

Capacity Building Initiatives of DES Kerala

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Equip

Expertise

Empower



Updated on 09 August 2024

Capacity Building Initiatives of DES Kerala

Training Division

- ❖ At the Directorate.
- ❖ All Capacity Building activities in the Department are coordinated.
- ❖ All scheme wise training programmes including refresher programmes, NSSTA programmes, trainings by other agencies are coordinated.

Training Institute

- ❖ State Academy on Statistical Administration (SASA)
- ❖ Located in the heart of Thiruvananthapuram City.
- ❖ Conducts training programmes according to the approved training calendar and approved budget from State Govt.
- ❖ Aimed at developing as a Centre of Excellence

Best Practice

Vision and Mission of SASA



VISION

The vision of SASA is to establish a globally recognized centre of excellence by leveraging skills and knowledge of statisticians and data scientists.

MISSION

The mission of SASA is to enhance the capacity and proficiency of professionals in the field of statistics. By providing comprehensive education and hands-on training, the institute aims to ensure the highest standards of accuracy, reliability, and integrity in the collection, analysis, and dissemination of Official Statistics.

Genesis of SASA



- ❖ Recommendations contained in Kerala State Strategic Statistical Plan (KLSSSP), under the India Statistical Strengthening Project (ISSP) of Govt of India paved the way for establishing SASA in 2015.
- ❖ Started functioning in a rented building in Kattakada, in the outskirts of Thiruvananthapuram Corporation from 30-09-2015.
- ❖ Shifted to a rented building of Gulathi Institute of Finance & Taxation (GIFT) in Thiruvananthapuram City in 2017.
- ❖ As per Government Order GO (RT) 1017/2017 / Taxes dated 14/12/2017, 40 cents of land owned by GIFT at Kaimanam, Thiruvananthapuram was allotted to SASA for construction of a new building.
- ❖ BSNL (Civil) was assigned to construct the SASA building as per G.O (Ms) 589/2017 / Plg dated 16/10/2017.

SASA inauguration at kattakada in 2015



Venue: Kattakada in 2015

Inaugurated by:
Sri. Sakthan,
Hon'ble Speaker of
Kerala Legislative
Assembly

Genesis of SASA ...



- ❖ Laid foundation stone of the new building on 11th Jan 2018 by Hon'ble Central Minister of MoSPI Sri. Sadanada Gowda
- ❖ Completed first phase of the 14,000-sq.ft, three-storyed complex, including hostel facility.
- ❖ Training programmes were conducted in the rented building of GIFT in Thiruvananthapuram from 2017 to 2021
- ❖ The new building was inaugurated on September 7, 2021 by the Hon'ble Chief Minister of Kerala Sri. Pinarayi Vijayan, in which Hon'ble Central Minister of MoSPI Sri. Rao Inderjit Singh was also attended via online.

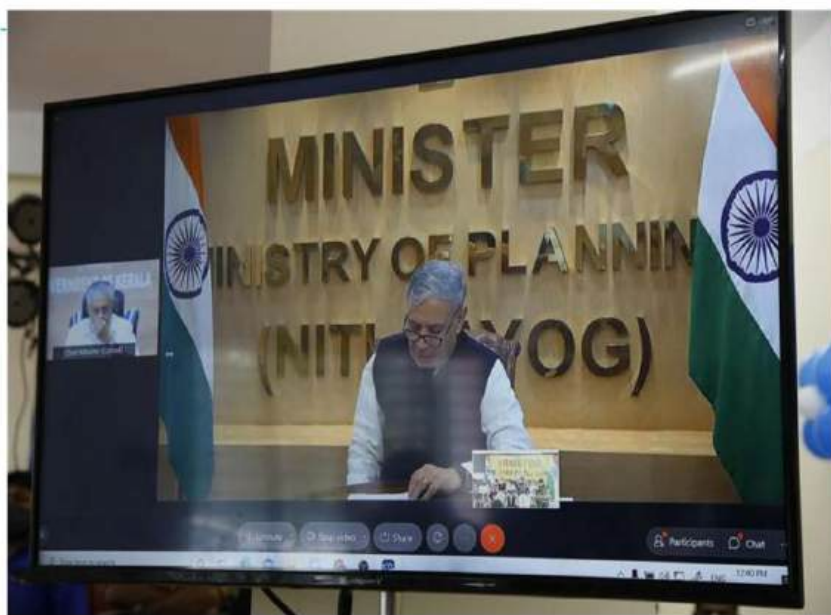
Foundation stone laying ceremony in 2018



Venue:
Kaimanam
11 Jan 2018

**Foundation stone laid
by: Sri. Sadananda
Gaowda, Hon'ble
Minister of MoSPI
In the presence of Dr.
T.M. Thomas Isaac,
Finance Minister of
Kerala.**

Inauguration of new building of SASA in 2021



The new building of SASA was inaugurated on 7 September 2021

Inaugurated by: Sri. Pinarayi Vijayan, Hon'ble CM Kerala via online

Presence: Sri. Rao Inderjit Singh, Hon'ble Central Minister of MoSPI via online

Infrastructure Facilities in SASA



- ❖ **Airconditioned Training halls/Class rooms**
- ❖ **Airconditioned Computer lab**
- ❖ **Multi touch smartboards in each classroom and Computer Lab**
- ❖ **ICT infrastructure facilities including VC (Camera with stand & Mic only) facility**
- ❖ **Hostel facility**
- ❖ **Library facility**
- ❖ **Kitchen and dining facilities**
- ❖ **Conveyance facility**
- ❖ **Fire & Safety measures**

Training Programmes conducted in SASA



- ❖ **Big Data Analytics**
- ❖ **Data Analysis in Python, R, SPSS**
- ❖ **Geospatial Data Analysis**
- ❖ **Report writing and Data Presentation Techniques**
- ❖ **Training on Data Analysis (using various tools)**
- ❖ **Training on Data Estimation, Collection of Statistics Act, etc.**
- ❖ **Training on e-office, PFMS, Malayalam Computing**
- ❖ **Training on Effective Office Management**
- ❖ **Training on Administrative Matters- Service rules, Conduct rules, RTI Act**

