



EKNM GOVERNMENT COLLEGE ELERITHATTU
(Established in 1981, Affiliated to Kannur University)

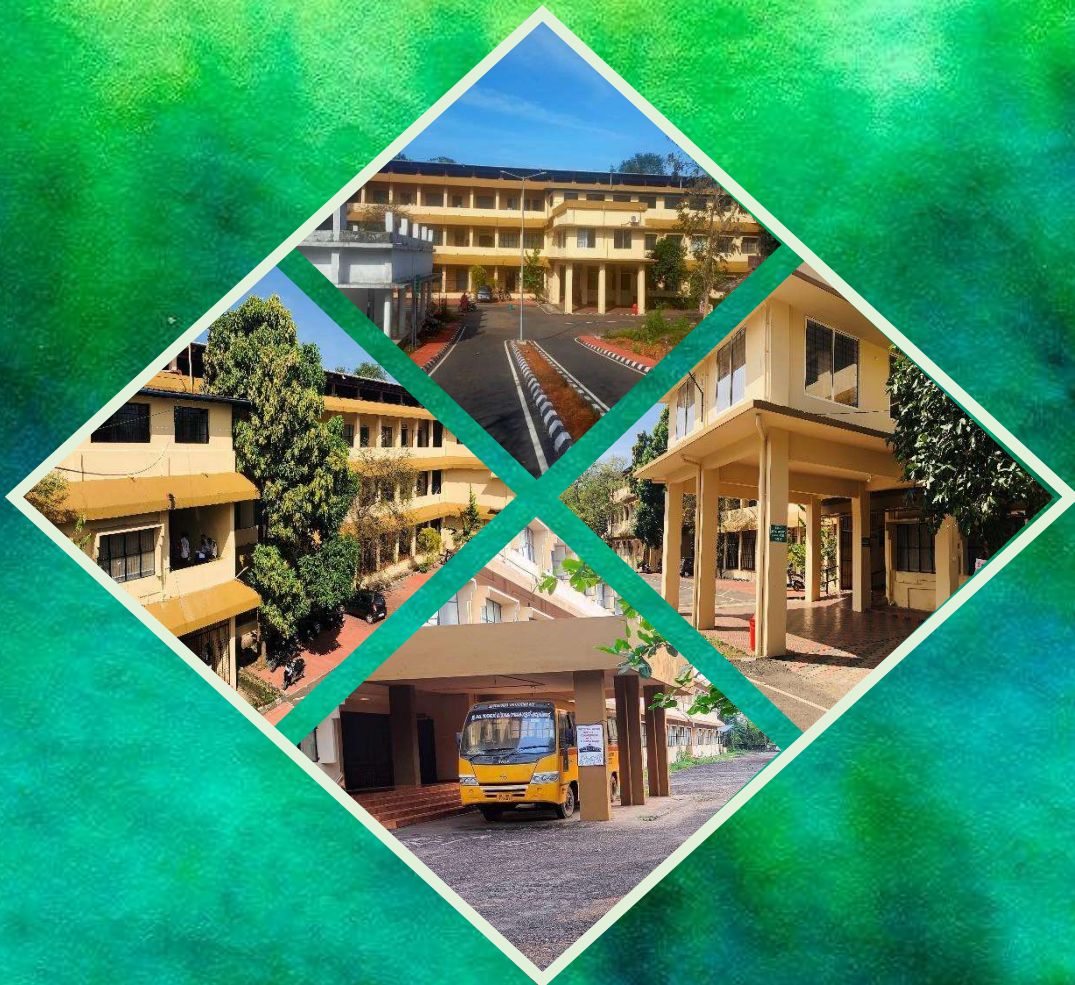
Accredited by NAAC with 'B' Grade

Elerithattu(PO), Nileshwar (Via), Kasaragod (Dist.), Kerala-671314, Ph: 04672245833, 9188900213
e-mail: eknmgovtcollege@yahoo.com , Web: <http://www.eknmgc.ac.in>

DOCUMENTARY EVIDENCE FOR

3.3.2. Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years.

BOOK PUBLICATIONS



CLIMATE CHANGE MITIGATION : INDIAN PERSPECTIVES

**Dr. Sudhir Singh
Dr. Sabu Thomas**
Editors



CHANAKYA PUBLICATION & DISTRIBUTORS
Delhi

Published by :

Chanakya Publication & Distributors

Publishers of Academic & Reference Books in Social Science

2061/2062, Left Portion G.F. Mukeempura Subzi Mandi,

Malka Ganj, Delhi-110007 Ph. 011-23853236

Mob. : 8377943072, 8287149744

E-mail : chankyapub.dis@gmail.com

Copyright © Sudhir Singh

First Edition : 2023

Price : ₹ 1095/-

ISBN : 978-93-95055-02-4

Layout & Printing at : K.R. Printers, New Chandrawal, Delhi-110007

Chapter	Authors	Page No.
ENVIRONMENTAL ETHICS IN ANCIENT LITERATURE: IMPERATIVES FOR THE CONTEMPORARY WORLD	Alok Kumar Gupta	131
CLIMATE CHANGE AND THE ROLE OF CIVIL SOCIETY IN ENVIRONMENTAL PROTECTIONS: SPECIAL REFERENCE TO UTTARAKHAND	Prakash Lakhera & Kalpana Patni Lakhera	146
GREEN POLITICS, POLICIES AND STATE IN INDIA	Aarif	162
CLIMATE CHANGE AND POVERTY – A CASE STUDY IN THE MEKONG DELTA, VIETNAM	Vu Thi Thu Hang	175
SOCIAL DIMENSIONS OF CLIMATE CHANGE AND MIGRATION	Amit Rahul	188
UN INITIATIVES AND CLIMATE CHANGE: HOPES FOR A BETTER TOMORROW	Ganesan D A	205
ENVIRONMENT AND POLLUTION: A CRITICAL ANALYSIS	A Kumar	225
MARINE ENVIRONMENT AND CLIMATE CHANGE MITIGATION IN THE GULF OF MANNAR	Dhanya & Utham Kumar Jamadhagni	230

TOPIC: UN INITIATIVES AND CLIMATE CHANGE: HOPES FOR A BETTER TOMORROW

Ganesan D.A.

INTRODUCTION

Climate change is one of the most critical global challenges of our time. Climate change not only affects our way of life but also brings about unprecedented changes in the natural environment. The impact of climate change in sea level rise and rapid coastal erosion, the severity of natural disasters, and the extinction of species cannot be ruled out. This issue is of paramount importance to every global citizen. Along with bringing about major adjustments to promote more sustainable production and consumption at the collective and individual levels to combat climate change international action is essential.

In recent years, the United Nations has convened various conferences to discuss the climate change issue at international level to arrive at solutions under multilateral framework. Ever since the UN Conference at Kyoto, the issue has been high on international agenda. The Kyoto Protocol put legally binding commitments upon developed countries to cut their emissions and provided that they should assist poor countries in adapting to climate change. The United



**MULTIDISCIPLINARY APPROACHES IN
SOCIAL SCIENCES,
EDUCATION & LANGUAGES**
(VOL-8)

EDITOR-IN-CHIEF

**DR. DILIPKUMAR A. ODE
MS. ZEENAT BARKATALI MERCHANT**

ASSOCIATE EDITORS

**MS. T. RADHA
MS. JYOTI KAMBLE
VINIT CHITTE**

CO-EDITORS

**RAMA DEVI P
DR. NISHA SHARMA
SHIVAM KUMAR PANDEY**

CH.
NO.

