



ADMINISTRATIVE TRAINING INSTITUTE

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Training Module

on

**“STRENGTHENING STATE STATISTICAL SYSTEM
IN KARNATAKA – GoI-UNDP-SSPHD PROJECT”**

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“STRENGTHENING STATE STATISTICAL SYSTEM IN KARNATAKA – GoI – UNDP – SSPHD PROJECT”

Aim

Broadly the aim of the Training of Training (TOT) programme is to sensitize, provide skills and to enhance the capacity of the officers (Senior and Group ‘A’ and ‘B’ State Level Officers from DES, Chief Planning Officers, District Statistical Officers and Project Directors – DRDA) with regard to statistical methods, their use, interpretation and usage.

Objectives:

After the Training Course, Trainee Participants will be able to;

- list the statistical methods / packages, data analysis techniques which are required in day to day official work.
- Understand, analyze and use different types of data - their collection, compilation, tabulation, interpretation etc.
- Use the statistical techniques / skills / methods in official work.
- Train other staff of their respective sections / departments as far as the collection, usage, analysis, interpretation of different types of data.

METHODOLOGY:

The capacity building training programme shall be in workshop mode. It is based on:

- Lectures-cum-discussion
- Power Point Presentation
- Desk work
- Practical Exercises

TOOLS:

- Charts – White Board – Power Point Presentation – Desk Work

OUTCOME:

Better understanding of different approaches / methods / skills in data collection / tabulation / analysis / interpretation among the trainee officers.

Reading Material and handouts shall be provided during the course period.

MODULES:

- Module 1: Social Science Research and Statistical Methods
- Module 2: Collection and Tabulation of Data.
- Module 3: Measures of Central Tendencies
- Module 4: Correlation and regression
- Module 5: Index-Ratios- Time series and Sampling
- Module 6: Testing of Hypothesis
- Module 7: National Income Accounting Sources of Data
- Module 8: Understanding different concepts and indicators like HDI, GDI, MMR etc.
- Module 9: Salient Features of SPSS and its Application
- Module 10: Salient Features of GIS and small Area Estimation and their usage.
- Module 11: Techniques – Use and Relevance of PRA /RRA
- Module 12: Use and Relevance of Social Audit
- Module 13: Preparation of Study Reports, Pilots Studies
Designs of Questionnaire
Time and Cost Etc.

PROGRAMME DESCRIPTION:

- Four days, sponsored by DES, GOK.
- Each day, course commences at 9.30 am, and may go up to 5.30 pm

Training Design

<i>Session: ONE</i>	
Content	Introductory Activities
Sub Content	Eliciting Expectations from the Participants
Session objectives / purpose	To brief the Objectives of the Training course. To obtain expectations from the participants
Expected outcome	After the session, entry behavior of the trainees will be known.
Method/ process	<p>Interactive. The course coordinator after self introduction welcomes the participant trainees. After brief individual introduction (entry behavior) by all the trainees, the course coordinator presents the objectives of the programme, explain the purpose of the course and initiate participation. Then expectations from individual participant shall be elicited and written on charts. Expectations shall be summed up at the end of the session.</p> <p>The Resource Person using charts / white board elicit understanding of statistical methods among the participants, and lists the same. Then with the help of power point presentation / white board, he / she explains the statistical methods. The Resource Person will compare the points listed by the participant trainees with the points made by him / her. The session is open for discussion.</p>
Aids/Materials:	Charts – White Board
(Time/Duration)	One Hour
(Handouts/FAQ)	--

<i>Session: TWO</i>	
Content	Ice Breaking
Sub content	Role Play
Session objectives/purpose	After the session, trainees will be comfortable with each other as also with the Resource Person. They will interact freely among themselves, as also with Resource Persons.
Expected outcome	The trainees will participate freely.
Method/ process	The resource person himself / herself mixes up with the trainees, and the trainees will be asked to make pairs among themselves, and share maximum information among themselves about each other. Then pairs can be interchanged during the next round.

	Then the resource person places four charts in different directions—1 st , 2 nd , 3 rd , and 4 th written with Goal, Trust, Good Relationships and Hard work respectively. Each trainee will be asked to stand near one chart of his / her choice. Then the resource person explains the idea behind each concept and the relationship of the individual trainee with his / her choice.
Aids/Materials:	Charts, White Board, Clippings
Time/Duration	One Hour
Handouts/FAQ	---

<i>Session: Three</i>	
Content	Introduction to Social Science Research and Statistical Methods
(Sub content)	Relevance of Social Science Research and statistical techniques – Statistics is the science dealing with collection, organization, analysis and interpretation of numerical data. It is a systematic body of knowledge.
(Session objectives/purpose)	After the session, the trainees will be able to define social science research and its relevance in official work
(Expected outcome)	The trainees will be able to analyze data, interpret them, and can deliver services efficiently.
(Method/ process)	The Resource Person make the Power Point Presentation highlighting salient features of Social Science Research, its methodology, contents and utilization in day to day official work. He / She with examples explain the usage of qualitative and quantitative data in day to day official work.
Aids/Materials:	Power Point Presentation , White Board, Charts, Clippings
(Time/Duration)	1 hour
(Handouts/FAQ)	Handouts will be given.