Trainings conducted in SASA



As per the approved training calendar of SASA

SI No	Year	No of Training Programmes	No of Participants
1	2015-16	2	80
2	2016-17	4	210
3	2017-18	9	279
4	2018-19	13	366
5	2019-20	9	275
6	2020-21	0	0
7	2021-22	2	45
8	2022-23	13	592
9	2023-24	9	249
	TOTAL	52	2096

Other Programmes conducted in SASA



Sharing of Training facility and Hostel facility in SASA for other programmes

- ❖ Conducted several online training programmes of DES and SASA especially during and after the Covid-19 pandemic period.
- ❖ SASA infrastructure facilities have also been utilised for conducting capacity building programmes of DES, NSO, other departments where statistical cells are functioning.
- ❖ Thus a total of more than 3000 employees have attended programmes at SASA through multiple programmes
- ❖ Hostel facility and vehicle facility in SASA have also been provided for DES programmes organised at Directorate on behalf of Training Division.
- ❖ A concrete plan is devised to impart training to all employees of the Department by conducting Training Needs Assessment (TNA) and utilising services of those employees who had undergone training on various subjects as Master Trainers.

Staff Position in SASA



Category	Sanctioned	Present	Remarks
Director	Nil	1	In charge from DES
Deputy Director	Nil	1	In charge from DES
Research Officer	Nil	1	Working Arrangement from DES
Statistical Assistant Gr I / II	Nil	1	Working Arrangement from DES
Selection Grade Typist	Nil	1	Working Arrangement from DES
Driver cum Office Attendant	Nil	2	Through Employment Exchange
Full Time Sweeper	Nil	2	Through Employment Exchange
Security Staffs	Nil	3	Appointed through KEXCON (contract)
TOTAL	NIL	12	

SASA has a pool of Resource Persons from within and outside the Department

Advisory Committee of SASA



- As per GO(p)20/2017/P&EA dated 17/01/2017 and GO(p)560/2017/P&EA dated 04/10/2017 an Advisory Committee constituted under the chairmanship of Dr.K.N.Harilal (Former Member of State Planning Board & Prof. of Centre for Development Studies).
- As per GO(p)269/2022/P&EA dated 02/07/2022 Advisory Committee reconstituted with under the chairmanship of Dr.K.N.Harilal along with 5 Members.
- The Committee will be held atleast two times in every year to evaluate the implementation of activities in SASA and to suggest future plans.

SASA Webportal



SASA web portal developed through a startup in 2023-24

Features

- Programme Management
- Training Management
- Library Management
- Hostel Management
- Vehicle Management

www.sasa.kerala.gov.in

Activities Planned - SASA



- ❑ To develop SASA as a Centre of Excellence by providing support to Government for policy formulation through data driven research in socio economic sectors and State Statistical System
- ❑ To improve statistical operations of DES, especially those supporting the cause of improving the quality and dissemination of statistical data
- ❑ Conduct of Research Programmes by collaboration with Universities and Research Institutions where PG Programmes in Statistics & Economics are available
- ❑ Collaboration with JNU, Digital University Kerala, CUSAT etc.
- ❑ Conduct of internship programmes independently
- ❑ To register SASA under The Travancore-Cochin Literary, Scientific & Charitable Societies Registration Act 1955 in Kerala for autonomy – Self Income Generation Model.
- ❑ To cater to the training needs of other State/UT DESs

Pending Activities in SASA



- ❖ Beautification/Renovation of existing structures & premises
- ❖ Strengthening the existing ICT facilities
- ❖ Enhancement of recreational amenities
- ❖ Construction of 4th and 5th storeys as per the original approved building plan of SASA
- ❖ Strengthening the existing library set up with sharing of digital library being set up at the Directorate
- ❖ A total of **Rs.5 Cr.** is required to complete the above works.

Other Best Practices of DES Kerala

Best Practice

- ❖ **Vivara Sanchayika- Online Data Repository:** It is a comprehensive data collection survey with a focus of generating dataset for local level planning
- ❖ Complete survey of all households and institutions in all local bodies
- ❖ It was initiated in Kannur district in 2022-23 and data collection completed in 2023-24
- ❖ Mobile App and Web portal have been developed through a startup
- ❖ Report preparation work is progressing, expected to complete by Oct 2024.
- ❖ Technical support for questionnaire and conduct of survey
- ❖ Application support: DES Directorate
- ❖ <https://vivarasanchayika.kerala.gov.in/>
- ❖ Proposed to implement in other districts

[VivaraSanchayika](https://vivarasanchayika.kerala.gov.in/)

Other Best Practices ...

Best Practice

- ❖ **Kerala State Statistical Commission** is an apex body to advise on statistical matters for data collection, policy-making and strengthening the statistical system in the State.
- ❖ First Commission: in 2015-16, Chairman: Dr. A.M. Mathai
- ❖ 2nd Commission: in 2020-21, Chairman: Sri. P.C. Mohanan
- ❖ The Commission is now functioning at SASA campus, Kaimanam, Thiruvananthapuram with the objective of supporting capacity building initiatives of SASA and to develop it as a Centre of Excellence.
- ❖ **KSSC Members**
- ❖ Prof. Madhura Swaminathan, Professor, Indian Statistical Institute, Bangalore
- ❖ Dr. V. Surjith Vikraman, Associate Professor, National Institute of Rural Development, Hyderabad
- ❖ Director of DES- Member Secretary

Other Best Practices ...

Best Practice

Development of software through DUK

- ❖ MoU signed with Digital University Kerala on 18-01-2023
- ❖ Total 9 modules in new proposed software AIDEA
- ❖ **Application for Intelligent Data Engineering & Analytics**
- ❖ Work Order for development of EARAS Module issued and MoU signed in Feb 2024 and the development is progressing
- ❖ In EARAS- digitised BTR (Basic Tax Register) and digitised lithomaps will be used for real time plot identification and field work of area enumeration
- ❖ Tablets (atleast 10.1 inch screen size) will be provided to all Investigators and supervisory staff

Other Best Practices ...