CHAPTER NAME & AUTHOR (S)

1. सोशियल मीडिया का प्रभाव
Chandan Dekate

2. THE MARITIME ANTI-PIRACY ACT 2022- A CRITICAL
ANALYSIS
Shivam Kumar Pandey

3. WITCH HUNTING IN MODERN INDIA: BACKGROUND,
CASES AND LAW
Shivam Kumar Pandey

4. पुस्तकालय भौतिक सत्यापन: एक अध्ययन
लाकेश कुमार साहू & संजय शाहजीत

5. COLLECTIVE BARGAINING AND WOMEN EMPOWERMENT:
A CASE STUDY OF KUDUMBASHREE SELF HELP GROUPS,
KASARGOD DISTRICT OF KERALA STATE
Dr. Prakashan K

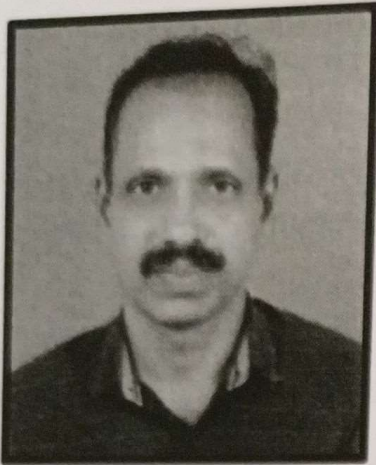
6. PROFESSIONAL ETHICS AMONG PRIMARY SCHOOL
TEACHERS
THROUGH THE

DIP: 1

सोशल
सकते हैं
व्यक्तिगत
किसी भी
उतना ही
जिससे
ग्राफिक्स
से सोशल
प्रसिद्धि व

सोशल मीडिया
कम्प्यूटर,
जिसमें अप
और व्याप
सहायक उप
भी सरलता
मीडिया एक

सोशल मीडिया
टेक्नोलॉजी



DR. PRAKASHAN K

Assistant Professor

Department of Commerce

E K Nayanar Memorial Government College,
Elerithattu, Kasargod Dt, (Kerala), India

❖ **ABSTRACT:**

Collective bargaining is a mechanism in which people negotiate for better wages, working conditions, working hours and other benefits. Women empowerment is closely associated with the process of collective bargaining. The involvement of women in collective bargaining will lead to their empowerment. Kudumbashree, a state poverty eradication mission of Kerala Government, has undertaken the responsibility of empowering poor women in the state by forming Self Help Groups in both urban and rural areas. Self Help Groups are the voluntary organisation of women engaged in various socio-economic activities in their locality. The involvement of women in SHGs help them to realize their rights and to fight against the exploitation of women at work place. The present study made an attempt to examine the role of Kudumbashree SHGs in Kasargod district of Kerala state in improving the collective bargaining capacity of its members.

Keywords: Collective bargaining- Women Empowerment- Kudumbashree- Self Help Group

1.0 INTRODUCTION:

The term empowerment denotes equipping individuals and groups to take decisions in matters relating to them. Women folk constitute 48.26 percentage of the total population in India but their participation in the

PEOPLE, SOCIETY AND ECONOMY: ISSUES & PERSPECTIVES



Editors

Dr. PRAVEED NINKILERI
Dr. SHACHEENDRAN V.
Dr. MOHAN S. SINGE
Dr. SYAMALA K.
Dr. JISHA D. NAIR



INDEX

Sl No.	Title	Author	Page No.
1	Scope of School Social Work in Dealing with Psycho Social Problems of Adolescents	Anoop C.P.	6
2	Educational Thoughts of Tagore - A Way To Self-Realization	Abitha T.	15
3	Revenge and Resistance for Women's Emancipation-Reading Through the Characters of Lalithambika Antherjanam	Aiswarya K.S.	20
4	Good Governance Through it	Ajith Kumar P.	24
5	Emigration from Kerala to Middle East: Trends and Direction	Amina Poovancheri	29
6	Socio-Cultural Aspects in Mahābhāṣya	Dr. Anitha Kallyadan	35
7	From Margin to Centre: Understanding, Knowing And Telling Transgender Identities in A. Revathi's Truth About me	Anjaly Nair M.K.	40
8	Road Accidents in Kerala: Characteristics, Causes and Remedial Measures	Babu C.	44
9	How Far is the Education Inclusive for Scheduled Tribes of Kerala?	U. Balakrishnan	50
10	Virtue Based Teachers' Ethics: Jiddu Krishanmurti's Perspective	Dr. Bharathi P.K.	55
11	Right to Decent Work; A Myth for Internal Migrants in Kerala	Bhavana A.K.	59
12	Implementation of Special Economic Zones (sezs) in India: Spatial Dimensions and Fiscal Implications	Dr. Gisha P. Mathai	63
13	Empowering Rural Women Through Mgnrega: A Conceptual Framework	Dr. Jisha D. Nair	68
14	Trends in Social Institutions with Reference to Indian Families and Marriages	Dr. Mohan S. Singhe	73
15	Indian Higher Education in Recent Years: Issues and People's Expectation	Jipson V. Paul	78
16	India's Agriculture Exports During Reform Era - A Performance Appraisal	Joby Thomas	83
17	Special Economic Zones as Special Zones: Concepts and Analysis of an Indian Perspective	Praveen Kumar T.K.	89
18	Human Rights, Dalits and the Politics of Exclusion	Pramesh A.	96
19	Maulana Abul Kalam Azad-Vision and Action (In The View of Prof. B. Sheikh Ali)	Semeenabi K.K.	101

20	Living with the Whitemen: Cultural Impact of Colonialism in British Malabar	Dr. Samyuktha Sasikumar	106
21	Technical Analysis of Equity Shares of State Bank of India	Shaju Mathew	110
22	Political Participation Through Kudumbasree	Sini P.K.	119
23	Financial Exclusion to Financial Inclusion: The Role of Commercial Banks In Kerala	Sishina O.C.	122
24	Scheduled Caste Women in Unorganised Sector	Smitha R.	129
25	Human Rights Violations of Dalits in Kerala	Sreekala V.P.	132
26	Linkage Between Education, Employment and Economic Growth: A Case Study of Females in Kerala	Subhash P.P.	135
27	Sorry State of Khadi Industry: Causes and Remedies	Dr. Praveed Ninkileri	143
28	Economic and Social Status of Maratis in Kasaragod District	Tessymol George	148
29	Significance of Yoga in Education	Dr. Babitha K.	154
30	Social Media Politics and Blame Game	Chandrashekar S.V.	157
31	Changes in Agricultural Land use and Cropping Intensity - A Study in Belgaum District	Prasanna B. Joshi	161
32	Tradition, Education And Emancipation: A Study on Phule's Book Slavery	Dr. Lenin C.C.	170
33	Lifestyle Diseases in Kerala	Prajitha V.V.	175
34	How Political Parties Destroy The Very Existance of Democracy in India: an Analysis	Roy Mathew	182
35	Economic Impact of Gulf Migration-A Study of Kasaragod District	Dr. Samritha A.V.	188
36	Goods and Services Tax (GST)	Dr. Shacheendran V.	192
37	Right Based Welfare to Charity Based Welfare: The Case of Karunya Benevolent Fund	Sudheesh K.M.	199
38	Social Application of Vedantic Ideals in the Philosophy of Modern Indian Thinkers	Dr. Syamala K.	204
39	The Caged Bird:Breaking The Shackles of Intersectionality	Vidya M.	213
40	Role of Natural Resources In Economic Development	Manoj Chathoth	217
41	Sustainable Development In India: Role of Nutritional Status of Children And Role of Women	Madhumathi C.	220
42	Venezuela Crisis: Role of Emerging Right Wing Politics In Latin America	Anvar Sadath M.P.	226
43	Sustainable Development In India: Perspectives	Suma Balakrishnan	231

