List of Government Projects

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Summary of grants received from government agencies for research projects during the last five years

S.No	Academic Year	Number of total teachers	Number of Teachers with research projects	Grants received during the year (in lakhs)
1	2021-22	264	1	5.50
2	2020-21	256	1	1.245
3	2019-20	248	2	17.234
4	2018-19	256	-	-
5	2017-18	257	-	-
Total grants received during the last five year (in lakhs)				**23.979**

Convenor
(Research Advisory Committee)

Principal
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Aditya Engineering College
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List of Government Projects

A.Y. : 2021-22

S. NO	Name of the Principal Investigator/ Co-Investigator	Department of the Principal Investigator/ Co-Investigator	Name of the Funding Agency	Funds provided (INR in lakhs)	Month and Year of receiving the grant	Duration of the Project
1	Dr. V. Surya Narayana	Petroleum Technology	Department of Science and Technology	5.5	August, 2021	2 Years

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List of Government Projects

A.Y. : 2020-21

S. NO	Name of the Principal Investigator/ Co-Investigator	Department of the Principal Investigator/ Co-Investigator	Name of the Funding Agency	Funds provided (INR in lakhs)	Month and Year of receiving the grant	Duration of the Project
1	Dr. Rajyalakshmi Uppada	Electronics and Communication Engineering	National Commission for Women (NCW)	1.245	June, 2020	2 Days

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List of Government Projects

A.Y. : 2019-20

S. NO	Name of the Principal Investigator/ Co-Investigator	Department of the Principal Investigator/ Co-Investigator	Name of the Funding Agency	Funds provided (INR in lakhs)	Month and Year of receiving the grant	Duration of the Project
1	Dr. V. Surya Narayana	Petroleum Technology	Department of Science and Technology	9.009	December, 2019	2 Years
2	Dr. Rajyalakshmi Uppada	Electronics and Communication Engineering	All India Council for Technical Education (AICTE)	6.98	February, 2020	2 Years
3	Dr. Rajyalakshmi Uppada	Electronics and Communication Engineering	National Commission for Women (NCW)	1.245	January, 2020	2 Days

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Title of the Project

A BIBLIOMETRIC MAPPING OF SOLID WASTE MANAGEMENT RELATED RESEARCH FROM 1986 – 2019 IN INDIA

Implemented by

Principal Investigator **Dr.Suryanaranyana Veeravilli**

Professor, Dept. of Humanities & Basic SciencesAditya Engineering College (Autonomous) Aditya Nagar, ADB Road, Surampalem 533437 Andhra Pradesh India

Co - Principal Investigator – I **Dr.P.Rajendran**

University Librarian
SPOC - NPTEL Online Courses,
Nodal Officer - MOOCs
SRM Institute of Science and Technology Kattankulathur, Chengalpattu Dist., Pin: 603 203

Co - Principal Investigator – II **Dr.Ch.V.Sivaram Prasad**

Professor, Dept. of Humanities & Basic SciencesAditya Engineering College (Autonomous) Aditya Nagar, ADB Road, Surampalem 533437 Andhra Pradesh India

File No. DST/NSTMIS/05/08/2019-20

Study Sponsored by

National Science and Technology Management InformationSystem (NSTMIS) Department of Science & Technology Government of India

Executive Summary

The proposed study will also bring a remarkable help to policy decision makers as well as research scientists to emphasize on clean environment with respect to solving of solid waste management (SWM) issues. Cities and towns are generating on an average of 300 – 500 grams of solid waste per capita per day, which is approximately 80,000 metric tonnes per day. About three fourths of the MSW generated in urban India is collected and disposed of in non- scientifically ill-manged dumping grounds. Spreading the waste is leading to insanitary living conditions.