<i>Session: Four</i>	
Content	Collection and Tabulation of data - Frequency Distribution
(Sub content)	Frequency Tables, Classification of Data – Two Way and Three Ways Tables, Graphs, Histograms, Pie Chart.
(Session objectives/purpose)	After the session, the trainees will be able to define different types of data, their usage, relevance and different methods of data analysis, their presentation.
(Expected outcome)	Trainees will be able to analyze and interpret different types of data in systematic ways.
(Method/ process)	The Resource Person introduces with the help of Power Point Presentation, the definition of data, their purpose, method of data collection, their tabulation, analysis and interpretation. He/ She will also explain the difference between Primary Data and Secondary Data; and the process of tabulation. Skills related to classification of data, their interpretation through graphs, histograms, pie chart etc will also be explained with practical examples.
Aids/Materials:	Charts, white board, Power Point Presentation
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Five</i>	
Content	Measures of Central Tendencies – Dispersion
(Sub content)	Averages, (Mean, Median, Mode) – Standard Deviation, Coefficient of Variation
(Session objectives/purpose)	After the session, the trainees will be able to define and work out measures of central location and dispersion – mean, median, mode, averages, standard deviation etc.
(Expected outcome)	Trainees will be able to analyze data with the help of central location and dispersion as well as analysis of data and their interpretation.
(Method/ process)	The resource person in simple language and in simple methods explains through demonstration the concepts of central location and dispersion. He / She using charts / white board work out with dummy examples, how techniques like central location / dispersion and regression could be applied in data analysis and interpretation.

Aids/Materials:	Charts, white board, Power Point Presentation
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Six</i>	
Content	Correlation and Regression: Standard Error of Estimate
(Sub content)	Correlation coefficient – simple and multiple correlation, validity check – Regression Analysis
(Session objectives/purpose)	The trainees will be able to define correlation, linear regression, skewness, validity check and interpretation of correlation coefficient and regression.
(Expected outcome)	After the session, the trainees will be able to analyze data using correlation and regression techniques, and they will be able to interpret correlation and regression results.
(Method/ process)	The Resources Person defines correlation, regression, validity check, in simple language and techniques. He / She shall work out, using dummy data how correlation and regression analysis is done.
Aids/Materials:	Charts, White Board and Desk Work
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given

<i>Session: Seven</i>	
Content	Index – Ratios - Time series and Sampling
(Sub content)	Trend Analysis, Seasonal Oscillation, Sampling techniques, Random sampling, Multi-stage sampling, Stratified sampling
(Session objectives/purpose)	After the session, trainees will be able to define and work out time series analysis and sampling techniques, methods and procedures – based on index numbers, ratios and sampling techniques.
(Expected outcome)	Trainees will be able to analyze time series data with appropriate tools; and also of using sampling techniques.
(Method/ process)	Presentations, interactive and desk work. The resource person will make a power point presentation on time series analysis and sampling techniques used in data collection, tabulation and analysis. He / She will demonstrate the use of time series data as also of sampling techniques used.
Aids/Materials:	Charts, white board, power point presentation.

(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given

<i>Session: Eight</i>	
Content	Testing of Hypothesis
(Sub content)	“T” test, “F” test, X^2
(Session objectives/purpose)	After the session, trainees will be able to define hypothesis and its testing.
(Expected outcome)	Trainees will be able to test the hypothesis in analysis.
(Method/ process)	Presentation-cum-interactive session. The Resource Person will make the presentation with the help of Power Point defining / explaining the concept of hypothesis and its testing under ‘T’, ‘F’ and X^2 tests.
Aids/Materials:	Charts, white board, Power Point Presentation, Desk Work
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Nine</i>	
Content	National Income Accounting Sources of Data
Sub content	Gross Domestic Product, National Income, Consumer Price Index, Wholesale Price Index. Census data, Survey data, RBI, NSSO, CSO, Published Reports etc
(Session objectives/purpose)	After the session, trainees will be able to define National Income, GDP, CPI, WPI and Sources of data
(Expected outcome)	Trainees will be able to know and get the required data from different sources and also be able to explain GDP, CPI, WPI.
(Method/ process)	Presentation-cum-interactive session. The Resource Person will make the presentation with the help of Power Point defining / explaining the concepts in simple terms how National Income and Gross Domestic Product of the State / Country is calculated, and also about calculation of consumer price index and wholesale price index. The Resource Person will also make the presentation of sources of data, type of data, its relevance and use in day-to-day official work.
Aids/Materials:	Charts – White Board - Desk work

