%
	same	3%	0%	0%	80%	3%	15%
	more	98%	100%	24%	11%	3%	48%
tractor	less	0%	0%	0%	6%	0%	1%
	same	0%	0%	0%	86%	3%	16%
	more	100%	68%	0%	6%	0%	35%
truck	less	0%	0%	0%	0%	0%	0%
	same	5%	0%	2%	6%	25%	8%
	more	90%	25%	95%	94%	28%	66%
bus	less	3%	0%	0%	6%	0%	2%
	same	5%	0%	0%	91%	0%	17%
	more	0%	23%	0%	0%	0%	5%
boat	less	70%	0%	95%	0%	0%	34%
	same	8%	3%	0%	97%	10%	21%
	more	0%	93%	0%	3%	43%	28%
other	less	8%	0%	0%	0%	3%	2%
	same	3%	0%	0%	100%	3%	19%
	more	60%	23%	88%	0%	20%	39%
Crop areas							
paddy	less	8%	0%	0%	0%	3%	2%
	same	3%	0%	0%	100%	3%	19%
	more	60%	23%	88%	0%	20%	39%
veg&pot	less	5%	0%	0%	0%	0%	1%
	same	48%	0%	2%	0%	25%	15%
	more	15%	63%	80%	83%	50%	58%
pulse, oil	less	0%	0%	0%	3%	0%	1%
	same	0%	5%	12%	80%	30%	24%
	more	63%	20%	76%	0%	25%	38%
other	less	0%	0%	0%	0%	0%	0%
	same	0%	0%	10%	0%	18%	6%
	more	63%	0%	46%	0%	3%	23%

		Sadar	South	Bish'pur	Jam'ganj	Tahirpur	total
High value crops							
avg area	before	6.85	94.04	20.59	26.59	38.63	35.32
	now	22.78	123.28	49.27	33.28	41.87	52.30
% HH grow		68%	63%	90%	83%	75%	76%
% HH increase		68%	50%	90%	83%	43%	66%
Crop sales							
before	% HH	48%	38%	90%	80%	75%	66%
	avg Tk	8184	60000	7538	12571	38950	127243
now	% HH	65%	38%	90%	83%	75%	70%
	avg Tk	21385	81533	26986	20845	52133	202883
increase		258%	36%	258%	72%	34%	69%
Hiring of agric labour							
before	% HH	15%	30%	29%	83%	75%	45%
	no. hired	5.67	20.83	7.17	8.93	7.53	9.61
now	% HH	63%	33%	88%	83%	75%	68%
	no. hired	46.64	27.15	36.17	10.21	11.23	25.97
increased employment		8474%	-1%	2010%	50%	64%	383%
wage	Before	82	146	74	116	154	109
Tk/day	Now	169	156	193	259	209	202
	Increase	107%	7%	160%	124%	36%	84%
Transport cost							
fertiliser	before Tk	41	49	40	64	71	53
per bag	now Tk	19	30	22	26	33	26
	Change	-54%	-40%	-44%	-59%	-54%	-51%
crop	before Tk	41	48	31	40	65	44
per md.	now Tk	19	29	22	16	28	23
	change	-54%	-40%	-29%	-60%	-57%	-49%
Business							
% of HH	before	13%	18%	17%	23%	20%	18%
	now	25%	18%	24%	23%	20%	22%
sales	increase	172%	275%	67%	126%	42%	159%
profit	increase	438%	195%	121%	221%	59%	162%
employ workers							
% busin.	before	0%	100%	29%	25%	75%	49%
	now	50%	100%	30%	25%	100%	58%
increase no. of workers			2%	71%	79%	83%	130%
wages	before	80	191	74	130	133	119
	now	182	167	116	212	150	164
	increase	126%	-13%	57%	63%	13%	38%
transport cost change							
	to upazila	-55%	-40%	-41%	-60%	-27%	-49%
	to district	-55%	-42%	-40%	-81%	-24%	-62%
Increase in land value							
	homestead	133%	82%	268%	116%	70%	113%
	agric	226%	116%	242%	120%	145%	161%
	roadside	213%	251%	164%	120%	96%	190%

	Sadar	South	Bish'pur	Jam'ganj	Tahirpur	total
Overall standard of living						
quantity of food						
worse	0%	0%	0%	0%	3%	1%
same	18%	0%	3%	0%	25%	9%
bit better	68%	100%	59%	17%	53%	60%
much better	15%	0%	38%	83%	20%	30%
quality of food						
worse	3%	0%	0%	0%	0%	1%
same	13%	0%	0%	0%	23%	7%
bit better	85%	100%	51%	97%	58%	78%
much better	0%	0%	49%	3%	20%	15%
housing						
worse	0%	0%	0%	0%	0%	0%
same	10%	0%	10%	0%	0%	4%
bit better	90%	100%	82%	80%	93%	89%
much better	0%	0%	8%	20%	8%	7%
household assets						
less	0%	0%	0%	0%	0%	0%
same	13%	0%	3%	0%	5%	4%
bit more	83%	100%	71%	29%	88%	75%
much more	5%	0%	26%	71%	8%	21%