

Governance of Benefits from Developmental Programmes to Farmers in Karnataka[†]

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PREAMBLE

There are umpteen number of developmental programmes concentrating on poor. However, at no single place, a list of these programmes offered by Government, NGOs and other agencies are available. This study has the objective of documenting and analysing the developmental programmes/schemes in vogue, benefits received, difficulties faced in availing the benefits of developmental programmes and the transaction costs incurred to avail the benefit in the rural and peri-urban areas of Bangalore metropolis surrounding Magadi. For this study, a sample of 50 farmers from peri urban (Magadi town area) and another sample of 50 farmers from rural area (Halasabele village Magadi) have been chosen, to have comparison between the benefits of developmental programmes received by the farmers in peri-urban areas with that of farmers of rural area. Magadi town is well connected with Bangalore metropolis by a new asphalted road. Halasabele village is included in the sample as the rural village located 20 kms away from Magadi town on the way to Kunigal, with relatively low urban or peri-urban influence. A litmus test for the apparent difference between peri-urban and rural area lies in the market value of land of Rs. 2 million per acre in peri urban Magadi and Rs.0.5 to 0.6 million per acre in rural area of Halasabele, pointing to a difference of around 300 per cent. The sample farmers were chosen to include 25 farmers with irrigation facility and 25 farmers without irrigation facility with the hypothesis that irrigation confers higher benefits. It is also hypothesised that the governance of developmental programmes is indicated by the magnitude of transaction costs.

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Collection of Field Data

The farmers were interviewed using the pre-tested structured schedule during January – February 2011 pertaining to the crop year 2010. The data on socio-economic characteristics, details about developmental programmes/subsidy schemes from which they benefited, transaction cost incurred by the farmers in availing these benefits from developmental programmes and constraints in availing benefits were collected through personal interview.

Developmental Programmes

The details of the developmental programmes from which farmers benefited in Magadi town representing peri-urban agriculture and in Halasabele village representing rural area are given. Efforts were made to obtain an exhaustive list of programmes implemented. However, there was no fool proof method to obtain this information as these are not documented in any place and also a few important programmes/schemes may have been missed. The programmes/schemes mentioned by the development departments in Magadi are listed (Table 2).

Amortisation of Benefit Availed from Developmental Programmes

Some of the developmental programmes like *Indira Awas Yojana*, *Bhagyalaxmi Yojane*, *Bicycle* for children studying 8th standard, Subsidy for farm machinery extend the benefits over time. Thus, the benefit for such beneficiaries are amortised using the rule.

$$A = P \frac{r(1+r)^n}{(1+r)^n - 1}$$

Where,

A = Amortised benefit per year from particular developmental programme,

P = Total initial benefit received by the beneficiary farmer.

r = interest rate taken as 2 per cent since the benefits are from social welfare schemes over a long period of time.

n = total number of years of benefit flow, taken as the total number of years for each programme (for e.g. Bhagyalakshmi – for Girl Child is taken for 18 years, since the benefit will be accrued to the beneficiary from the 18th year, benefit flow for Indira Awas Yojana house construction for rural poor is taken for 10 years, subsidy for silk reeling machines is for 10 years, Bicycle scheme for school going children for 10 years, Nirmala Grama Yojana constructing toilets for 10 years. Usually 10 years is the optimum economic life of any machinery or building and hence 10 year period is considered for

amortisation. For most of the benefits n is taken as 10 years due to high depreciation thereafter.

Transaction Cost Incurred in Availing Benefit from Developmental Programmes

Transaction cost concept used in this study is the (i) cost involved in gathering information regarding the developmental programme including whether the farmer is eligible to receive benefits in any specific programme, (ii) the cost of preparing documents and submitting them to the concerned office, and (iii) rent (seeking bribe if any) paid in order to receive the benefit from the developmental programme. It involves cost of obtaining information, establishing one's bargaining position, bargaining and arriving at a group decision and enforcing the decision made.