28. ECONOMIC AND SOCIAL STATUS OF MARATIS IN KASARAGOD DISTRICT

Tessymol George
Assistant Professor in Economics
EKNM Govt. College, Erudhara

ABSTRACT

Scheduled Tribes are historically disadvantaged group of people. Traditionally they are marginalized group. The socio-economic conditions of tribal people are backward comparing to the non-tribal people. In India they are concentrated in forest, hills and naturally isolated region. They are also known as Adivasis. In Kerala there are 35 communities recognized as scheduled tribe and Marati community is one among them. In 2002, by the recommendation of KIRTADS they were excluded from the ST list. In 2012 onwards they are reenlisted as a Scheduled Tribe. In Kerala they are mainly concentrated in Kasaragod district. This paper examines the socio-economic status of Maratis by using primary data from the 100 households in Kasaragod ditrict. The study reveals that the socio- economic conditions of Maratis is lower than that of other general category and comparing to other scheduled tribes in Kasaragod they have better standard of living.

INTRODUCTION

Scheduled Tribes are historically disadvantaged, officially designated and specific indigenous peoples. Schedule Tribes are community of people who lived in tribal areas (mainly forest). Thomas M. M (1965) in his book *Tribal Awakening* gives one definition on tribes as, "A tribe is an indigenous, homogeneous unit, speaking a common language, claiming ancestry, living in a particular geographical area, backward in technology, pre-literate, loyally observing social political customs based on kinship". The Indian tribes are characterized by the features mentioned by the above definition. They make up to 7-8% of Indian population. Traditionally they are marginalized and not in the mainstream of the society. They are also known as Adivasis. According to the 2011 census Scheduled Castes and Scheduled Tribes comprise about 16.6% and 8.6% respectively, of India's population. Compared to the non-tribal people the tribal people are economically, educationally and politically backward.

There are 427 tribal communities are living in India. Tribal groups in India mainly concentrated in forest, hills and naturally isolated region. The main hindrances faced by this group to reach mainstream is the isolated nature of this tribal region and widespread poverty. The percentage of tribal people living in Mizoram, Nagaland, Meghalaya and Andrapradesh is quite high with reference to the total population. The socio-economic and political development of Indian tribes is different. Government introduces number of programmes and policies for their development. But only a few numbers of tribal people have been benefited by the policies and programmes. This shows an inequality in the process of change and development among the tribal people in India. Some tribal people are in the transitional phase, but others are still in their old lifestyles.

The concentration of the tribal population in Kerala is very low and they constitute only 1.14 percent of the total population. In Kerala there are 35 communities recognized as scheduled tribe.

PEOPLE, SOCIETY AND ECONOMY ISSUES & PERSPECTIVES

Editors

Dr. PRAVEED NINKILERI
Dr. SHACHEENDRAN V.
Dr. MOHAN S. SINGE
Dr. SYAMALA K.
Dr. JISHA D. NAIR



Distribution



www.bookmedia.in

ISSN 978-93-85105-90-6



9 789385 105906

PEOPLE, SOCIETY AND ECONOMY: ISSUES & PERSPECTIVES



Editors

Dr. PRAVEED NINKILERI
Dr. SHACHEENDRAN V.
Dr. MOHAN S. SINGE
Dr. SYAMALA K.
Dr. JISHA D. NAIR

BOOK
MEDIA

English

PEOPLE, SOCIETY AND ECONOMY: ISSUES & PERSPECTIVES
(Studies)

Editors : Dr. Praveed Ninkileri

Dr. Shacheendran V.

Dr. Mohan S. Singe

Dr. Syamala K.

Dr. Jisha D. Nair

© The Editors

Disclaimer

The articles published in this book are purely personal work of the respective authors. The editors are not responsible for any case of plagiarism or factual/ conceptual error that may not exist in them, nor will be liable for financial or non- financial loss that may arise on account of the articles in this book.

First Published : March 2019

Cover Design : Book Media, Pala

Layout : Amrutha Syam

Printing : Book Media

Publishing

BOOK MEDIA

Pala - 686 575

Kottayam, Kerala, India.

Mobile +91 94475 36240

Website: www.bookmedia.in

E-mail: bookmediaindia@gmail.com

ISBN:978-93-85105-90-6

INDEX

Sl No.	Title	Author	Page No.
1	Scope of School Social Work in Dealing with Psycho Social Problems of Adolescents	Anoop C.P.	6
2	Educational Thoughts of Tagore - A Way To Self-Realization	Abitha T.	15
3	Revenge and Resistance for Women's Emancipation-Reading Through the Characters of Lalithambika Antherjanam	Aiswarya K.S.	20
4	Good Governance Through it	Ajith Kumar P.	24
5	Emigration from Kerala to Middle East: Trends and Direction	Amina Poovancheri	29
6	Socio-Cultural Aspects in Mahābhāṣya	Dr. Anitha Kallyadan	35
7	From Margin to Centre: Understanding, Knowing And Telling Transgender Identities in A. Revathi's Truth About me	Anjaly Nair M.K.	40
8	Road Accidents in Kerala: Characteristics, Causes and Remedial Measures	Babu C.	44
9	How Far is the Education Inclusive for Scheduled Tribes of Kerala?	U. Balakrishnan	50
10	Virtue Based Teachers' Ethics: Jiddu Krishanmurti's Perspective	Dr. Bharathi P.K.	55
11	Right to Decent Work; A Myth for Internal Migrants in Kerala	Bhavana A.K.	59
12	Implementation of Special Economic Zones (sezs) in India: Spatial Dimensions and Fiscal Implications	Dr. Gisha P. Mathai	63
13	Empowering Rural Women Through Mgnrega: A Conceptual Framework	Dr. Jisha D. Nair	68
14	Trends in Social Institutions with Reference to Indian Families and Marriages	Dr. Mohan S. Singhe	73
15	Indian Higher Education in Recent Years: Issues and People's Expectation	Jipson V. Paul	78
16	India's Agriculture Exports During Reform Era - A Performance Appraisal	Joby Thomas	83
17	Special Economic Zones as Special Zones: Concepts and Analysis of an Indian Perspective	Praveen Kumar T.K.	89
18	Human Rights, Dalits and the Politics of Exclusion	Pramesh A.	96
19	Maulana Abul Kalam Azad-Vision and Action (In The View of Prof. B. Sheikh Ali)	Semeenabi K.K.	101

8. ROAD ACCIDENTS IN KERALA: CHARACTERISTICS, CAUSES AND REMEDIAL MEASURES

BABU C.
Asst. Professor of Economics, P G Department of Economics
E K N M Govt. College Elerithattu, Kasaragod District, Kerala
babucmundot@gmail.com

