Research Note :

STATISTICAL MEASURES OF DEVELOPMENT FOR AN IDEAL VILLAGE

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Development programs in various fields meant for rural sectors have been taken up in India in a planned way through various five year plans with the main objective of enhancing the quality of life of general masses by providing the basic necessities of life as well as effecting improvements in their social and economic well beings. For measuring the impact of the efforts of Indian policy makers, planners and executors it becomes necessary to compare the status of life over a period of time as well as over different geographical and administrative regions.

For participatory development and micro-level planning village is the unit for planning. Thus the involvement of appropriate development indices for measuring the well-beings of the villages across the time is inevitable. In order to measure the gaps in development and also to compare them on a scale, it requires the formulation of suitable development scores for an ideal village that become a benchmark for the comparison.

On national and international levels, a number of indicators in the form of Human Development Indicators (HDI) etc. have been tried, albeit with macro level indicators which may not suite the comparison of village on the basis of village level data where entirely different type of indicators play roles in social and economic well beings. The 73rd amendment of the constitution carried out in 1992, clearly identifies the village punchayat at the third tier of the Government and all the planning activities have to be carried out keeping them in consideration.

For the study of development at micro level we have to formulate an ideal village with its essential parameters of development.

Ideal Village–A village is said to be an ideal village if it is fully developed from each sight. In the present paper, I have tried to formulate a hypothetical ideal village. This village contains four broad categories ie. infrastructure category, demographic category, agro-economic-category and environment category. Each category is associated with number of development indicators as shown below :

(a) Infrastructure category : education, health, drinking water, housing, marketing facilities, transport, occupational structure, power, communication, financial institutions, agricultural extension services, industries, public distribution shop and miscellaneous facilities.

(b) Demographic category : literacy, population growth rate, family status, population growth in different occupation (agriculture, service and trade), birth rate, sex ratio, death rate and religion.

(c) Agro-Economical category : land, irrigation, crop rotation, dependency on agriculture, livestock and poultry, cost benefit ratio, modern agricultural technology implements, modern agricultural assets, participation of women in agricultural development and outside assignments (other than agriculture).

(d) Environmental category: water, forest, pollution intensity (negative indicator), wet and dry water-courses and minerals.

METHODOLOGY

Twenty experts from different categories i.e. teaching, research, agriculture extension and fieldwork, pertaining to the rural development were contacted. They were provided with list of indicators, categorized into four broad categories viz. infrastructure, demographic, agro-economic and environmental details. Their opinion about the contribution of these indicators was enumerated in the form of distilled points summing to hundred (according to weightage) for each category.

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Table 1. Mean Experts Weights for Infrastructure Category

Statistical Analysis	Health	Education	Drinking Water	Transport	Comm-unication	Occupation Structure	Power	Housing
Mean	10.65	11.80	08.25	07.15	06.80	07.00	06.85	07.40
SD	02.39	02.48	01.97	01.69	01.64	01.41	01.84	01.64
CV:%	22.44	21.05	23.88	23.70	24.14	20.20	26.91	22.10

Statistical Analysis	Industries	Extension Services	Public Distribution	Marketing Facilities shops	Financial Institutions	Miscellaneous facilities
Mean	05.85	06.40	04.10	07.20	06.45	04.10
S.D.	01.69	01.88	01.29	01.91	02.09	01.59
CV %	28.96	29.30	31.55	26.51	32.39	38.69

Table 2. Mean Experts Weights for Demographic category

Stat. Analysis	DEMOGRAPHIC DETAILS							
	Sex Ratio	Literacy	Family Status	Pop.Growth in different Occupation	Death Rate	Birth Rate	Population Growth	Religion
Mean	11.95	15.40	12.60	12.55	11.60	12.50	13.90	09.50
SD	02.11	03.35	03.08	02.58	02.76	02.09	02.51	03.19
CV (%)	17.69	21.73	24.48	20.60	23.80	16.72	18.06	33.55

Table 3. Mean Experts Weights for Agro-Economic category

Statistical Analysis	Land	Irrigation on Agriculture	Dependency	Crop rotation	Livestock & Poultry
Mean	12.95	12.60	10.05	10.80	09.75
SD	02.19	01.27	02.89	02.09	02.02
CV:%	16.89	10.10	28.78	19.38	28.78

Statistical Analysis	Women Participation	Outside assignments	Modern Assets Agricultural	Modern Agricultural Technology	Cost benefit ratio
Mean	08.80	07.70	09.00	09.05	09.30
S.D.	02.28	02.05	02.27	02.33	02.39
CV %	25.97	26.68	25.23	25.72	25.66

Table 4. Mean Experts Weights for Environmental Category

Statistical Analysis	Forest	Water	minerals Water courses	Wet & dry Intensity	Pollution
Mean	22.10	24.30	14.25	18.60	20.75
SD	03.73	03.67	04.54	03.82	04.31
CV(%)	16.86	15.11	31.86	20.52	20.79

Analysis–Above tables shows that mean values of each indicators in each category do not have much variation as tested statistically through standard deviation and coefficient of variation, hence values are significant up to certain extent. Development indicators along with their weights have been shown as under:

[A] Infrastructure Category (Weights 100)

S. No.	Name of Indicator	Weightage
1.	Education	11.80
2.	Health	10.65
3.	Drinking water	8.25
4.	Housing	7.40
5.	Marketing facilities	7.20
6.	Transport	7.15
7.	Occupational structure	7.00
8.	Power	6.85
9.	Communication	6.80
10.	Financial Institutions	6.45
11.	Extension services: (repairs centres, agricultural Info. Centres, godowns, input supply centres etc	6.40
12.	Industries (rural)	5.85
13.	Public Distribution Shop (Ration Shop, Fair price shop etc.)	4.10
14.	Miscellaneous facilities: (reading room, TV centre, Playground, community centres, welfare centres)	4.10

[B] Demographic Category(Weights 100)

S. No.	Indicator	Weightage
1.	Literacy	15.40
2.	Population Growth Rate	13.90
3.	Family Status	12.60
4.	Population growth in different occupation (ag., service, and trade)	12.55
5.	Birth Rate	12.50
6.	Sex Ratio	11.95
7.	Death rate	11.60
8.	Religion	9.50

[C] Agro-Economical Category (Weights 100)

S. No.	Indicator	Weightage
1.	Land	12.95
2.	Irrigation	12.60
3.	Crop rotation	10.80
4.	Dependency on Agriculture	10.05
5.	Livestock and poultry status	9.75
6.	Cost benefit ratio analysis	9.30
7.	Modern agricultural technology implements	9.05
8.	Modern agricultural assets	9.00
9.	Participation of women in development	8.80
10.	Outside assignments (Other than agriculture)	7.70

[D] Environmental Category (Weights 100)

S.No.	Name of Indicator	Weightage
1.	Water	24.30
2.	Forest	22.10
3.	Pollution intensity.	20.75 * with no pollution*
4.	Wet and dry water courses	18.60
5.	Minerals	14.25 * with no minerals*

Future planning :

1. Indexing of rural development indicators on a time scale.
2. Designing an information system for rural development for common use.
3. Study of development indicators through simulation analysis.

CONCLUSION

This analysis will make it possible to analyze in fine details of the status of development activities in a village. The work will attract attention of academicians, policy planners, plan executors and non government organization in further study of rural development, in an entirely new prospective and to provide infrastructure facilities, demographic facilities, agro-economical facilities and environmental facilities so as to bridge the gaps between developed and under developed village based on our indicators.

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