In India numerous studies have been carried out on the different aspects of Solid Waste Management research. This study aims at mapping and trends of solid waste management related research from 1986 – 2019 in India and summarizing the predominant research achievements by using the bibliometric methods. To this end, a comprehensive Bibliometric analysis focusing on all relevant peer-reviewed articles on SWM was performed. Specific efforts made in this project report are (1) summarize the significant publication performances in SWM research with basic statistics, such as the chronological distribution of articles, and the most relevant subject categories, scientific journals, and institutions, (2) identifies the research focuses and the hot areas of SWM research, and (3) tracking the shift of SWM research over the last 30 years.

The quantum of waste generated in Indian Towns and cities is increasing day-by-day on account of increasing population and increased GDP. The annual quantity of solid waste generated in Indian Cities has increased from 6 million tons in 1947 to 48 million tons in 1997 with an annual growth rate of 4.25% and it is expected to increase 300 million tons by 2047 CPCB (Mohd Asam Khan and Iqbal Zafar Ansari 2010).

Objectives of the study: The primary objective of the study is to map the Indian research output in the field of Solid Waste Management (SWM). The study has been concentrated with the main objectives namely; to examine the growth pattern of SWM research output during 1986-2016; to explore the pattern of authorship and collaboration trends; to identify the sub-fields of research in SWM; to test the applicability of Bibliometric Laws; to identify the prolific authors, institutes and source journals; to study the citationpattern (CPP) of SWM research output and to identify the research focuses of SWM research in India.

Methodology : The following steps covered in the methodology:

Identification of Database: Three databases namely SCOPUS, Web of Science (WOS) andIndian Science Abstract (ISA) have been considered in this study.

Search Strategy: The investigator identified and short listed 28 keywords to extract the literature from the source databases such as SCOPUS Database, Web of Science (WoS) and Indian Science Abstracts (ISA). The search key word are (TITLE-ABS-KEY(""Municipal Solid Waste"" OR ""Sanitary Landfill"" OR ""urban solid waste"" OR ""Leachate Management"" OR ""Landraising"" OR ""Institutional Waste"" OR ""Household Waste"" OR ""Domestic Waste"" OR ""waste incineration"" OR ""waste incinerator"" OR ""Construction waste"" OR ""Demolition Waste"" OR ""Commingled Recyclables Waste"" OR

""Commercial Waste"" OR ""waste collection"" OR ""municipal solid waste"" OR ""solid waste"" OR ""solid wastes"" OR ""solid waste disposal"" OR ""Curb-side Collection"" OR ""composting"" OR ""landfill"" OR ""hospital solid waste"" OR ""medical solid waste"" OR ""industrial solid waste"" OR ""solid waste management"" OR ""solid waste recycling"" OR ""solid wasteforms"") AND (LIMIT-TO (AFFILCOUNTRY,""India"" and Publication Year "" (1986 OR 2019) ""and No. of documents extracted from the database is 9818.

Data Extraction: The data has been extracted from the sources database using the 28 short listed keywords identified on SWM.

Limitations: This study limited to three databases namely Web of Science, SCOPUS and Indian Science Abstract (ISA) only. The other databases and sources are not consulted for data collection. The study period convers the records from 1986 t0 2019 only. The earlier records were not covered.

Data Analysis: The analysis has been made by considering various bibliometric tools/indicators and also employed certain software for the generation of meaning full results to measure quantitatively the research output on SWM by Indian scientists and researchers. The bibliometric indicators and tools have been employed in the analysis are: Year wise growth of publications; Annual average growth rate (AAGR); Identification of bibliographic forms; Authorship pattern; Degree of collaboration; pattern of co-authorship index (CAI); Collaborative Co-efficient (CC); Author productive based on Lotka's law; Mapping of authors collaborative research network; Key word Analysis; Ranking of Source journals based on impact factor; Identification of highly productive research institutions; Citation analysis; and Mapping the co-author and keywords.

Results & Discussions: The detailed results and discussion are presented in chapter 6 with suitable subheadings such as: overall growth rate **;** annual growth rate; authorship pattern; ranking of authors; authorship mapping; key word analysis; ranking of sources journals; highly productive institutions; Indian authors network of collaborating countries; and citationper paper (CPP).