In the context of developmental programmes benefiting farmers, transaction cost are the costs incurred by the farmer in receiving the benefit from government developmental programmes/schemes, and comprises cost borne by the farmer in submitting the application, necessary documents to be produced along with the application for a developmental programme, time spent by farmer in gathering information regarding developmental programmes/subsidy scheme, visits to line department to pursue their file/paper movements estimated as opportunity cost of labour (valued at Rs.125/day in rural area and Rs. 150 per day in urban area), rents (bribes paid) to the officials, middlemen, local leaders and other costs involved in applying for developmental programme. The level of governance is directly proportional to the magnitude of transaction costs incurred in obtaining benefits. Hence the lower the transaction cost, the better is governance.

STUDY RESULTS

Socio-Economic Features of Sample Farmers in the Study Area

The holding size in rural area is 2.2 acres per farm which is 1.7 times more than that of peri-urban area. This hints at the scarcity of land and the associated higher market prices of land in peri urban agriculture. However, when the proportion of irrigation is considered, in rural area, only 34 per cent of the land was irrigated while in peri-urban area, 90 per cent of the land was irrigated. Thus, even though net returns per farm from agriculture and horticulture in rural area (Rs. 56,003) was higher than that in peri urban area (Rs. 44152) by 27 per cent, the net return on per acre basis is Rs. 25,456 in rural and Rs. 53,844 in peri-urban area. Thus, considering income from all sources, rural farm is deriving virtually the same income as derived by peri-urban farm. But on per acre basis, the rural farm is deriving an income of Rs. 32,957, while a peri-urban farm is deriving Rs. 89,176. Thus, farms in peri-urban area are economically more efficient than in peri-urban area. The non-land based activities

are contributing to 40 per cent of income in peri-urban and 23 per cent of income in rural areas (Table 1).

TABLE 1. SOCIO-ECONOMIC FEATURES OF SAMPLE FARMERS PERI-URBAN AND RURAL AREAS OF BANGALORE METROPOLIS, KARNATAKA 2010

Particulars (1)	Rural area (Halasabele village), n=50 (2)	Peri-Urban area (Magadi town), n=50 (3)
Family size (No.)	6	5
Households possessing livestock		
Milch cows	34 (68 per cent of sample)	20 (40 per cent)
Goats	22 (44 per cent of sample)	25 (50 per cent)
Land Value (Rs. million) per acre	0.5 to 0.7	2
Average land holding size (acres)	2.22	0.98
Percentage of irrigated land	45	69
Net return per farm from agriculture, horticulture, livestock and non farm income (Rs.)	72505	73124
Net return per farm from agriculture and horticulture (Rs.)	56003 (77)	44152 (60)
Net return per farm from livestock (Rs.)	7502 (10)	14971 (20)
Net return per farm from non farm income (Rs.)	8997 (13)	14002 (20)
Total benefits received from developmental programmes/ schemes per farm (Rs.)	16540	8363
Net return from farm realized per rupee of benefit received (Rs.)	4.4	8.7
Net return from all sources + the benefits received from developmental programs per family (Rs.)	72505 + 16540 = 89045	73124 + 8363 = 81487
For every Rupee of benefit received by peri-urban farmer, the benefit received by rural farmer is		1.97
For every Rupee of net return earned from all sources by peri-urban farmer the net return earned by rural farmer is		0.99
For every Rupee of net return earned from agriculture, by peri-urban farmer the net return earned by rural farmer is		1.27
For every Rupee of net return earned from livestock, by peri- urban farmer the net return earned by rural farmer is		0.50

Note: Non-farm income includes Income from agriculture labour, silk reeling etc. Figures in parentheses indicate percentage to total income from all sources.

Farmers Deriving Benefit from Developmental Programmes

A rural area farm family is availing benefits from 7 (12 per cent) of the developmental programmes while a peri-urban area farm family is availing benefits from 3 (5 per cent) of the developmental programmes. With such a modest diffusion of developmental programmes, the benefit received per rural family is Rs.16,540 from seven programmes, forming 23 per cent of the net income per farm from all sources. A peri-urban farm family received a benefit of Rs. 8363 from three programmes forming 11 per cent of the net income per farm from all sources. Rural farm family received a benefit of Rs. 2,364 per programme or scheme, while the peri-urban farmer received the benefit of Rs. 2,788 per programme or scheme (Table 2).