ABSTRACT

This paper is an attempt to examine the trend, characteristics, and causes and remedial measures of road accidents in Kerala for a period from 2010-2018. It is found that in 2018 alone, the total number of road accidents stands at 40181, deaths due to road accidents is 4303 and 45458 injuries of which 31687 are of fatal injuries. It is also found that an average of 12 deaths and 125 injuries per day during the same period. Two wheelers, car/jeep and taxies constitute 57 percent of total accidents. Most of the fatal accidents occurred in Kerala are likely to involve heavy vehicles, especially buses, and likely to involve multi vehicle accidents. While analysing the causes of accidents, it is found that 97 percent is due to fault committed by the driver of the vehicle. It includes driving without helmet, drunken driving, over speeding, aggressive driving behaviour of heavy vehicle, overtaking through left side, use of mobile phone while driving etc. Motorcyclist and the pedestrians are the most important victims of the accidents and they together constitute 74 percent of the total deaths. Improving road safety is now a great concern of the state as well as the common people. To realise this goal, greater emphasis should be given to application of proven road engineering, education/training to the stakeholders, enforcement of the laws together with a better post crash response.

Key Words: Road accidents, road safety, deaths, injuries, remedial measures

1. INTRODUCTION

Kerala state is well known for its achievements in social indicators such as education, healthcare, high life expectancy, low infant mortality and low birth rate etc and many of the indicators are comparable to those of developed countries even though states percapita income is moderate. This peculiar development experience of Kerala state is acclaimed as the Kerala model of development. Along with this, Kerala is also famous for its natural beauty, awesome tourist centres, spectacular festivals and its rich cultural heritage including Ayurveda and Yoga.

At the same time it is infamous for its increasing morbidity, lifestyle diseases, suicidal rate, divorce rate, alcohol consumptions, intensity of crimes, road accidents etc. Among these, the road accident is one of the most significant problems which is a concern of the state and common man. Kerala is a service based economy and we are on constant move from one place to another. In Kerala, road transportation is the most important part of passenger and freight movements. But ironically deaths from road accidents are just like a fatal hidden epidemic which affects all sectors of society. In this background the paper attempts to focus on the characteristics and causes of road accidents and also suggests some measures to reduce the road accidents.

2. OBJECTIVES OF THE STUDY

- To examine the characteristics and causes of road accidents in Kerala



ABOUT -

Search

Current Perspective to Economics and Management Vol. 2

Dr. N. Karunakaran, (Editor)

Department of Economics and Vice-Principal, EK Nayanar Memorial Govt. College, Elerithattu, India.

Profile Link: <http://collegedunia.com/college/1242-ek-nayanar-memorial-government-college-eknmg-kasaragod/faculty>

Geraldine N. Okeudo

Department of Transport Management Technology, Federal University of Technology, Owerri, P.M.B.1526 Owerri, Imo State, Nigeria.

Ignatius A. Nwokoro

Department of Maritime Management Technology, Federal University of Technology, Owerri, P.M.B.1526 Owerri, Imo State, Nigeria.

Fernando Antonio Noriega Ureña

Department of Economics, Autonomous Metropolitan University, Campus Azcapotzalco, Mexico.

Makinta, Maina Mohammed

Department of Agriculture, Damboa Local Government, Damboa, Borno State, Nigeria.

Hamisu, Sa'adu

Department of Crop Production Technology, College of Agriculture, P.M.B. 1018, Zuru, Kebbi State, Nigeria.

Bello, Umar Faruk

Department of Agricultural Extension & Rural Development, Faculty of Agriculture, Usmanu Danfodiyo University, Sokoto, Nigeria.

Umar, Sa'adu

Department of Agricultural Economics & Extension, Faculty of Agriculture, Kebbi State University of Science & Technology Aliero, Nigeria.

Matthias O. Nkuda

Department of Management, Faculty of Management Sciences, University of Port Harcourt, Port Harcourt, Rivers State, Nigeria and Department of Business Management, Faculty of Business Administration, University of Uyo, Uyo, Akwa Ibom State, Nigeria.

Sallahuddin Hassan

School of Economics, Finance and Banking, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia.

Zalila Othman

School of Economics, Finance and Banking, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia.

Mohamad Syafiqi Hashim

School of Economics, Finance and Banking, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia.

Mavhungu Abel Mafukata

Department of Development Studies, University of South Africa, RSA.

A. Alatorre

Department of Physics, University of Guadalajara, Olimpica Boulevard General Marcelino Garca Barragn 1421, Olimpica, 44430 San Pedro, Tlaquepaque, Jal, Mexico.

Adijah M. Ali-Olubandwa

Department of Applied Community Development Studies, Egerton University P.o Box 536, Kenya.

Timothy E. O. Wesonga

Department of Agriculture and Food Security, East Africa Community (EAC), Tanzania.

Oluyinka Christopher, Ariyo

Department of Vocational and Technical Studies, Federal College of Forestry Mechanization, Forestry Research Institute of Nigeria, P.M.B. 2273, Afaka, Kaduna State, Nigeria.

Webster Miyanda

Hanns R. Neumann Stiftung, Mbeya, Tanzania.

Hamidu Shungu

Centre for Economics and Community Economic Development, Open University of Tanzania, Tanzania.

Deus Ngaruko

Centre for Economics and Community Economic Development, Open University of Tanzania, Tanzania.

N. Karunakaran

Department of Economics, EKNM Government College Elerithattu, 671314, Nilishwar, Kasaragod, Kerala, India.

Synopsis

This book dealt with key areas of Economics & Management. The contributions by the authors include employees, retirement, social, employment, case methodology and strategic management, institutions, farmer-herder, management, small scale farmers, attitude, agricultural reform, FOs success and smallholders, farmer support, social capital, social entrepreneurship, economic valuation, social networks, social interactions, economical framework, business intelligence etc. This book contains various materials suitable for students, researchers and academicians in the field of Economics & Management.

Chapter 1**Online Reservation Systems: A Tool for Enhancing Airline Performance in Nigeria**

Geraldine N. Okeudo, Ignatius A. Nwokoro

Chapter 2**A Critical Review of Competitive Firm's Theory**

Fernando Antonio Noriega Ureña

Chapter 3**Traditional Institutions Management: A Case Study of Pasturist Conflicts in Borno State, Nigeria**

Makinta, Maina Mohammed, Hamisu, Sa'adu, Bello, Umar Faruk, Umar, Sa'adu

Chapter 4**Case Methodology as a Pivot of Strategic Management**

Matthias O. Nkuda

Chapter 5**Savings for Retirement in the Employees Provident Fund (EPF): A Profile of Contributors and Their Views towards the EPF Scheme**

Sallahuddin Hassan, Zalila Othman, Mohamad Syafiqi Hashim

Chapter 6**Review of the Comprehensive Agricultural Support Programme (CASP) and Its Infrastructure Development Project at Dolidoli Village: Solutions through Social Capital Adoption**

Mavhungu Abel Mafukata

Chapter 7**Inner Social Interactions Model of Big Data Impact on Economical Framework**

A. Alatorre

Chapter 8**The Relationship between Small Scale Farmers' Attitude towards Maize Farming and Maize Yield in the Agricultural Reform Era: The Case of Western Region of Kenya**