(Time/Duration)	Two to three hours
(Handouts/FAQ)	Handouts will be given

Session: Ten

Content	Understanding Different Concepts
(Sub content)	HDI – GDI - Literacy Rate – Drop out rate – Teacher Pupil Ratio – Birth rate – Death rate – IMR – MMR – LEB – BPL Families – Poverty Ratios etc.,
(Session objectives/purpose)	After the session the trainees will be able to define and work out different concepts and indicators like HDI – GDI – IMR – MMR – LEB etc.
(Expected outcome)	Trainees will be able to use different indicators in their day-to-day official work.
(Method/ process)	Lecture-cum-interactive session. Group and desk work. The Resource Person will make the Power Point Presentation on different indicators, their relevance and method of deriving of those indicators. He / She also with examples explain the method of calculating and using these indicators and parameters. With some dummy data desk work will be done by the trainees with regard to using formulae, and calculating HDI, LEB, IMR, MMR, Poverty Ratios etc.
Aids/Materials:	Charts – White Board, Power Point Presentation – calculators
(Time/Duration)	Three to Four Hours
(Handouts/FAQ)	Handouts will be given.

Session: Eleven

Content	SPSS (Statistical Package for Social Science)
(Sub content)	Salient Features of SPSS and its application
(Session objectives/purpose)	After the session, the trainees will be able to define SPSS, its usage and applications.
(Expected outcome)	Trainees will be able to use SPSS in their day-to-day work.
(Method/ process)	Presentation-cum-interactive session. The Resource Person will make Power Point Presentation on the salient features and usage of SPSS application. Through interactive discussion and with the help of computer / desk work, He / She will make trainees to understand the characteristics features, relevance and usage of SPSS in statistical analysis.
Aids/Materials:	Charts, white board, Power Point Presentation

(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given

<i>Session: Twelve</i>	
Content	GIS (Geographic Information System) – Small Area Estimates
(Sub content)	Salient Features of GIS and Small Area Estimation and their usage.
(Session objectives/purpose)	After the session, the trainees will be able to define GIS, Small. Area Estimates and their applications.
(Expected outcome)	Trainees will be able to use GIS and small area estimates in their day-to-day work.
(Method/ process)	Presentation-cum-interactive session. The Resource Person will make Power Point Presentation on the salient features and usage of GIS application and the use of small area estimation. Through interactive discussion, He / She will make trainees to understand the characteristics features, relevance and usage of GIS and small area estimates in statistical analysis.
Aids/Materials:	Charts, white board, Power Point Presentation
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given

<i>Session: Thirteen</i>	
Content	Participatory Rural Appraisal / Rapid Rural Appraisal –
(Sub content)	Techniques - Use and Relevance of PRA / RRA
(Session objectives/purpose)	After the session, trainees will be able to define PRA / RRA and the techniques used in these exercises.
(Expected outcome)	Trainees will be able to use PRA / RRA exercises in their day-to-day official work.
(Method/ process)	Lecture-cum-interactive session. With the Help of Power Point Presentation, the Resource Person will explain the relevance and usage of PRA / RRA exercises in day-to-day official work. He / She will also explain the importance of PRA and RRA in effective and efficient service delivery by the government departments.
Aids/Materials:	Charts, white board, Power Point Presentation

(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Fourteen</i>	
Content	Social Audit
(Sub content)	Use and Relevance of Social Audit
(Session objectives/purpose)	After the session, trainees will be able to define Social Audit and its usage and techniques.
(Expected outcome)	Trainees will be able to use social audit exercises in their day-to-day official work.
(Method/ process)	Lecture-cum-interactive session. With the Help of Power Point Presentation, the Resource Person will explain the relevance and usage of social audit exercises in day-to-day official work. He / She will also explain the importance of Social Audit in effective and efficient service delivery by the government departments.
Aids/Materials:	Charts, white board, Power Point Presentation
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Fifteen</i>	
Content	Surveys and Studies
(Sub content)	Preparation of Study Reports, Pilot Studies – design of questionnaire – time and cost etc.
(Session objectives/purpose)	After the session the trainees will be able to define surveys and the techniques / methods used in different studies.
(Expected outcome)	The trainees will be able to design the questionnaire, do surveys and prepare study reports.
(Method/ process)	Presentation-cum-interactive. The Resource Person makes the presentation and then interacts with the trainee officers. Both the Resource Person and Trainee Officers together work on desk
Aids/Materials:	Charts, white board, Power Point Presentation
(Time/Duration)	Two Hours
(Handouts/FAQ)	Handouts will be given.

<i>Session: Sixteen</i>	
Content	Evaluation of the Training Course Feed back and Concluding Sessions

(Sub content)	Effects – lessons Learnt – Scope for Improvement Session objectives/purpose
(Session objectives/purpose)	To get the feed back from the trainees so that the training course can be designed and training imparted on much better ways
(Expected outcome)	Quality of the training programme can be improved.
(Method/ process)	Evaluation sheets will be given to each trainee. The trainees have to rank (1 to 4) each session covering the content, method, relevance, delivery, presentation. They also have to make their comments on the overall course.
Aids / Materials:	IRQ – Evaluation Sheet – Delphi Test
(Time/Duration)	Two Hours
Handouts	--

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