TABLE 2. COMPONENTS OF TRANSACTION COSTS (TC) INCURRED BY FARMERS IN AVAILING BENEFIT FROM DEVELOPMENTAL PROGRAMS IN RURAL AREA OF BANGALORE, 2010

Sl. No. (1)	Name of the programme/scheme (2)	No. of farmers benefited out of 50 farmers (per cent) (3)	Annual benefit availed per beneficiary family (Rs.)** (4)	Transaction cost components			Transaction cost per program (Rs.) (per cent of TC to total benefit) (8)
				Opportunity cost of labour in availing benefit (Rs.) (per cent of TC) (5)	Expenses in preparing documents (Rs.) (per cent of TC) (6)	Rent paid (Rs.) (per cent of TC) (7)	
1.	APL Ration Card	18 (36)	1460	175 (59)	31 (10)	92 (31)	297 (20)
2.	BPL ration card	31 (62)	3114	203 (62)	38 (10)	113 (28)	395 (13)
3.	Old Age Pension Scheme	23 (46)	4743	209 (56)	43 (11)	123 (33)	376 (8)
4.	MGNREGA	27 (54)	5233	233 (43)	150 (28)	152 (28)	536 (10)
5.	Indira Awas Yojana	10 (20)	2004	240 (43)	71 (13)	245 (44)	556 (3)
6.	Yashaswini	14 (28)	10453	236 (40)	137 (23)	218 (37)	591 (6)
7.	Bhagyalaxmi*	10 (20)	6677	228 (51)	70 (16)	145 (33)	443 (2)
8.	water shed- Nala and bund structure	6 (18)	1200	160 (42)	83 (22)	142 (37)	385 (32)
9.	Subsidised seeds	41 (82)	257	49 (65)	27(36)	0	75 (29)
10.	Subsidy for Machinery	24 (48)	200	160 (51)	35 (11)	121 (38)	316 (14)
11.	National Horticulture Mission (NHM)	29 (58)	1897	194 (50)	40 (10)	157 (40)	391 (21)
12.	Animal Husbandry-AI, Forage seeds	11 (22)	473	75 (75)	25 (25)	0	100 (21)
13.	SHG training programmes	4 (8)	1500	240 (79)	15 (5)	50 (16)	305 (20)
14.	Ambedkar Board-Scholarship	4 (8)	2750	120 (80)	30 (20)	0	150 (5)
15.	Nirmala grama Yojane – Total Sanitation Program	21 (42)	200	217 (57)	35 (09)	129 (34)	381 (17)
16.	Kaliyuva makkalige Bicycle	23 (46)	200	75 (84)	14 (16)	0	89 (4)
17.	Vidya Vikasa Scheme	9 (18)	400	60 (76)	19 (24)	0	79 (20)
18.	Support price for milk	30 (60)	3734	75 (63)	30 (25)	10 (8)	120 (3)
	Average	18.62 (38)	2583	164 (52)	50 (17)	94 (31)	310

Note: The human labour time spent in availing the benefit is valued @ Rs. 120 per man day in rural area. * Under this project, Rs. 19,300 is deposited as Fixed Deposit in nationalised bank in the name of the girl child, which yields Rs. 1,000.97 after 18 years. **: for long term programmes such as Bhagyalakshmi, machinery subsidy, Nirmala grama Yojane, Bicycle, Indira Awaas, the benefits are amortised.

Transaction Cost Involved in Availing Benefit from Developmental Programmes

Rural farm family incurred the highest transaction cost of Rs. 591 per family while applying for Yashaswini (health insurance) programme of which 40 per cent is the opportunity cost of labour, 37 per cent is the rent paid and 23 per cent is the documentation cost. Similarly, Rs. 556 per family was incurred while applying for Indira Awas Yojana (rural housing scheme) of which 44 per cent is the rent paid, 43 per cent is the opportunity cost of labour and 13 per cent is documentation cost. For the MGNREGA programme, farmers incurred transaction cost of Rs. 536 of which 43 per cent is opportunity cost of labour, 28 per cent is the rent and 28 per cent is documentation cost (Table 2).