Adijah M. Ali-Olubandwa, Timothy E. O. Wesonga

Chapter 9**Economic Valuation of Forest Conservation by Villagers in Ibadan Oyo State Nigeria**

Oluyinka Christopher, Ariyo

Chapter 10**Success Factors in Smallholders Farmers' Organizations in Tanzania**

Webster Miyanda, Hamidu Shungu, Deus Ngaruko

Chapter 11**Trend and Overall Growth Analysis of Rubber Cultivation in Kerala**

N. Karunakaran

[Media Promotion: Chapter 1](#) [Media Promotion: Chapter 11](#) [Media Promotion: Chapter 10](#) [Media Promotion: Chapter 9](#) [Media Promotion: Chapter 8](#) [Media Promotion: Chapter 7](#) [Media Promotion: Chapter 6](#) [Media Promotion: Chapter 5](#) [Media Promotion: Chapter 4](#) [Media Promotion: Chapter 3](#) [Media Promotion: Chapter 2](#) DOI: <https://doi.org/10.9734/bpi/cpem/v2>

Copyright (c) 2019 The Author(s), Licensee Book Publisher International, This is an Open Access article distributed under the terms of the Creative Commons Attribution License



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

ISBN-13 (I5)
978-93-89246-07-0

ISBN-13 (15)
978-93-89246-57-5



Article Metrics



[See Details](#)

BROWSE

New Releases

Trend and Overall Growth Analysis of Rubber Cultivation in Kerala

N. Karunakaran^{1*}

DOI:10.9734/bpi/cpem/v2

ABSTRACT

In the present century also, agriculture is the main source of livelihood for majority of the people of Kerala. But agricultural sector is under the big threat of economic reforms like liberalization and modernization of economy. The agrarian economy of Kerala could not exclude from the drastic hitting of the liberalization, privatization and globalization reforms; farmers of the state began to think that there is no other way to sustain their life. The statistical profile of Kerala agriculture in the last five decades experienced agricultural transformation. In this change, plantation crops increased considerably. Changing cropping pattern in terms of acreage allocation among different crops is the integral feature of Kerala agrarian economy. The diversification of crops in terms of variation in acreage allocation has taken place due to price and non-price factors like agro-climatic conditions, labour availability, irrigation facilities, soil fertility, cost of cultivation, price levels, profitability, mechanisation, etc. The change has taken place largely in favour of non-food crops and recently it is towards rubber. The real growth of agricultural crop output has declined continuously since 1960-61 compared to monetary growth. In the case of rubber, the crop exhibited positive values in all the components in the decomposition analysis.

Keywords: Kerala; rubber; Growth trend; overall growth; real growth; monetary growth; area response; yield response.

1. INTRODUCTION

In Kerala the agricultural scenario continues to be the most important and single largest sector of the state's economy in terms of income and employment [1,2]. Due to a variety of reasons, different types of food and non-food crops are grown throughout the state which include, rice, coconut, rubber, tapioca, pepper, cashewnut, arecanut, banana, coffee, tea, ginger, cardamom, etc [3,4]. Agricultural development experience of the state since the last seventies has been characterised by sharp decline in the area under food crops and the substantial expansion in the area under non-food crops [5,6]. Area under food crops decreased from 67 percent of the total cropped area during the early 1960's to 12 percent of the total cropped area at present. But the situation is just the reverse in the case of non-food crops where it went up from 33 percent of the total cropped area to 88 percent. This agricultural transformation of the state indicates a heavy concentration of non-food crops. The emergence of cash crops, particularly rubber, as a dominant sector over the last four decades is the most notable feature of this transformation [7,8].

This change in cropping pattern mainly towards rubber is due to farmers decisions. Based up on price expectations, labour availability, impact of government strategies, agro-climatic conditions, irrigation facilities, expected yield, cost of cultivation, soil fertility and so on, farmers decide whether to allocate their land for agricultural purposes, viz, which of the crops to cultivate, how much area to allocate, etc, or for non-agricultural purposes [9]. The agricultural statistics of Kerala since 1960-61, clearly depicted that the cropping pattern in the state has made a significant shift towards rubber [10,7]. Naturally there must be certain determinants that motivated the farmers to make such a change in the

¹Department of Economics, EKNM Government College Elerithattu, 671314, Nilishwar, Kasaragod, Kerala, India.

*Corresponding author: E-mail: narankarun@gmail.com;

cropping pattern. In this context, an overview of rubber cultivation in Kerala in terms of trends, determinants and overall growth analysis is worked out.

2. MATERIALS AND METHODOLOGY

The study used secondary data from various publications of the Government of Kerala and India. Two models were used to analyse farmer's decisions in terms of area response and yield response.

(i) Area Response Model for Rubber:

$$At = a_0 + a_1Pt^e + a_2Ptc^e + a_3Yt^e + a_4TAt + a_5PRt^e + a_6RFt + vt$$

(ii) Yield Response Model for Rubber:

$$Yt = b_0 + b_1Yt-1 + b_2Pt^e + b_3Ptc^e + b_4PRt^e + b_5RFt + ut$$

(Where, At = Area under the crop in the current year, Yt = Yield per hectare of the crop in the current year, Pt^e = Expected price of the crop (The expected price of the crop in period t was calculated as the average prices prevailing in the preceding three years), PRt^e = Expected price risk in the current year (The price risk in period t was represented by the standard deviation of price in the past three years from period t), RFt = Average annual rainfall in mm, Ptc^e = Expected price of the competing crop (that is, coconut), Yt^e = Expected yield of the crop (The expected yield of the crop in period t was calculated as the average yield prevailing in the preceding three years), TAt = Tappable area in the current year, Yt-1 = Yield of the crop in period t-1). The regression coefficients were estimated by the method of OLS. The regression coefficients were tested for their significance using t test. Durbin-Watson statistic was also computed for testing the incidence of auto-correlation.

Table 1. Transformation of agriculture in Kerala towards Rubber (Rank of each crop in the Total Cropped Area)

Sl. no.	Crops	1960-61	1970-71	1980-81	1990-91	2000-01	2013-14
1	Rice	1	1	1	2	3	3
2	Coconut	2	2	2	1	1	1
3	Areca nut	6	7	7	10	8	5
4	Rubber	4	4	4	3	2	2
5	Pepper	5	5	6	4	4	4
6	Cashewnut	6	6	5	6	7	9
7	Tapioca	3	3	3	5	5	7
8	Coffee	10	11	8	7	9	8
9	Tea	8	10	11	11	11	11
10	Cardamom	9	9	9	8	10	10
11	Ginger	11	12	12	12	12	12
12	Banana and other plantains	7	8	10	9	6	6

Source: Computed from: [11] Paddy cultivation in Kerala: trends, determinants and effects on food security, Artha Journal of Social Science, 13(4): 21-35.

3. RESULTS AND DISCUSSION

3.1 Transformation of Agriculture in Kerala towards Rubber

During 1960-61 the order of the first five crops was rice, coconut, tapioca, rubber and pepper in the descending order of shares to the total cropped area. Table 1 reveals that in 2013-14, the first five crops were coconut, rubber, rice, pepper and areca nut. Rubber occupied fourth position in area during 1960-61 went to second position in 2013-14. The main crops losing area between 1960-61 and 2013-14 were rice and tapioca. This transformation clearly established a shift from the traditional subsistence cropping to the recent commercial cropping like rubber and coconut. From Table 1 it is very clear that, among the four plantation crops, rubber emerged as the most significant crop with largest area in the state next only to coconut.