Best Practice

- ❖ **Data Dissemination Unit:** Established at the Directorate by assigning additional charges to existing staff. District level DDUs were also set up.
- ❖ **Ecostat News:** This is the official magazine of DES and currently publishing on quarterly basis. Proposed to release this in every month. Articles including research papers prepared by the statistical staff are being published in it. External experts can also contribute to this magazine.
- ❖ **Ecostat Bulletin:** This is the official news letter of DES and is being published every month. It is a compendium of all activities conducted by DES, SASA and KSSC during the previous month.
- ❖ **Documentation:** Preparation of Video, Audio, Poster and Brochure for dissemination of information to the general public and also for awareness to the field staff for training purpose.

[DES Website](#)

Other Best Practices ...

Best Practice

Digitisation Initiatives of DES

- ❖ **Digitised Reports:** Website contains all reports of DES published from 1950 onwards in digital PDF format and are accessible to general public without Login. About 1475 reports are currently in website.
- ❖ **Data Analytics Dashboard:** Website contains lot of Dashboards from which the users get a brief analysis on the relevant data points and indicators published by DES
- ❖ **Data Enquiry Dashboards:** Website contains lot of enquiry dashboards from which the users can filter the desired data from the bigger datasets.
- ❖ **Open Datasets:** Website contains a lot of open datasets which are downloadable csv format without Login. Daily prices, weekly prices, monthly prices, wholesale and retail prices, farm prices, CPI indices (IW&AL and R/U/C), crop statistics, vital statistics, GDP estimates are some of them.
- ❖ **Open Data Analytics:** Website contains lot of open analytics on various subjects. Users can find them easily, and the connected data tables and descriptions, sources etc are also available.

[Data Enquiry Dashboards](#)

[Data Analytics Dashboard](#)

Best Practice



Best Practice



Government of Travancore-Cochin

**Report on Crop Cutting Survey
on Kanni September October Crop
of Paddy in Travancore Cochin 1951**

BOARD OF STATISTICS



Government of Kerala

**CONSUMER PRICE INDEX
RURAL, URBAN & COMBINED**

JANUARY TO APRIL 2024

BASE YEAR: 2018

DEPARTMENT OF ECONOMICS & STATISTICS
THIRUVANANTHAPURAM



Government of Kerala

**COMPENDIUM OF
PROJECT REPORTS**

#AIFORALL

Capacity Building in
Artificial Intelligence &
Data Analytics

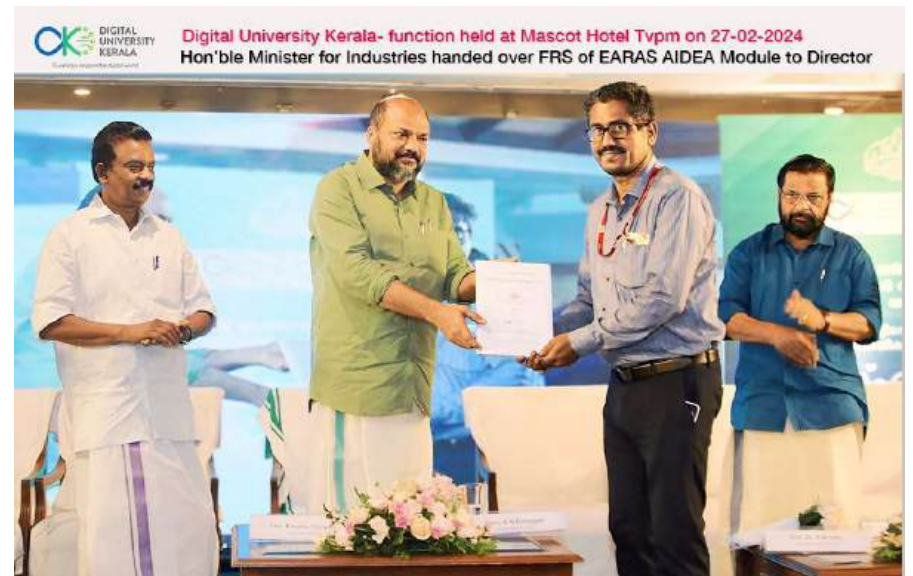


Conducted by

DIGITAL UNIVERSITY KERALA
From 28th Nov 2022 to 31st Jan 2023

DEPARTMENT OF ECONOMICS & STATISTICS
THIRUVANANTHAPURAM

Best Practice



Best Practice



18th National Statistics Day Celebrations held at Directorate on 29-06-2024
Theme: 'Use of Data for Decision Making'



Best Practice



Release of Informational Brochure: Jilla Panchayat President Mrs. PP Divya; District Collector Shri: Arun K. Vijayan Performed together

Best Practice

RELEASE OF HAPPINESS LEVEL SURVEY REPORT

Programme held at Civil Station Conference Hall, Ernakulam on 19-07-2024



THE WORLD BANK

Visit of World Bank Team in the Directorate on 3 April 2023

Team Members:
Sri. Sougen Chai, World Bank Consultant, Sri. Jerry Chen, World Bank Senior Economist
and Smt. Riby Mathew, Urban Planner





Capacity Building

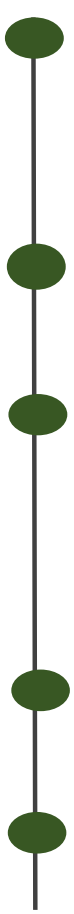
**National Statistical Systems Training Academy
(NSSTA)/ Training Unit/FOD, MOSPI**

CAPACITY BUILDING

- The official statistics produced by the statistical agencies and its use for decision making depends to a large degree on:
 - ✓ The capabilities of their staff
 - ✓ The structures and processes to support these statistical personnel to maintain and increase their capabilities
- Capacity building activities to provide effective knowledge, skill and attitude

National Statistical Systems Training Academy (NSSTA)

- Established on February 13, 2009 on the recommendation of the National Statistical Commission (NSC)
- Its mandate includes capacity building in the field of Official Statistics and related disciplines to the statistical personnel of the
 - ✓ Central Governments
 - ✓ State / UT Governments, and
 - ✓ International personnel
- NSSTA has been accredited as “ उत्तम ” under the Capacity Building Commission’s National Standards