In the rural area farmers are beneficiaries from a larger number of developmental programmes deriving higher benefits including programmes such as NREGA which do not function in peri-urban area. For example 82 per cent of the farmers are availing benefit of subsidised seeds of Rs. 257; 62 of the farmers received BPL cards obtain Rs. 3,114 worth of food security ration; NHM (58 per cent, Rs.1,897); MGNREGA (54 per cent, Rs. 5,233) and so on. Among the high value low participation lies Yashaswini (Health insurance programmes) from which 28 per cent of the farmers benefited Rs. 10,453 per family, followed by Bhagyalaxmi scheme benefiting 20 per cent of the farm families deriving an amortised benefit of Rs. 6677 per year. The popularity of the developmental programmes can be examined by considering the proportion of farmer beneficiary.

Gap in the Distribution of Benefits of Developmental Programs

The number of families eligible to receive the developmental benefits are compared with the number of families who did derive the benefit. This difference gives the gap in the implementation of developmental programmes. In peri-urban area, this gap ranged from 0 per cent (in programmes such as APL card, BPL card, silk reeling machinery) to 88 per cent in programmes such as subsidised seeds). In the rural areas this gap between implementation of developmental programme and actual implementation ranged from 0 per cent in BPL/APL cards to 60 per cent in animal husbandry programmes (Table 3). This gap also reflects the need for an appropriate human resource in the village level to link the eligible farmers with the developmental programmes, towards which a fee could be charged. The fee is the sum of opportunity cost of time and cost of documentation. The rents invariably are paid to the officials for deriving the benefit from the Governmental programmes. It is in order to realise that during the green revolution period, 'Gram Sevak' played a crucial role in linking farmer with all the developmental programmes which were predominantly agriculture oriented and benefits from programmes such as 'Grow More Food Campaign', Intensive Agriculture Area Programme, Integrated Rural Development Program, Intensive Agriculture District Program, were all channelised

TABLE 3. REASONS FOR GAP IN IMPLEMENTATION OF DEVELOPMENTAL PROGRAMS IN RURAL AREA OF BANGALORE METROPOLIS, KARNATAKA, 2010

Sl. No. (1)	Name of the programme/scheme (2)	Number (per cent) of farmers Benefited out of the sample of 50 farmers (3)	Number (per cent) of Families eligible to receive benefit out of the sample of 50 families (4)	Gap between actual number (per cent) of beneficiaries and eligible farmers (5)	Remarks (6)
1.	Subsidised seeds	41 (82)	50 (100)	9 (18)	Seeds available are of not good quality
2.	Subsidy for Machinery	24 (48)	30 (60)	6 (12)	Procedural complexities
3.	Watershed Department programs	6 (12)	20 (40)	14 (28)	Lack of awareness,
4.	NHM - Financial support	29 (58)	35 (70)	6 (12)	More time is required
5.	KMF - Support price for milk	30 (60)	31 (62)	1 (2)	---
6.	Animal Husbandry Dept	11 (22)	41 (82)	30 (60)	Facilities available are not of good quality
7.	APL Ration Card	18 (36)	19 (38)	1 (2)	---
8.	BPL ration card	31 (62)	31 (62)	0	---
9.	Old Age Pension Scheme	23 (46)	25 (50)	2 (4)	---
10.	Indira Awas Yojana - Rural Housing	10 (20)	17 (34)	7 (14)	Interference of local politicians in the selection of beneficiaries
11.	Nirmala grama Yojane	21 (42)	28 (56)	7 (14)	Interference of local politicians in the selection of beneficiaries
12.	Mahatma Gandhi National Rural Employment Guarantee Act	27 (54)	30 (60)	3 (6)	Recommendation of local leaders was required
13.	Yashaswini-Health Insurance	14 (28)	30 (60)	16 (32)	Procedural complexities and more time is required to get the benefit
14.	Bhagyalaxmi Yojane- for girl child	10(20)	12 (24)	2 (4)	Inability to meet officials for this work
15.	SHG training programmes	4 (8)	12 (24)	8 (16)	Lack of interest
16.	Ambedkar Board-Scholarship	4 (8)	8 (16)	4 (8)	Lack of awareness
17.	Kaliyuva makkalige Bicycle	23 (46)	23 (26)	0	---
18.	Vidya Vikasa Scheme	9 (18)	10 (20)	1 (2)	---
19.	Mid day meal scheme	22 (44)	28 (56)	6 (12)	

Note: Figures in the parentheses indicate percentage to total.