Table 2. Transformation in the cultivation of rubber, coconut and rice in Kerala (in %) (2013-14 over 1960-61)

Sl. no.	Districts	Rubber	Coconut	Rice
1	Thiruvananthapuram	698	31	-92
2	Kollam	75	-9	-92
3	Pathanamthitta	14	-35	-81
4	Kottayam	159	-40	-73
5	Alappuzha	114	-42	-57
6	Ernakulam	265	12	-83
7	Idukki	125	19	-77
8	Trissur	136	127	-73
9	Palakkad	577	227	-49
10	Malappuram	8	75	-86
11	Kozhikkode	31	24	-96
12	Wayanad	89	173	-37
13	Kannur	300	69	-92
14	Kasaragod	54	29	-65
15	State	328	56	-69

Source: Computed from: [11] Paddy cultivation in Kerala: trends, determinants and effects on food security, Artha Journal of Social Science, 13(4): 21-35

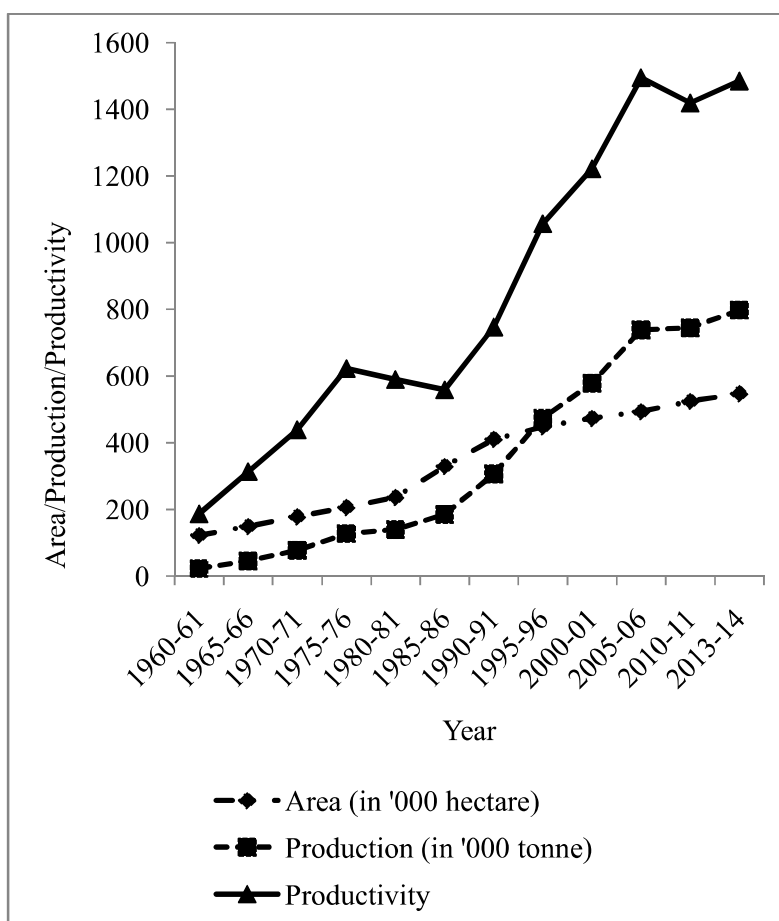


Fig. 1. Growth in area, production and productivity of rubber crop in Kerala (1960-61 to 2013-14)

The percentage increase in the area under rubber was 328 in 2013-14 over the year 1960-61 (Table. 2). Among the districts, Thiruvananthapuram district recorded highest percentage increase in area under rubber cultivation (698 percent). Tables 1 and 2 clearly supported the transformation from food crops, mainly rice and tapioca, in favour of tree crops such as rubber and coconut in Kerala.

Table 3. Compound Growth Rates of Area, Production and Productivity of Rubber in Kerala

Sl. no.	Item	1960's	1970's	1980's	1990's	2000's	Five decades
1	Area	3.647	1.989	6.485	1.407	1.196	3.292
2	Production	*11.311	6.107	7.640	7.345	4.514	7.065
3	Productivity	10.729	3.819	1.087	5.853	3.281	3.903

* - Significant at probability level 0.01

Source: - [12] *Crop Diversification for Sustainable Agriculture*, Pointer publishers, Jaipur, India: 90-100.

The growth of crop-output in Kerala can be decomposed into real and monetary terms [13] and the results summarised in Table 4 with respect to rubber during the past five decades shows that the real growth has tended to decline from 60 percent during 1960's to 13 percent in 2000's and monetary growth has correspondingly risen from 40 percent to 87 percent. Comparison of the real and monetary growth during different decades revealed the dominance of monetary growth over real growth. More specifically, the overall growth is actually monetary growth rather than real growth in the case of rubber.

Table 4. Overall Growth of rubber Cultivation in Kerala during the last five decades. (in percentages)

Sl. no.	Elements	Period					
		1960's	1970's	1980's	1990's	2000's	Five decades
1	Increase in value of output	473.65	367.40	474.04	241.42	502.24	397853.67
2	Area effect	8.99	4.86	22.65	6.17	1.81	0.08
3	Yield effect	40.57	12.84	1.03	29.56	5.19	0.75
4	Cropping pattern effect	4.49	18.48	33.58	7.13	4.77	0.03
5	Interaction effect	6.05	3.03	5.98	4.42	1.14	2.01
6	Real Growth (2+3+4+5)	60.10	39.21	63.24	47.28	12.91	2.87
7	Pure price effect	14.79	34.06	4.72	28.29	57.63	3.28
8	Price Yield effect	19.93	15.13	6.23	17.57	13.77	23.25
9	Price cropping pattern effect	2.21	8.03	20.83	4.23	12.66	8.72
10	Total Interaction effect	2.97	3.57	4.98	2.63	3.03	61.88
11	Monetary Growth (7+8+9+10)	39.90	60.79	36.76	52.72	87.09	97.13
12	Total (6+11)	100.00	100.00	100.00	100.00	100.00	100.00

Source: - [12] *Crop Diversification for Sustainable Agriculture*, Pointer publishers, Jaipur, India: 120-125.

3.2 Determinants of Rubber Cultivation in Kerala

Originally rubber was introduced into areas with degraded forests. From there it spread all over. It replaced natural vegetation, tapioca, cashewnut, fruit trees and coconut [14]. The area, production and productivity of rubber cultivation had tremendously increased during 1960-61 to 2013-14 (Table 3 and Fig. 1).

Factors like expected price and yield of the crop, price of the competing crops (like coconut), average annual rainfall, tappable area, lagged yield of the crop, etc, are conceived to be great importance in determining the area allocation and yield response of rubber in Kerala. The estimated results are given in Table 5 and it revealed that price variables (expected price of rubber, 0.1383 and expected

price of competing crop, 0.2158) turns out to be an important factor in determining the area response in addition to tappable area of rubber (0.4756). The expected yield and expected price risk seems to have negative influence on area. With regard to yield response, the estimated results shows that lagged yield and rainfall were the significant factors influencing the yield of rubber and the price variable seems to be insignificant.