Policy Implications: In view of the results of this study, the decision makers will find this work useful, as its results will help them to find the most economic systems and technologies, as well as the methodologies to evaluate these systems, thereby improving their decisions. Government can develop policies, incentives, and regulations, based on the economic results of the different studies, to increase or discourage the use of certain technologies or management systems and thereby improve environmental, social and economic sustainability.

The research on solid waste management influences the policy makers both local government, state and central governments in India. The improper management of solid waste both at rural and urban areas has lots of implications on the society in the context of health related issues. It was observed that until 1996 there was no serious concern on the issues related to solid waste management. It is only when Supreme Court of India during 1996 has setup a special team to identify the issues concern with solid waste management. Subsequently during 2000 saw the framing of Municipal Solid Waste Management and Handling Rules by the Ministry of Environment and Forestry.

Based on these rules, it has provided several newdirectives as follows;

- Proper storage of waste sources at their site of generation by placing bins: one for recyclable waste and another for biodegradable waste.
- Initiation of doorstep collection of both biodegradable and non-biodegradable waste on a daily basis at the pre-informed timing.
- Street sweeping for both commercial and residential sites on a daily basis.
- The introduction of covered and closed waste storage containers and depots replacingtraditional open waste storage.
- Regular transportation of waste in covered vehicle
- Proper treatment of biodegradable waste using composting and waste-to-energytechnologies without compromising standards.
- Minimise the waste deposit towards landfilling and dispose of only rejects fromtreatment plants.

Suggestions & Recommendations:

The following are the suggestions andrecommendations based on this study.

- Waste management should be prioritised as a social service, with adequate budget lines. It is to be pointed out that allocating money to waste management will not translate into better results unless there is adequate sensitization, good fiduciary practice and accountability.
- It is recommended to engage several stockholders in the management of waste to generate a sense of responsibility and interest from all stockholders.

- It is suggested that individuals involved in waste management should always wear recommended protective gear. This is partly the responsibility of employers but employees also need to be sensitised on the need to adhere to safety precautions.
- In view of the lack of awareness on implication of solid waste management it is urged to provide public education on individual citizen's role in ensuring that waste is appropriately managed. Simple actions such not littering on the road, can go a long way in ensuring a cleaner environment. Therefore gradual introduction of more concrete actions such as waste sorting at point of generation will go a long way to improving solid waste management.
- It is recommended to move forward from policy to comprehensive implementation plan drawing on success stories from other countries. In this context it is to adapt good waste management practices, and promote use of technology in activities such asenergy generation from waste.
- Further it is suggested to encourage the culture of recycling. It can help in reducing volume of waste, and reduce need for exploitation of raw materials. For example, the growing demand of plastics means more petroleum is needed which come with a costs but also impact on the environment.
- In view of the lack of funds for solid waste, the government is urged to allocate adequate budget for SWM. A new mechanism to generate adequate revenue from thepublic should also be developed.

This report also provided directions for further research

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External Funded Research Projects Report