- 
- Grant-in-Aid to institutions for promoting research studies and for organization of Seminars/Conferences/Workshops etc.
 - Internship Programme for Post-Graduate Students (Pursuing) of Statistics & Related fields
 - On the Spot Essay Writing Competition for Post-Graduate Students (Pursuing) of Statistics & Related fields
 - Administration of National and International Awards in Statistics

**Select
Activities of
Training Unit**

Grant-in Aid Scheme

Grant-in-Aid (GIA) is provided for:

- ✓ For research studies/ surveys **up to ₹ 15 Lakhs** (₹ 20 lakhs for Natural Resource Accounting)
- ✓ For National Seminars/Workshops/Conferences etc. **up to Rs. 2 Lakhs**
- ✓ For International Seminars/Workshops/Conferences etc. **up to Rs. 5 Lakhs**
- ✓ Travel Grant Assistance **as per actual** and admissible expenditure (Individual from GoI Institutions)

Note: The above ceilings are under revision

Objective of GIA: To bridge the data gaps, development of methodologies, evaluate the existing statistical reporting systems, in-depth statistical analysis on reports and data sets released by official agencies on Official Statistics

Internship Scheme for PG Students

- Scheme of Internship for post-graduate students of Statistics/ Mathematical Statistics/ Operations Research/ Economics/ Demography or any of the applied field of Statistics from recognized Universities or Institutions
- **Objective** is to familiarize the interested post-graduate students with the Official Indian Statistical System and to sensitize the students about career options in the field of Statistics, ISS, SSS etc.
- Selection of interns is done based on marks obtained in Graduation
- Duration : Two Months
- **Stipend of ₹10,000/- and a certificate** is provided on successful completion of internship

Since 2005, every year, MoSPI organizes an All India on the Spot Essay writing Competition on subjects relevant to Statistics/official Statistics for the post graduate student of statistics to commemorate the **birth anniversary of Prof P. C. Mahalanobis**.

Sub-regional/Regional/Zonal offices of NSO (FOD) are used as Exam Centre.

Winners are felicitated on Statistics Day Celebration held every year on 29th June

- ✓ One 1st Prize of ₹15,000/-,
- ✓ Two 2nd Prizes of ₹12,000/-,
- ✓ Three 3rd Prizes of ₹10,000/- and
- ✓ Five Consolation Prizes of ₹5,000/- are given

On- the Spot Essay Writing Competition

Awards in Statistics

- **Prof. P.C. Mahalanobis International Award**

- Eligibility criteria: Any individual from a developing country or region

- **Prof. P.V. Sukhatme National Award**

- Eligibility Criteria: Indian Nationals above the age of 45 years as on 31st December of the financial year in which award is announced

- **Prof. C. R. Rao National Award**

- Eligibility Criteria: All Indian Nationals with age less than 45 years of age as on 31st December of the financial year in which award is announced

NSSTA Major Activities of Capacity Building

- **Refresher Training Programmes**
 - In-service ISS officers
 - ✓ Domain Specific Training Programmes (DSTP)
 - ✓ Mid-Career Training Programmes (MCTP)
 - In-service SSS officers
- **Induction Training Programmes**
 - JTS (promoted from SSS to ISS) level officer
 - SSS (newly recruited JSO) officers
- **Training Programmes of ISS Probationers**

**NSSTA
Major
Activities of
Capacity
Building**


- **Training Programmes for State DES officers
(Sponsored by NSSTA)**

Last FY: 7 batches/150 participants

- ✓ National Account Statistics (02)
- ✓ Sampling Methods and Techniques Used in Large Scale Surveys (02)
- ✓ Index Number & Price Statistics (02)
- ✓ Social Statistics with Implementation and Monitoring of Sustainable Development Goals

Current FY (till date): 2 batches / 56 participants

- ✓ Sampling Methods and Techniques Used in Large Scale Surveys (02)

- 
- **Awareness Programmes to Popularize Official Statistics**
 - University faculty & UG / PG students (Statistics & other than Statistics Departments) – *at NSSTA*
 - **Awareness Programmes (at University Campuses) to Popularize Official Statistics**
 - **Awareness Programmes / workshops / seminars for in-service ISS / SSS officers**
 - **Faculty Development Trainings for FOD Zonal Training Centres/NSSTA**
 - **Provides resource persons to other Institutes for Capacity building activities**

**NSSTA Major
Activities of
Capacity
Building**

NSSTA/Trg. Unit Major Activities of Capacity Building

● International Trainings

- ✓ Participants of International Statistics Education Centre (ISEC) Diploma course, ISI Kolkata
- ✓ Mid-level working professionals from MGC Countries (Cambodia, Lao PDR, Myanmar, and Vietnam) Training sponsored by Ministry of External Affairs, Govt. of India
- ✓ Foreign Participants through IIPA and VVG NLI visited and had sessions at NSSTA
- ✓ Nomination of MOSPI officers for overseas Training Programmes/ Meetings/Workshops for leaning and sharing new/ best international practices etc.
- ✓ NSSTA is in empaneling process for ITEC programmes of MEA to build capacity of developing countries participants

- All India Workshop of Trainers (AIWOT): TOT at the launch of any new Survey
- Regional Training Camps (RTC): Training of field staff by Trainers trained at AIWOT
- Review RTC: Conducts during the survey to discuss/clarify/update the information etc.
- FOD, Zonal Training Centers conducts:
 - ✓ Survey Specific refresher trainings
 - ✓ Module B (Office Procedures & IT) for newly recruited JSOs
 - ✓ Other functional and behavioral refresher trainings like Office Procedures, RTI, Communication skills etc.
- Provides resource persons for State Capacity building activities

**FOD, MOSPI
Capacity
Building
Activities**

**Capacity
Building
Select
Glimpse in
Numbers**

Training organized during 2023-24 by NSSTA	# Training Programme	Total # of Participants
ISS (P), 2021 (completed), 2022 & 2023 Batch	3 batches	86
ISS (In-service)	10	186
SSS (In-service)	04	93
SSS (Induction)	13	399
JTS Induction Training Programme	01	23
State/UTs DES Training Programme	07	150
Demand/Line Ministries/ISEC	03	66
MEA sponsored MGC Trg.	01	20
Awareness /Exposure Training Programme	08	567
International participants visits/session	02	65
Seminar/ Webinar/ Talks including CBC	17	2000 + (incl. virtual)
Total	66	3569+ (incl. virtual)


Capacity Building Select Glimpse in Numbers

No. of trainings organized during 2023-24 by Zonal Offices	No. of JSOs trained	No. of SSOs trained	No. of Contractual Staff/ Ministerial Staff/ ISS Officers trained	Total
89	539	1229	1636	3404
Total Number of Contractual staffs Trained at RO/SRO Level			4933	

- MOSPI is working to enhance Capacity of Individuals including Field Staff/FIs and Institutions in NSS as per changing user requirements and adoption of best human resource policies.