Table 5. Regression coefficients of the determinants of area and yield of rubber during the last five decades

Area		Yield	
Variables	Results	Variables	Results
a_0	2.1703	b_0	-0.4139
Pt^e	0.1383 (0.025)	$Yt-1$	0.9559 (0.048)
Ptc^e	0.2158 (0.036)	Pt^e	0.0047 (0.039)
Yt^e	-0.2183 (0.041)	Ptc^e	0.0079 (0.039)
Tat	0.4756 (0.073)	PRt^e	****
			-0.0083 (0.010)
PRt^e	-0.0237 (0.006)	RFt	***
			0.0896 (0.048)
RFt	****	$R\ Square$	0.9905
	0.0527 (0.034)		
$R\ Square$	0.9942	$Durbin-Watson\ statistic$	2.181
$Durbin-Watson\ statistic$	1.4479		

*Figes in bracket shows standard error, *** Significant at 0.05 level of significance, **** Significant at 0.10 level of significance, ***** Significant at 0.50 level of significance*

The area response and yield response of rubber shows that area under rubber was found to be price responsive. Future expectations about prices are one of the major determinants governing the area expansion of rubber in Kerala [15,16]. The price of coconut and tappable area of rubber are the next two factors working behind the farmer's area expansion decisions on rubber.

4. CONCLUSION

The analysis on the agricultural transformation of major crops in Kerala clearly established that the cropping pattern in the state made a significant change from food crops to non-food crops and recently towards rubber. The growth of agricultural crop output in Kerala like that of other parts of India is influenced by the gross cropped area, productivity and level of prices. The increase in agricultural crop-output is decomposed into real and monetary components. The real component includes area effect, yield effect, cropping pattern effect and interaction effect. The monetary elements consist of the pure price effect, price yield effect, price cropping pattern effect and total interaction effect. From the analysis of the growth of output of rubber into real and monetary components in the last five decades, the general conclusion derived is the crop exhibited positive values in all the components in the analysis and the share of monetary components is more than 90 percent for the entire decades of output of this crop compared to real components.

This change in cropping pattern towards rubber is mainly due to farmers' decisions. There must be certain determinants that motivated the farmers to make such a shift in the cropping pattern. Area response and yield response models were used to analyse the determinants. The determinants estimated are lagged area, lagged yield, expected price of the crop, expected price of the competing crop, expected yield risk and price risk, average annual rainfall, tappable area, etc. The results of the study revealed that, in the case of rubber, the price variable (expected price and expected price of competing crop) is the major determining factor in addition to tapped area for area decision. In the yield response decision, past years yield and rainfall were the significant variables for rubber. The area response and yield response of rubber shows that area under rubber was price responsive. Future expectations about price are the dominating factor governing the acreage decision of rubber in Kerala.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Umadevi. The supply response of rubber (1948-82): An important plantation crop of Kerala. *Plantation Economy of the Third World*, Himalaya Publishing Company, Bombay. 1989;196-260.
2. Viju Ipe. Price response of perennial crop: a case of Indian natural rubber. *Indian Journal of Agricultural Economics*. 1988;43(4):324-327.
3. Kurian CT, Joseph James. Economic changes in Tamilnadu: 1960-70, A regionally and functionally Disaggregated analysis. Allied Publishers Pvt. Ltd, New Delhi.1979;92-103.
4. Latha Bastine C, Palaniswami K. An analysis of growth trends of principal crops in Kerala. *Agricultural Situation in India*. 1994;48(12):885-891.
5. Karunakaran N. *Crop Diversification for Sustainable Agriculture*, Pointer publishers, Jaipur, India: 2015;90-160.
6. Mani KP. Cropping pattern in Kerala: spatial inter-temporal analysis. *Kerala economy: trends during the post reform period* (Ed), by Rajan K, Serials Publications, New Delhi. 2009;80-83.
7. Santhakumar V, Narayanan Nair K. Kerala's agriculture: trends and prospects. in *Kerala's Development Experience II* (Ed), by Oommen MA, Institute of Social Sciences. 1999;314.
8. Srikumar Chattopadhyay, Richard W Franke. *Striving for Sustainability Environmental Stress and Democratic Initiatives in Kerala*, Concept Publishing Company, New Delhi: 2006;97-107.
9. Chandrasekhara Rao N. Aggregate agricultural supply response in Andhra Pradesh. *Indian Journal of Agricultural Economics*. 2004;59(1):91-104.
10. Parikh KS, Narayana NSS. Estimation of farm supply response and acreage allocation, a case study of Indian Agriculture. Working Paper 80-7, International Institute for Applied Systems Analysis, A-2361, Luxemburg, Austria: 1980;1-59.
11. Govt. of India. *Rubber Grower's Guide*, Rubber Board, Kottayam: 2010;142-154.
12. Govt. of Kerala. *Economic Review*, State Planning Board, Thiruvananthapuram: 2014;29-40.
13. Karunakaran N. Relative contribution of different elements to the Growth of principal crop output in Kerala. *Indian Development Review*. 2013;11(2):48-58.
14. Karunakaran N. Paddy cultivation in Kerala: trends, determinants and effects on food security. *Artha Journal of Social Science*. 2014;13(4):21-35.
15. Marc Nerlove. *The dynamics of supply: retrospect and prospect*. Discussion Paper No. 394, North Western University: 1979;1-32.
16. Mythili G. Supply response of Indian farmers: pre and post reforms. Working Paper 2006-09, Indira Gandhi Institute of Development Research, Mumbai: 2006;1-36.

Biography of author(s)



Dr. N. Karunakaran

Department of Economics, EKNM Government College Elerithattu, 671314, Nilishwar, Kasaragod, Kerala, India.

He holds a Doctorate Degree in Economics from Kannur University, Kerala; Post Graduation in Economics from Calicut University; Post Graduation in Philosophy from Pondicherry Central University. He also has B. Ed and M. Ed Degree. He has 27 years of teaching experience at Under Graduate and Post Graduate level in Govt. colleges and DIETs and has presented papers in National and International seminars, conferences and workshops and is a recipient of Doctor of Letters (D. Litt) Award from International Economics University, International Outstanding Faculty award, International Best Educationist Award, International Best Education Excellence Award, Highest Research Article Publication Award, Bharat Excellence Award, Leading Educationist of India Award, Excellent Researcher Award and Dr. APJ Abdul Kalam Award. He is a life member of Indian Economic Association, Agricultural Economics Research Association, New Delhi, Institute of Economics and Social Development, Jharkhand, Kerala Economics Association and Associate Editor and Editorial Board member of various international journals, books and organized various seminars, workshops and talks. He is an approved Ph. D Guide in Economics and published books and a number of articles in the reputed national and international journals and edited books. He was also the chairman of the Board of Examiners and question paper setters and member of Economics Board of studies of Universities in Kerala.

