

**Design of
A MONITORING SYSTEM
for the
Drought Prone Areas Program Central Unit**

**Department of Rural Development,
Ministry of Agriculture,
Government of India**

Volume II - **Analytical Techniques Manual,**

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<u>CONTENTS</u>	<u>Page No.</u>
INTRODUCTION	1
SUMMARY	7
THE CHARTS	
1. REPORTING REGULARITY Chart	10
- For Control and Feedback	
2. <u>Financial Progress Charts</u>	
2.1 MONTHLY EXPENDITURE PROGRESS Chart (% of Allocation)	12
- For district level control by the Zonal Coordinator for Anticipating shortfalls	
2.2 Districts Ranked by PERCENTAGE EXPENDITURE IN EACH SECTOR	18
- For sectoral control of district performance, and for Identifying lagging and leading districts.	
2.3 Districts Ranked by ADMINISTRATIVE COSTS	27
- To monitor data quality, and to control district Administration costs.	
2.4 <u>KIVIAT Chart</u> (Multisectoral spending picture of each district)	30
- A summary picture for top management.	
3. <u>Physical Progress Charts</u>	
3.1 ACHIEVEMENT vs. EXPENDITURE - Scatter Diagrams	34

	- For Feedback to districts and control of sectoral performance.	
3.2	Combined EXPENDITURE-ACHIEVEMENT <i>KIVIAT Chart</i>	40
	- For top management and Zonal Coordinators - a Summary Presentation of achievement at district/zone/all India level.	
4.	<u>Labour Utilisation Chart</u>	
4.1	EMPLOYMENT SCATTER	42
	- For control and evaluation	

MANUAL OF TECHNIQUES AND CHARTS

SUMMARY

In this volume we have presented techniques and charts relating to Punctuality in reporting, Financial progress, Physical progress, and Labour utilisation.

For each technique we have given

- The Purpose
- The Sources of data, and
- The Frequency with which the analysis has to be done

This is followed by

- A step-by-step description of how to carry out the analysis, and
- How to interpret the results.

The persons in the Central Unit who will carry out the analyses and the people who will use them have been identified in a paragraph entitled "Working". Each section includes a fully worked-out example of the techniques and its interpretation using the data available to us.

Techniques and charts 1, 2.1, 2.2, 3.1 and 4.1 have been categorised as Basic Techniques - the minimum needed for managerial control and feedback. The others are Advanced Techniques which can provide additional insights to top management.

1. 'REPORTING REGULARITY' CHART

This Chart and the supporting technique evaluates the districts for their 'promptness' in sending the Monthly and Quarterly Progress Reports on a 4 point scale. It can be used for control and for giving feedback to the districts.

2. FINANCIAL PROGRESS CHARTS

2.1 MONTHLY EXPENDITURE-PROGRESS CHART (% of Allocation)

This graph brings out seasonalities as well as management efficiency by plotting Cumulative Monthly Expenditure as a percentage of Total Allocation, for all the districts within a zone. The Zonal coordinator will use it for district level progress monitoring and for anticipating shortfalls.

2.2 DISTRICTS RANKED BY PERCENTAGE EXPENDITURE IN EACH SECTOR

This is a more detailed analysis using the Sectoral percentage Expenditure data from all the DPAP districts. They are ranked and plotted on a single cumulative graph for the sector. It enables one to identify very good (top 20%) or very bad (bottom 20%) districts. The median gives a measure of the status of the whole program in each major sector.

This is meant for zonal coordinators to use as a control tool. The information can be further condensed into the form of Sectoral *Medians* and *Sectoral Variety Indexes* (which analyses the spread among the districts) for Top Management.

2.3 DISTRICTS RANKED BY ADMINISTRATIVE COSTS

This technique relates the project administration costs to the total expenditure and to their respective budgets, and thereby gives an indication about the effectiveness of the projects' administration

2.4 KIVIAT CHART (MULTISECTORAL SPENDING PICTURE OF EACH DISTRICT)

This gives an overall picture of any desired level of aggregation (district, state, zone, country) by condensing the information about expenditure in four major sectors into a single pictorial representaton.

It can serve as a useful Summary for Top Management of DPAP to get an immediate picture of in-line and out-of-line situations among both geographic and sectoral program units simultaneously - without having to examine the voluminous data tables.

3. PHYSICAL PROGRESS CHARTS

3.1 ACHIEVEMENT vs. EXPENDITURE - SCATTER DIAGRAMS FOR EACH SECTOR

This technique categorises the districts into four classes based upon their cost performance in each sector. It can be used for providing feedback to the districts, and as a control chart sector-wise.

3.2 COMBINED EXPENDITURE-ACHIEVEMENT *KIVIAT CHART*

In this version of the KIVIAT Chart, the information about both the Sectoral and Physical Achievements and the Sectoral Expenditures appear together for each district (and for other levels of aggregation such as state and zone, etc.).

It enables us to check at a glance whether expenditure and physical work are in phase and, if not, gives an idea about the 'lead' or 'lag' of physical achievement with reference to the expenditure - simultaneously sector-wise and district-wise. It should be specially useful to top management.

4. LABOUR UTILISATION CHART

4.1 EMPLOYMENT SCATTER DIAGRAM

This shows how far DPAP districts have succeeded in fulfilling the objective of 'Creation of Employment'. (The other suggested impact measures cannot so easily be had from a routine progress report.) By relating employment generated figures to the expenditure one can get an idea also about the relative stress given to labour intensive works, district-wise.

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