State/UT DES Engagements

- State/UT DES are engaged in a number of field surveys on sharing/matching basis with the NSSO (FOD). i.e.
 - ✓ Annual Survey of Industries (ASI),
 - ✓ Socio-economic surveys,
 - ✓ Agriculture Statistics Survey (i.e. CCS & Area Enumeration etc).
- State/UT DES also engaged in other statistical activities with MOSPI & other line ministries for various activities like Economic Census, Agriculture, Livestock, Health etc.
- Also conducting various statistical surveys and activities for their own purposes

- 
- Few States/UTs are interested/ at the initial stage of Launching the surveys which are currently undertaken only by the Centre, like
 - ✓ PLFS and ASUSE etc.
 - States/UTs need to support for initial handholding/capacity building/knowledge sharing
 - Very Few States/UTs are having a dedicated Training Institute for capacity building of Statistical Personnel

**State/UT DES
Engagements**

Collaborations & Way Forward

- To fulfill the current data needs:
 - ✓ Particularly to fulfil the requirements of SDGs
 - ✓ Data driven decision/policy making
 - ✓ District wise/disaggregated level estimates etc.
- To develop the capacity building of State personnel and strengthen/establishment of State/UT : Training Institutes is need of the hour
- MOSPI is making efforts in this direction being the nodal agency for official statistics at the Centre and its Mission statement includes
- “to provide leadership and coordination to ensure harmonious, efficient and integrated functioning of all the elements of the National Statistical System (NSS)”

Collaborations & Way Forward

- One of the UN Fundamental Principles of Official Statistics emphasizes
- “Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system”
- MOSPI committed to strengthen the States/UTs, FOD, Zonal Training Centres/Ag. Statistics Wing for their optimal utilizations for capacity building activities

Collaborations & Way Forward

- MOSPI happy to collaborate with State/UT DES for
 - ✓ Strengthen/establishment of State/UT Training Institutes
 - ✓ Statistical Training Need Assessment,
 - ✓ Formulating Capacity Building Plans,
 - ✓ Jointly organize the Capacity Building Activities,
 - ✓ Exchange of Resource Persons
- In nutshell, the ultimate aim of proposed potential collaboration to Strengthen the State Statistical System to collect and use the Data for Decision Making
- MOSPI collaborating with various national/international agencies like Capacity Building Commission (CBC), UN SIAP, WB etc for capacity building activities at Centre & State

THANK YOU!

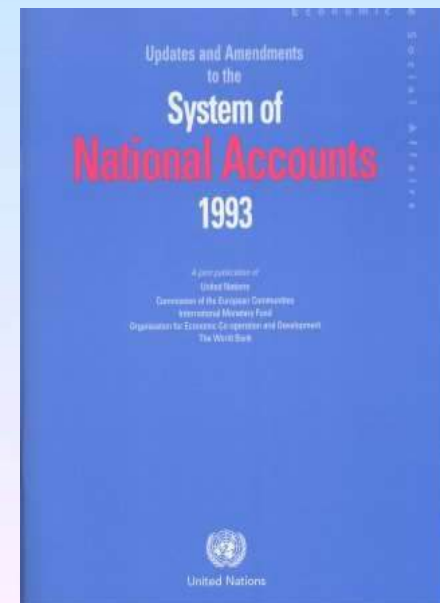
The background features a stylized, semi-transparent silhouette of a human head in profile, facing right. The head is filled with a vibrant, multi-colored gradient of blue, purple, and pink. The background is composed of soft, flowing, wavy patterns in shades of blue and purple, creating a sense of movement and depth. There are also some decorative elements: a small white wavy line in the upper right and a white starburst or sunburst shape in the lower right.

STANDARDISATION IN THE STATISTICAL SYSTEM

GLOBAL STATISTICAL SYSTEM IN ACTION - STANDARDS

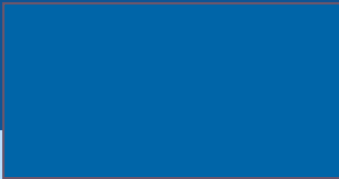
Concise Oxford Dictionary: STANDARD
“weight or measure to which others conform or by which the accuracy or quality of others is judged; thing serving as basis of comparison”

Develop “common professional language”.