© Copyright 2019 The Author(s), Licensee Book Publisher International, This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ORGANIC FARMING IN KERALA: CURRENT STATUS AND FUTURE PROSPECTS



Dr. N. Karunakaran

*Head of the Post-Graduate Department of Economics
EKNM Government College Elerithattu, Nilishwar
Kasaragod, Kerala, India*

C. Babu

*Assistant Professor of the Post-Graduate Department of Economics
EKNM Government College Elerithattu, Nilishwar
Kasaragod, Kerala, India*

Introduction

Agriculture occupies a very important place in the economic life of our country and has a crucial role to play in the country's economic development by providing food and raw materials, employment to a very large proportion of population, capital for its own development and surpluses for national economic development. Almost half of the populations still depend on agriculture for their livelihood. Indian agriculture has been the source of supply of raw materials to all leading industries like cotton, jute, textile, sugar, vanaspathi and plantations. It has a significant role in international trade also. Taking into account the significant role of agriculture in the Indian economy, government has introduced a number of programmes to promote the sustainable development of this sector.

The implementation of New Agriculture Policy and the consequential increase in production and productivity helped India in achieving self sufficiency in food. At the same time, the so called modern agriculture-unmindful of the ecosystem principles so revered and practiced for centuries-led to seemingly irrevocable ecological and environmental catastrophes in the country. It replaced the traditional varieties

A handwritten signature in black ink, located at the bottom right of the page.

FEMALE LABOUR FORCE PARTICIPATION IN KERALA IN THE INDIAN CONTEXT

Dr. N. Karunakaran

*Head of the Post Graduate Department of Economics
EKNM Government College Elerithattu
Nilishwar, Kasaragod, Kerala, India*

Abstract

Among different states, Kerala is famous for its achievements in human development index. With respect to GII components, the indicators of maternal mortality rate, adolescent birth rates and proportion of adult females with secondary education are impressive in Kerala; but the indicators of labour force participation and proportion of parliamentary seats occupied by females shows poor performance and is below compared to other states in India. Thus a paradoxical situation of high achievements and equality in health and educational attainments with poor performance and inequality in terms of economic and political participation exists in the state.

Keywords: *Kerala; employment; Labour Force Participation Rate; women's participation.*

Introduction

The status of women and gender disparities are the subjects of debate and action in recent years. All over the world, women are being accepted as active and potential agents in all public realms. Gender disaggregated Human Development Indices has been publishing by UNDP in the form of Gender Development Index (GDI) and Gender Empowerment Index (GEM) and captured gender specific status of health, education, economic participation, control over economic resources, political participation, etc. UNDP in 2010 introduced the Gender Inequality Index (GII) as the index for measuring gender disparity. This covered three aspects such as (i) reproductive health, (ii) empowerment and (iii) economic status.

Of the different states in India, Kerala is known for the human development achievements. Among the GII components indicators like maternal mortality rate, adolescent birth rates and proportion of adult females with secondary education are impressive in Kerala; but indicators like labour market participation and proportion of parliamentary seats occupied by females show poor performance. In the state, a paradoxical situation exists with high achievements and equality in health and education corresponding to poor performance and inequality in economic and political participation.



ECONOMIC DEVELOPMENT VS CHEMICAL TRAGEDY: A SPECIFIC STUDY AMONG DEPRIVED ENDOSULPHAN AFFECTED PERSONS OF KASARAGOD DISTRICT, KERALA

Dr. N. Karunakaran

HOD, Post Graduate Department of Economics and Vice-Principal, EK Nayanar
Memorial Govt. College, Elerithattu, Kasaragod, Kerala

Email: narankarun@gmail.com

ABSTRACT

The Endosulphan issue of Kasaragod is the worst chemical tragedy that Kerala ever experienced. This poisoning caused serious health hazard to the people in the areas of application of this chemical pesticide. This caused rare and complicated health issues which include cancer, mental retardation, cerebral palsy and locomotors among deprived sections. The economic backwardness of Endosulphan victims and low health infrastructure in the areas demands further government attention. High medical expenses also created economic burden to these people. The proper identification of their needs and development of health care facilities in rural area along with effective distribution of social and economic security measures among affected persons and their families are very important. The exclusion in all economic packages and human development programmes should also be reduced.

Keywords: Kasaragod; Enmakaje Panchayath; Chemical Tragedy; Economic Packages; Socio-economic status

INTRODUCTION

It is globally accepted that economic growth and environmental quality does not go together. High economic growth and industrialization causes pollution of air, water, soil and degradation. There are several health and socio-economic issues to people. Economic growth, no doubt, generates positive impact in the field of income and employment. But in a society where there is high differences between rich and poor, the benefits of economic growth is mostly concentrated to high income class and the common people bears the cost of it. In most cases deprived people are the victims of various tragedies (Jeevakrishnan, 2014).

The Endosulphan tragedy in Kasaragod district of Kerala is the result of the decision making done by the Plantation Corporation of Kerala, a public sector entity who owns the cashew plantations. This was due to the aerial spraying of Endosulphan, a highly toxic organo chloride group of chemical pesticide to control insects, mites and tea-bog



Crop Diversification, Chemical Pollution and Health Issues of People in the Kasaragod District of Kerala

N. KARUNAKARAN*

ABSTRACT

Kerala state and its northern district Kasaragod are mainly agriculture oriented economies. Its statistical profile clearly revealed crop diversification. Diversification of crops and the subsequent application of chemical fertilizers and pesticides heavily created chemical pollution in these areas. The Endosulphan tragedy of Kasaragod is one of the prominent examples for this. This poisoning caused serious health hazards to the people who lived in the areas of application of this pesticide. It caused rare and complicated health issues including cancer, mental retardation, cerebral palsy, locomotors, etc. The economic backwardness of Endosulphan victims, low health infrastructure in these areas, high medical expenses and economic burden and so on demands special health care and attention from authorities in the Endosulphan affected agrarian economy of Kasaragod district of Kerala.

Key words: Kasaragod, Crop diversification, Chemical pollution, Endosulphan victims, Health issues.

1. INTRODUCTION

Kasaragod in Kerala is basically an agriculture dominated district. In terms of their claim on total cropped area, the leading crops in the district were rice, coconut, areca nut, rubber, pepper, cashew nut, tapioca, ginger,

¹ Department of Economics, EKNM Government College Elerithattu, Elerithattu - 671314, Nileshwar, Kasaragod, Kerala, India

*Corresponding author: E-mail: narankarun@gmail.com



Economic development Vs Ecological challenges in the context of Agricultural transformation of Kerala

N. Karunakaran

1. Introduction

It is globally accepted that economic growth and environmental quality does not go together. High economic growth and industrialization causes pollution of air, water, soil and degradation. There are several health and socio-economic issues to people. Economic growth, no doubt, generates positive impact in the field of income and employment. But in a society where there is high differences between rich and poor, the benefits of economic growth is mostly concentrated to high income class and the common people bears the cost of it (Jeevakrishnan, 2014).

The data from Kerala agriculture department revealed that land put to agriculture in Kerala had almost reached a saturation point. Together with forests, it stood at as high as 82 percent of the total geographical area (Karunakaran, 2015) and state is very keen in making use of every bit of land. Another peculiarity is that where population density is very high, agricultural land is getting diversified and put to non-agricultural purpose also.

Agricultural practices of the state since last seventies revealed transformation. Area under food crops decreased to 12 percent; but in the case of non-food crops, it went up to 88 percent of the total cropped area. The agriculture scenario indicates a heavy concentration of non-food crops. Dominance of perennial crops and cash crops, predominance of crops dependent on world market conditions, etc are prominent in Kerala.

The main feature of the cropping pattern trend at present is transformation: transformation in the cultivated area under food grain crops to non-food grain crops and also in the cultivated area under one non-food grain crop to another non-food grain