Name of the Project	:	Upgradation of Communication Engineering Lab **File No. 84-40/RIFD/MODROB/Rural/Policy-1/2019-20**
Name of the Funding Agency	:	**MODROB-Rural, All India Council for Technical Education (AICTE)**, New Delhi.
Name and complete affiliation of the Principal Investigator	:	**Dr. Rajyalakshmi Uppada**, Professor, ECE Dept, Aditya Engineering College (A), Surampalem.
Name complete affiliation of the Co-Principal Investigator	:	-
Sanctioned Date and Amount	:	**Rs 8, 73, 667 /-**
Collaboration with	:	**AICTE Funded Project**
Duration	:	12-02-2020 to 11-08-2022
Received Amount of Fund (if any)	:	Rs 6, 98, 934 /- (First Installment)
Number of Progress Reports Submitted	:	**3**
List of Equipment Purchased	:	**Name of the Equipment** / **Amount (Rs.)** **1. Satellite Trainer** — Rs 1, 75, 230 /- **2. PC Based Motorized Antenna Trainer** — Rs 4, 47, 279 /- **3. Doppler Radar** — Rs 1, 16, 820 /- Total — **Rs 7, 39, 329 /-**
Budget Utilization as on Date	:	Rs 8, 70, 234 /-
Future Course of Action	:	Organized Faculty Development Programme and Student level workshop to create awareness on the AICTE Funded communication equipment's namely the Satellite, PC Based Motorized Antenna and Doppler radar kits. The above three equipment work has been incorporated in Microwave & Optical Communication lab from B.Tech R20 Curriculum. Antenna Design using EM Cube Simulation Software is helpful for both the B.Tech Project Students as well as for the Faculty/ Student Researchers who are pursing in the field of Antenna. This current academic year 2021-2022, five student batches are making use of existing antennas to design a new antenna for varieties of application fields like WiFi, Wimax, and Biomedical applications. In this semester FDP and student workshop is organized to create awareness

	for perfect utilization of equipment. Faculty working in the area of antenna will utilize the EMCube software for their antenna design simulation during their Research work.
Date of Completion / Expected Date of Completion :	**Completed on 11-08-2022**

(Rajya Lakshmi Uppada)

Principal Investigator

Dr. Rajyalakshmi Uppada

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External Funded Research Projects Report

Name of the Project	:	Seminar grant to organize "**A Two Day Seminar on Women Employment and Empowerment in East Godavari district, Andhra Pradesh**". Ref. No.: **16(382)/2019-2020/NCW(SCW)**
Name of the Funding Agency	:	**National Commission for Women (NCW), New Delhi**
Name and complete affiliation of the Principal Investigator	:	**Dr. Rajyalakshmi Uppada**, Professor, ECE Dept, Aditya Engineering College (A), Surampalem.
Name complete affiliation of the Co-Principal Investigator	:	-
Sanctioned Date and Amount	:	**Rs 2, 49, 000 /-**
Collaboration with	:	**NCW Seminar grant**
Duration	:	10-02-2020 to 11-02-2020
Received Amount of Fund (if any)	:	Rs 1, 24, 500 /- (First Installment)
Number of Progress Reports Submitted	:	**1**
Number of Women beneficiaries	:	**200**
Budget Utilization as on Date	:	Rs 2, 42, 000 /-
Future Course of Action	:	Organized Two-Day seminar on Women Empowerment and Employment on 10-02-2020 and 11-02-2020 at Aditya Engineering College. Resource persons have presented various contexts to empower the women especially in the area of education, security and safety measures, legal rights, physical, and mental health related issues. Speakers have explained the women and girl student community to handle the personal and professional careers simultaneously for the betterment of the society. Various central government schemes and productive resources related to the development of women community have also discussed. Speakers also mentioned the saving and policy schemes related to girl child and married women. This motivated the local and remote area women to focus more about their future in a secured zone. The challenges of the women community

	from low cadre to high cadre at the work place were also conveyed by the orators. Speakers also proposed ways to maintain self-care along with the family care. The speakers have addressed the legal rights built by the state and central government and the ways to protest the sexual harassment. Orators also encouraged the gathering to use 'Disha' app developed by the state government. This is for the purpose of women safety and security. Speakers also provided several ideas and initiatives for the local and state women to become as an entrepreneur and start various small scale businesses to lead their life happily in an efficient manner. The resource persons have stimulated the women and girl child gathering to build self-respect and create identity in decision-making towards value-added activities. Several national wide-schemes developed by the government to protect the women rights, were also discussed. Local people were given awareness to mitigate the gender based discrimination's and to develop the gender equity in all aspects. Also the gathering was inspired by the speakers and learn their role for the betterment of the society.
Date of Completion / Expected Date of Completion :	**Completed on 11-02-2020**

(Rajya Lakshmi Uppada)

Principal Investigator

Dr. Rajyalakshmi Uppada