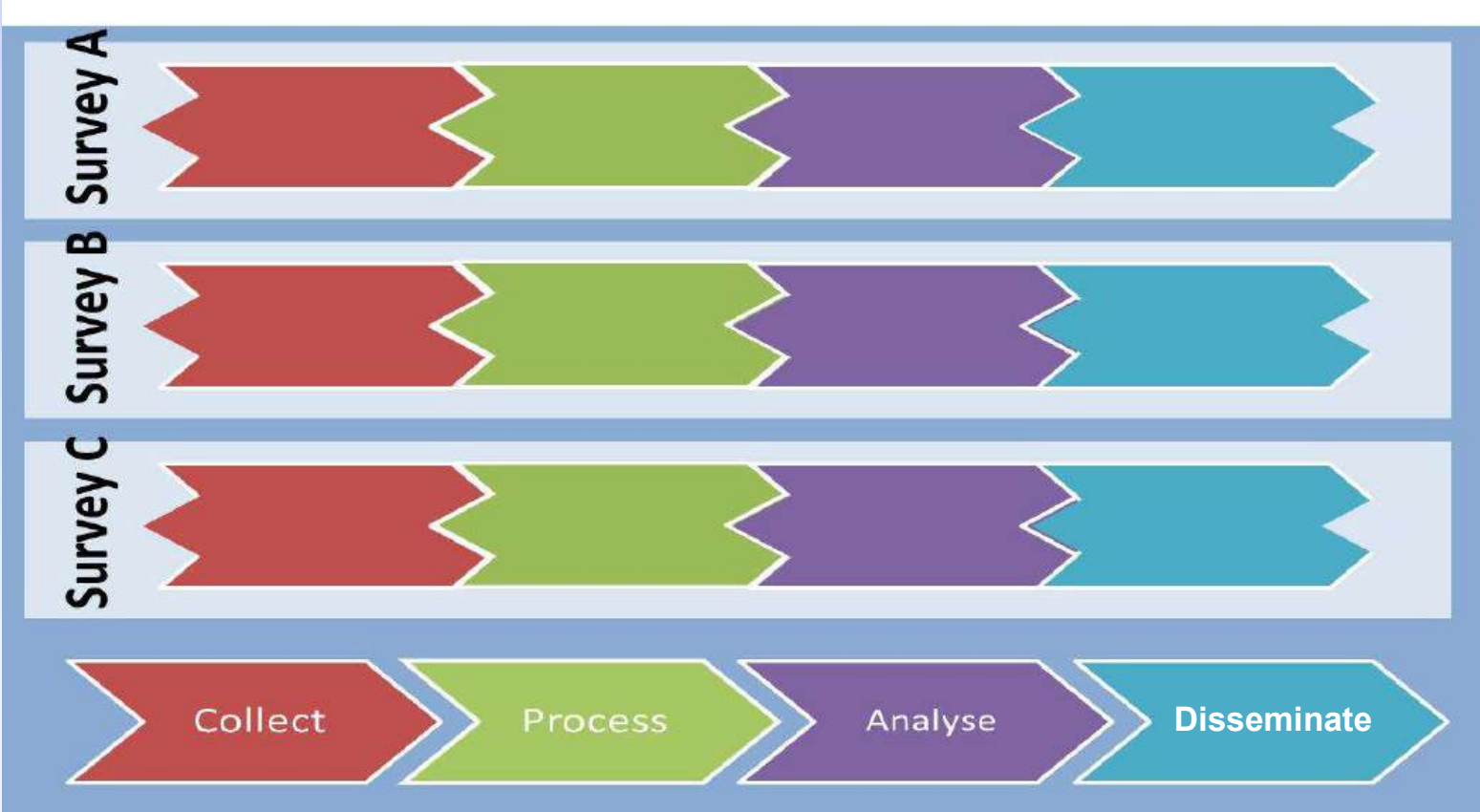


THE “WHAT”: STANDARDS/BEST METHODS/ BEST PRACTICES

- Lack of terminological clarity: ‘standard’, ‘code’, ‘system’, ‘recommendation’, ‘principle’, ‘best methods’, ‘best practices’, ‘good practices’, ‘current practices’....
- abstract – concrete (‘standards’ – ‘best practices’)
- ‘Standard’ = norm / model
 - **Statistical Standards: question of ‘enforcement’;**
 - **Minimum vs. maximum standards**
- ‘Best Practices’ = applied procedures; value judgement



THE RESULT OF THE STANDARDIZATION WITHIN AN ORGANIZATION



STATISTICAL CLASSIFICATION

- Set of categories which may be assigned to one or more variables registered in statistical surveys or administrative files;
- Used in the production and dissemination of statistics;
- The categories are defined in terms of one or more characteristics of a particular population of units of observation;
- A statistical classification may have a flat, linear structure or may be hierarchically structured
- A statistical classification is a set of discrete, exhaustive and mutually exclusive categories which can be assigned to one or more variables used in the collection and presentation of data, and which describe the characteristics of a particular population.

ESSENTIAL COMPONENTS OF A STATISTICAL CLASSIFICATION

- a consistent conceptual basis;
- a flat or hierarchic structure;
- categories that are mutually exclusive and exhaustive;
- definitions that are clear and unambiguous, and which define the content of each category;
- that it is up-to-date and relevant;
- that it is robust enough to last for a period of time;
- that it meets user needs;
- that it provides comparability over time and between collections;
- that it provides guidelines for coding and output of data collected using it.

CLASSIFICATION STRUCTURES

- Flat

- A flat classification has only one level, i.e. it is a listing of categories
- A flat classification may also be referred to as a linear classification

- Hierarchic

- A hierarchic classification is a classification with more than one level of aggregation
- International Standard Industrial Classification (ISIC);
- Central Product Classification (CPC);

NATIONAL SYSTEM OF CLASSIFICATIONS

Sr. No	Activity/Product	Classification Name	Standard/Edition	Publishing Agency
1	Activity	National Industrial Classification	NIC 2008	MoSPI
2	Education	Indian Standard Classification of Education	InSCED-2014	MoE
3	Product	Indian Trade Classification	Harmonized System (HS) Codes-2017	MoCI
4	Product	National Product Classification for Manufacturing Sector	NPCMS-2011	MoSPI
5	Product	National Product Classification for Services Sector	NPCS	MoSPI
6	Occupation	National Classification of Occupation	NCO 2015	MoLE
7	Occupation	National Occupational Standards	NOS 2020	MSDE
8	Other	Indian Public Health Standards	IPHS 2022	MoHFW

COMPILATION OF DOMAIN SPECIFIC NATIONAL/INTERNATIONAL STANDARDS: FEATURES

- Agency releasing the standards
- Latest edition of standards
- Source of its availability
- Brief of Standards
- Area where the standards can be used
- Ministries/Products who should be using specific standards

MOSPI'S PRODUCT WISE COMPLIANCE OF STANDARDS (1/3)

- Annual Survey of Industries (ASI)
 - Economic activities- NIC (2008)
 - Product used as raw materials and item produced- National Product Classification for Manufacturing Sector (NPCMS) 2015
 - International Recommendations for Industrial Statistics- IRIS (2008)
 - System of National Accounts (SNA)
- Index of Industrial Production (IIP)
 - National Industrial Classification 2008
 - International Recommendations on IIP (IRIIP)
 - Use Based Classification (UBC)

CONTINUED(2/3)