* - Rs. 19,300 is deposited as Fixed Deposit in nationalised bank in the name of the girl child, which yields Rs.1,00,97 after 18 years

through the Gram Sevak/Sevika. However this institution degenerated and currently in the village, there is virtually none to link the farmer with the developmental programs. This study has clearly pointed out the need for such an institution at the village level in order for the smooth flow of developmental benefits to the farmers. About, 35 percent of the developmental budget has not been spent in Karnataka and is a *prima facie* indicator of the lack of this crucial link at the village level, which is responsible for return of funds to the Government, for non-use of the budget which is supposed to benefit the needy farmers.

The gap in implementation was 32 per cent in Yashaswini - health insurance programme a crucial program which supports the hospitalisation expenditure of farmer family, as long as the farmer has membership of any co-operative in the rural areas. Only in the case of BPL cards, virtually there is no gap in rural areas while gaps in implementation exist across all departmental programmes/schemes.

Role of Irrigation in Developmental Benefits

The study area was devoid of canal irrigation. The irrigated area per farm was also modest ranging from 0.90 acre in peri-urban to 1.4 acres in rural area, with groundwater as the source of irrigation. The results indicated that the role of irrigation in rural area of Bangalore metropolis was not as crucial as the (BPL) poverty status in benefit reception. In rural areas, the access to BPL card provided greater benefit to the farmers than in peri-urban area. In peri-urban area, farmers possessing APL and/or having access to irrigation derived higher incomes compared with farmers who did not possess APL and/or who did not have access to irrigation.

Factors Influencing Total Benefit from Developmental Programmes

The factors influencing the benefits received from developmental programmes are crucial in drawing policies regarding the emphasis to be laid in peri-urban and rural areas for the benefit of increasing the benefits to farmers. Accordingly it was hypothesised that the benefits received by the farmers would be influenced by transaction costs incurred, the number of programmes participated by the farmer, family size, type of family (BPL/APL), access to irrigation and location (rural/peri-urban area) as given by (1):

$$Y = a X_1^{b_1} X_2^{b_2} X_3^{b_3} e^{b_4 D_1} e^{b_5 D_2} e^{b_6 D_3} U \quad \dots (1)$$

The equation (3), upon logarithmic transformation takes the form

$$\text{Log } y = \text{Log } a + b_1 \text{ log } X_1 + b_2 \text{ log } X_2 + b_3 \text{ log } X_3 + b_4 D_1 + b_5 D_2 + b_6 D_3 + \text{Log } U$$

Where,

Y = Total benefit per farm (Rs.),

Ln a = Intercept (minimum benefit from developmental programs per family),

X₁ = Transaction cost per farm family (Rs.); X₂ = Number of programs in which farmer is participated; X₃ = Family size,

D₁ = Dummy=1 if beneficiary farmer is BPL, other wise 0 for APL farmers,

D₂ = Dummy=1 if beneficiary farmers have Irrigation, other wise 0 for Rainfed farmers; U = Error term,

D₃ = Dummy =1 if rural area, 0 if peri-urban area.

The results indicated that for every one per cent increase in the number of programmes participated the total benefits would increase by an impressive 0.74 per cent; for every one percent increase in the transaction cost incurred, the benefit would increase by 0.34 percent; for every one per cent increase in family size, the benefit would increase by 0.62 percent. Apparently the dummy variables representing poverty status, irrigation access and location were not statistically significant and accordingly did not reduce or significantly add up to the total benefit. Thus, participation in developmental programmes and incurring transaction cost which is reflected in putting efforts in seeing to that the benefits are accrued play a crucial role in receiving benefits. The most impressive elasticity is that of the number of programmes participated. Higher the number, larger would be the benefit (Table 4).