- National Accounts
 - National Industrial Classification (NIC)
 - National Product Classification for Manufacturing Sector (NPCMS)
 - Classification of Individual Consumption by Purpose (COICOP)
 - By industry and by Institutional Sector: Gross Value of Output (GVO)/ Compensation of Employees (CE)/ Gross Value Added (GVA)/ Operating Surplus (OS)/ Mixed Income (MI)
 - By Industry: Gross Capital Formation (GCF)/ Gross Fixed Capital Formation (GFCF)/ Change in Stock (CIS)/ Consumption of Fixed Capital (CFC)
 - By Asset & Institutional Sector: Gross Fixed Capital Formation
- Price Statistics
 - Classification of Individual Consumption by Purpose (COICOP)

CONTINUED (3/3)

- PLFS

- National Industrial Classification (NIC-2008)
- System of National Accounts (SNA 2008)
- National Classification of Occupations (NCO)

- HCES

- National Industrial Classification (NIC-2008)



THANK YOU

28th Conference of Central and State Statistical Organizations
August 12-13, 2024



Use of Data for Decision Making: Strengthening State Statistical Systems

Breakout Session: Capacity Building and Statistical Classification

Statistical Literacy

Rajender Parsad
ICAR-IASRI, Library Avenue, Pusa, New Delhi
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Literacy: the ability to read, write, speak and listen in a way that lets us communicate effectively and make sense of the world.

"Statistical Literacy' is the ability to understand and critically evaluate statistical results that permeate our lives..."

ICAR - Indian Agricultural Statistics Research Institute (IASRI)

<https://iasri.icar.gov.in>

ISO 9001:2015 Certified Institute



4th Paradigm: Data Discovery

STRENGTHS

Statistical Sciences: Agricultural Statistics Bioinformatics Computer Applications



Artificial Intelligence



Design of Experiments



OMICS Research



Sample Surveys



Knowledge Management System



Statistical Modelling



Web/Mobile Application Development



Data Analytics



Digital Information Dissemination



Customised Training Programmes

Digital Backbone of ICAR

ASHOKA

ICAR - DATA CENTER

KRISHI MEGH

E - GOVERNANCE APPLICATIONS

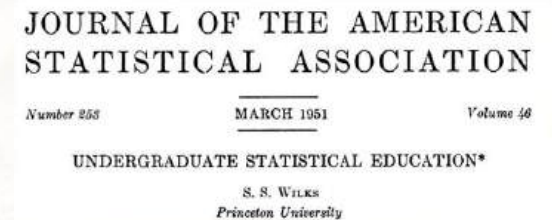
Deliverables

- Developing **Statistical methodologies/ techniques/ tools** to support agricultural research and development in India
- Developing, supporting and maintaining **Portals/ Vortals/ Information-Management-Systems/ Mobile Apps** etc. to add computational power and digital solutions for agricultural research and development in the country
- Accelerating agricultural **OMICS research** in India through Network Project on Agricultural Bioinformatics and Computational Biology
- **Capacity building** in terms of **M.Sc. and Ph.D. students** in Statistical Sciences and knowledge updating of research fraternity through **customized training programmes**
- Maintaining and Supporting **e-governance services** in ICAR



“Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.”

Quote from the **Presidential address by Samuel S. Wilks (1906-1964)**, Mathematical Statistician to the American Statistical Association: JASA, 1951, Vol. 46, No. 253., pp. 1-18. Wilks was paraphrasing **Herbert G. Wells (1866 - 1946)** from his book **Mankind in the Making**.



The full H.G. Wells quote reads: “The great body of physical science, a great deal of the essential fact of financial science, and endless social and political problems are only accessible and only thinkable to those who have had a sound training in mathematical analysis, and the time may not be very remote when it will be understood that for **complete initiation as an efficient citizen of one of the new great complex worldwide States that are now developing**, it is as necessary to be able to **compute**, to think in **averages and maxima and minima**, as it is now to be able to read and write.”

Statistical Quotes



- **"Statistics is not a discipline like physics, chemistry or biology where we study a subject to solve problems in the same subject. We study statistics with the main aim of solving problems in other disciplines."**
-C.R. Rao
- **"If chance is the antithesis of law, then we need to discover the laws of chance"**
- C. R. Rao
- **"All knowledge is, in final analysis, history. All sciences are, in the abstract, mathematics. All judgements are, in their rationale, statistics" ... C. R. Rao**
- **"Statistics is like a salt, no one recognizes its importance when it is there, everyone feels its importance when it is not there"**
...S. Ayyappan, Former Secretary, DARE and Director General, ICAR 21.08.2010

Communication Problems



Statisticians working in the Government and in industry are often faced with language barriers with their bosses. The chief of a statistical office, an officer in administrative services, was meeting a group of statisticians who complained that in a report received from another organization some estimates were given without standard errors. The chief was reported to have immediately remarked,

“Are there standards for errors too?”

Enhancing Statistical Literacy



Statistics is a **unique science** because it can solve almost any real life problem where the data are available or can be collected. Accurate data analysis leads to **better decision making**. Learning from data is **one of the most relevant and vital challenges of the information age that we live in**.

Without an adequate understanding of statistics, investigator in any discipline of the science may frequently be like the **blind man groping in the dark closet for a black cat that is not there**.

- **“I have a great subject (statistics) to write upon, but feel keenly my literary incapacity to make it easily intelligible without sacrificing accuracy and thoroughness.”**
-Sir Francis Galton: Natural Inheritance

NATURAL INHERITANCE

BY
FRANCIS GALTON, F.R.S.
AUTHOR OF
“HEREDITARY GENIUS,” “INQUIRIES INTO HUMAN FACULTY,” ETC.

11 INTRODUCTION. 3
sustained effort, need not feel much regret that the road to be travelled over is indirect, and does not admit of being mapped beforehand in a way they can clearly understand. It is full of interest of its own. It familiarizes us with the measurement of variability, and with curious laws of chance that apply to a vast diversity of social subjects. This part of the inquiry may be said to run along a road on a high level, that affords wide views in unexpected directions, and from which easy descents may be made to totally different goals to those we have now to reach. I have a great subject to write upon, but feel keenly my literary incapacity to make it easily intelligible without sacrificing accuracy and thoroughness.