TABLE 4. DEPENDENT VARIABLE: LN OF TOTAL BENEFIT PER FARM

(1)	Coefficients (2)	t-value (3)	Geometric mean (4)
Intercept (Ln A)	4.76***	5.79	9.23
LN TC	0.34***	2.78	6.98
LN no of programmes	0.74***	5.63	1.49
Family size	0.62***	3.01	1.53
Dummy for poverty (APL = 0, BPL = 1)	0.12	1.54	
Dummy for Irrigation (0 = Rainfed, 1= irrigation)	-0.12	-1.51	
Dummy for (Rural=1 and peri-urban =0)	-0.04	-0.41	
R ²		0.73	
Adj R ²		0.72	

Socio-Economic Constraints in Availing Benefit from Developmental Programmes

The socio-economic constraints are the major factors which deter the participation of farmers in the developmental programmes. Lack of awareness, procedural complexity and rents to be paid in availing the benefit of developmental programme were the major constraints which hampered the farmers participation in developmental programmes (Table 5).

TABLE 5. SOCIO-ECONOMIC CONSTRAINTS FACED BY FARMERS IN AVAILING THE BENEFIT OF DEVELOPMENTAL PROGRAMS IN RURAL AND PERI-URBAN AREAS OF BANGALORE METROPOLIS, 2010

Sl. No. (1)	Constraint (2)	Rural area	Peri-urban area
		Percentage of Importance (3)	Percentage of Importance (4)
1.	Lack of awareness	80	70
2.	Procedural complexity	78	75
3.	Huge rents involved in availing the benefit.	70	60
4.	Large number of documents to be produced while applying for a developmental programme.	68	60
5.	More time to be spent to avail the benefit	59	70
6.	Inability to move and get work done	45	68
7.	No one helped me to get the benefit	38	40

Note: Above constrains are based on open end questions.

POLICY IMPLICATION

1. Even though line departments indicated 56 developmental programmes in Magadi, the farmers in peri-urban area (of Magadi) derived the benefit from only 14 programmes which accounts for only 25 per cent of the total developmental programmes. In the case of rural area farmers, they benefitted from 18 programmes which accounts for 32 per cent of all the developmental programmes operating in the villages. Thus, the successive governments, instead of proliferating the number of programmes in different names, with almost similar contents over a period of time, it is desirable to restrict the number of programmes and increase the breadth of programme beneficiaries. This will increase the visibility of policies among the stakeholders.
2. Since only 25 to 32 per cent of the developmental programmes were benefiting the farmers and 75 per cent of the programmes were not even listed by them, apparently this further reiterates that at the grassroot level in addition to lack of required personnel, there is even lack of information and the lack of required personnel who can facilitate the stakeholders to derive benefit from the developmental programmes.
3. Considering the transaction cost incurred by the stakeholders to avail the benefit from developmental programmes, it is to be noted that in no programme the farmer incurred zero transaction cost. As also there is no single developmental programme where farmer paid no rent (bribe) to the authorities. Though the rents paid are around two per cent of the total benefit which may be modest, the policy makers should ensure good governance to eliminate rent seeking behaviour.

4. There is equity in the distribution of benefits among the two groups of farmers, though rural farmers received higher benefit compared to peri-urban farmers. The peri-urban farmers have enjoyed the additional benefit of increase in land values leading to higher investment capital and portfolio management. The average market value of land in peri urban area was Rs. 2 million per acre, while that in rural area was Rs. 0.5 to 0.6 million per acre. Thus, even though the developmental assistance was larger to rural area, the steep rise in market value of land offers a comparative advantage for peri-urban farmer over rural farmer enabling him to experience portfolio investments if there is any opportunity for the farmers to invest.
5. It is crucial for farmers to participate in the developmental programmes by applying for the benefits, pursuing, and ensuing that they get the benefit. Thus, participation in developmental programmes and incurring transaction cost reflected in putting efforts so that the benefits are accrued play a crucial role in receiving benefits.
6. Governance of developmental programmes is reflected in the transaction costs of obtaining the benefits. Considering the modest transaction cost of obtaining the benefits, the governance of developmental programmes in Karnataka is impressive.

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