Enhancing Statistical Literacy



Each day people are inundated with statistical information from

- advertisements ("4 out of 5 dentists recommend"),
- news reports ("opinion poll show the incumbent leading by four points"), and **Number of deaths due to accidents walking on footpath is more than number of deaths due to accidents walking in the middle of the road.**
- ~ experts often use numerical claims to bolster their arguments, and statistical literacy is a necessary skill to help one decide what experts mean.
- ***Availability of flood of uncensored information round the clock.***
- ~ statistics can be made to produce misrepresentations of data that may seem valid.
- **Aim of statistical literacy ~ improve the public understanding of numbers and figures.**

-

https://en.wikipedia.org/wiki/Statistical_literacy#:~:text=%22'Statistical%20Literacy'%20is%20the,statistics%20textbooks%20in%20about%201940.

Enhancing Statistical Literacy



- [Wallman, Katherine K. \(1993\). "Enhancing statistical literacy: Enriching our society". *Journal of the American Statistical Association*. 88 \(421\): 1–8. doi:10.1080/01621459.1993.10594283.](#)

"Statistical Literacy' is the ability to understand and critically evaluate statistical results that permeate our lives..."

-

Enhancing Statistical Literacy



Globally several programmes to promote or improve statistical literacy.

- **Statistics Canada** and **Australian Bureau of Statistics**: to educate students in schools about the nature of statistics.
- **International Statistical Literacy Project (ISLP)** ~ initiated by **International Association for Statistical Education (IASE)**, which is the education section of **International Statistical Institute (ISI)**, Netherlands.
- **United Nations Economic Commission for Europe** has taken the notion of statistical literacy as the subject for its fourth guide to making data meaningful.
- Recognizing the obligation of its royal charter to promote the public understanding of statistics, in 2010 the **Royal Statistical Society** launched a ten-year statistical literacy campaign.

- **Statistical Literacy – A Vital Ingredient for an Informed Indian Citizenry**

(<https://www.thehinducentre.com/the-arena/statistical-literacy-a-vital-ingredient-for-an-informed-indian-citizenry/article66442619.ece>: March 22, 2023)

https://en.wikipedia.org/wiki/Statistical_literacy#:~:text=%22'Statistical%20Literacy'%20is%20the,statistics%20textbooks%20in%20about%201940.



**“Statistics has no roots without other disciplines,
No discipline has fruits without Statistics” ...Anonymous**

Incorporating basic statistical concepts into early education curricula is essential for building a strong foundation in statistical literacy.

- Story problems that involve statistical reasoning and require students to use data to find solutions.
- Highlight the use of statistics in various careers, such as in multinational corporations, finance, healthcare, and agriculture, to motivate students by demonstrating the real-life importance and exciting career opportunities that come with statistical literacy.
- Curriculum resources and lesson plans that incorporate statistical literacy.

Enhancing Statistical Literacy



Public awareness campaigns aimed at promoting statistical literacy in official statistics

- Promote Online Courses and Tutorials on Statistics, Machine Learning and AI to Boost Statistical Literacy

(Sample Survey Resources Server, Design Resources Server, NARES-BLP, Agri-Diksha)

- Document History of Statistics in India and bring it in small videos.
- Conduct Idea-thon/Competitions for bringing ideas/slogans.
- Develop clear and engaging content, such as infographics, videos, and social media posts, helps explain key statistical concepts and data sources.
- Organize interactive platforms and educational content, including workshops and webinars, can make learning more accessible and engaging.
- Sharing success stories and organizing data challenges foster hands-on learning and real-world application.

Enhancing Statistical Literacy



- Provide accessible resources like glossaries and guides, running social media engagement campaigns, and incorporating public feedback can enhance understanding and improve the campaign's effectiveness.
- Can we think of a special curriculum on Official Statistics for UG and PG Students? An online Course may be available on Blended Learning Platform, DIKSHA, SWAYAM, MOOC.
- Enhance Public Access to Official Statistics Data: eSankhyiki Portal (<https://esankhyiki.mospi.gov.in/>)
- Public Data to follow principle of FAIR.
- Frequent interaction between (i) **Producers** and **Users** of official statistics; (ii) with media to increase correct interpretation of statistics.
- Strengthen collaborations between NSSTA (MoSPI) and Academic/Research/Training Institutes to impart customized training to the specific needs of officers from diversified fields/ different Ministries.

Enhancing Statistical Literacy



- Implement a **mandatory statistical literacy program** for all concerned government officials involved in policy-making.
- Making available Courses on iGOT Karmayogi platform is as good initiative
- **Plan and implement National Statistical Literacy Program for Public**
- **NATIONAL STATISTICAL LITERACY MISSION!!!!**

“Statistics must have a clearly defined purpose, one aspect of which is scientific advancement and the other human welfare and national development.” ...PC Mahalanobis

THE TOP TEN REASONS TO BECOME A STATISTICIAN



- **Deviation is considered normal**
- **We feel complete and sufficient.**
- **We are "mean" lovers.**
- **Statisticians do it discretely and continuously.**
- **We are right 95% of the time.**
- **We can legally comment on someone's posterior distribution.**
- **We may not be normal but we are transformable.**
- **We never have to say we are certain.**
- **We are honestly significantly different.**
- **No one wants our jobs.**

Enhancing Statistical Literacy



UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

Office for
Statistics Regulation



Making Data Meaningful

Part 4:

A guide to improving statistical literacy



Internship Project
Statistical Literacy

Jessica McMaster
Cambridge Grand Challenges
September 2022

The Challenge of Developing
Statistical Literacy, Reasoning
and Thinking

Edited by
Dani Ben-Zvi
and Joan Garfield

<https://link.springer.com/book/10.1007/1-4020-2278-6>

Kluwer Academic Publishers

**Glimpses of
India's
Statistical
Heritage**

August 1993

Editors

J.K. GHOSH
S.K. MITRA
K.R. PARTHASARATHY

<https://uk.sagepub.com/en-gb/eur/statistical-literacy/book276400>:

Statistical Literacy: A Beginner's Guide

Rhys Jones: April 2024, 248 pages

धन्यवाद

THANK YOU