

Role of Artificial Intelligence in case of Micro Enterprises and Tribal Entrepreneurships for Sustainable Economic Development

Deepali Rani Sahoo^{1,*}, Teena²

¹Assistant Professor, Symbiosis Law School, Noida, Symbiosis International (Deemed University), Pune, India
ORCID 0000-0001-6949-7439

²Assistant Professor, School of Law. G.D. Goenka University, Gurgaon, Haryana, India
ORCID 0000-0002-2712-4535

Abstract

INTRODUCTION: Tribal entrepreneurship can be understood as infusing the knowledge of commerce and trade into the tribal groups and thereby exploring their products and known for their economic betterment and social advancement. An accumulating body of research has demonstrated that artificial intelligence (AI) is an indistinguishable feature of the fourth industrial revolution. This study integrates the literature on AI and new technologies to examine the constraining and facilitating forces for developing and scaling-up AI-enabling technologies in Africa. This article proposes an integrated conceptual model to elucidate the range of external drivers encompassing global competitive drivers, and market and industry drivers. The internal drivers include the potential to enhance product development speed, improve quality, drive production cost down, and minimise errors and manual processes in organisations.

OBJECTIVES: In this study, socio-economic status of tribal population has been taken as a reference in order to see whether there is any impact of economic wellbeing on their livelihood [1]. The study is an endeavour to examine the role of micro enterprises for social and economic empowerment of tribal community in Odisha and Andhra Pradesh and role of AI.

RESULTS: The main results obtained in this paper are the following SEM identified that there is a lower degree of positive impact of “Tribal entrepreneurship” on “Economic Empowerment” and “women Empowerment” and lower degree of negative impact on “Social Empowerment”. It is also concluded that Economic Empowerment of tribal entrepreneurs through micro-enterprises has reduced the dependency on private money lenders the most. Women Empowerment of tribal entrepreneurs has helped the women to achieve gender equality and the social Empowerment aids in the development of competency and technical skills through micro-enterprises.

CONCLUSION: The tribal communities in Odisha are regarded as the most disadvantageous group of people in terms of their socio-economic status. The present research makes some pivotal contributions to the current AI literature. First, in spite of the growing recognition that development of new industries and new-business development is increasingly predicated on the adoption of new technologies (Krasniqi and Hajrizi Citation2016), there is a paucity of studies examining contemporary challenges faced by developing nations and their inability to capitalise on such ample and obvious opportunities.

Keywords: Tribal entrepreneurship, Microenterprises, Economic empowerment, Entrepreneurs, AI

Received on 07 November 2023, accepted on 02 January 2024, published on 12 January 2024

Copyright © 2024 D. R. Sahoo *et al.*, licensed to EAI. This is an open access article distributed under the terms of the [CC BY-NC-SA 4.0](#), which permits copying, redistributing, remixing, transformation, and building upon the material in any medium so long as the original work is properly cited.

doi: 10.4108/eetsis.4835

*Corresponding author. Email: sahoodeepali4u@gmail.com

1. Introduction

Tribal entrepreneurship can be understood as infusing the knowledge of commerce and trade into the tribal groups and thereby exploring their products and knowhow for their economic betterment and social advancement, simultaneously adding value to modern society in terms of value addition [3]. Tribal population is supposed to hold and preserve our nature to a large extent, and they have the potential to be a big contributor to economic advancement of their own as well as the mainstream society [4]. Further, their way of accessing the natural resources, such as forest, agriculture might be better than what we think as superior (Bardhan, A.B. 1976)[†]. The intensity with which the sector provides the job opportunities is much higher than large sectors. However, with increasing automation, fast change of business environment around, growing complexities in trade deals are some of factors that put the productivity of the sector at stake (Jena, 2011)[‡]. changing lifestyles and so on and so forth among tribal communities (Dasgupta, M. (2018))[§]. It is in this context entrepreneurship triggers and expedites the social growth. In doing this, an equally important goal is to preserve their cultural ethos simultaneously which can best be done at the Government level [9]. Since allowing entrepreneurship means to exchange of cross cultures which may dilute the core cultural values of tribal communities (Dhakal, N. H. (1999))^{**}.

2. Importance of The Study

Tribal people are very far from the support system and facilities that are available. They are now on the dark side of the mainstream due to a lack of knowledge and proper education. The poor people pursuing their livelihoods through self-employment are to be supported by microenterprises [5]. Micro-enterprises are one of the main sources of developing tribal people socially and economically by motivating them to earn through micro-level businesses like handicrafts, selling of agricultural products, producing handloom items etc [6]. This makes it

[†] Bardhan, A.B. (1976). *The Tribal Problem in India*, Communist Party Publication, pp. 39-43, New Delhi.

[‡] Jena, S.K. (2011), *Socio-Economic Development of Indigenous Artisans through Micro-Enterprises – A Case study of KBK Districts of Orissa*”, Ph.D. Thesis, Utkal University, Vani Vihar.

[§] Dasgupta, M. (2018). *Literature Review on Micro Entrepreneurship development and Quality of Life improvement*, *International Journal of Multidisciplinary*, 3(3), 54-60

^{**} Dhakal, N. H. (1999). *Expansion of Microfinance Services: The Development of Community Based Savings and Credit Cooperatives in Nepal*, *Agricultural Credit – Bi-annual Journal*, 31,1-8

possible for the tribal population to get a relatively safe job. In this environment, they can expand their knowledge by having access to a better and more formal education system [7]. This also alleviates the chance of frictional employment among the tribal population (Ebrahim, K. (2014))^{††}.

3. Entrepreneurship and Economic Development

Entrepreneurship is at the core of economic developmental process of any country, region. This brings economic independence among individuals apart from exploring localized resources in an optimum way [8]. This apart tribal entrepreneurship promotes education, research, awareness of ever-changing lifestyles and so on and so forth among tribal communities (Dasgupta, M. (2018))^{‡‡}. It is in this context entrepreneurship triggers and expedites the social growth. In doing this, an equally important goal is to preserve their cultural ethos simultaneously which can best be done at the Government level [9]. Since allowing entrepreneurship means to exchange of cross cultures which may dilute the core cultural values of tribal communities (Dhakal, N. H. (1999))^{§§}.

4. Tribal Development

The tribal population represents a vast diversity with respect to culture, language, traditions, social rituals & happenings, methods of development etc [10]. Though, they are spread across different states, one unique thing which is common to all that they are hardly influenced by modernization and change in lifestyles occurring at every sphere of life [11]. This makes it very difficult to launch schemes suiting to requirements related to their socio-economic development. (Chatopadhyaya, K. (1978))^{***}.

5. Concept of Tribe

The word “Tribe” refers to most primitive group of people who supposed to believe that they are progeny of a common ancestor. In our mind, tribe represents half naked

^{††} Ebrahim, K. (2014). *Women empowerment through micro-enterprises: An empirical Analysis of Kudumbashree unit in Kerala*, *Journal of Rural and Industrial Development*, 2(1), 1-7

^{‡‡} Dasgupta, M. (2018). *Literature Review on Micro Entrepreneurship development and Quality of Life improvement*, *International Journal of Multidisciplinary*, 3(3), 54-60

^{§§} Dhakal, N. H. (1999). *Expansion of Microfinance Services: The Development of Community Based Savings and Credit Cooperatives in Nepal*, *Agricultural Credit – Bi-annual Journal*, 31,1-8

^{***} Chatopadhyaya, K. (1978), *Tribals in India*, Vikas Publishing House, New-Delhi, p.2.

men and women with features on their heads and arrows in their hands speaking in their local language living in forest [12]. They are believed to be the earliest settlers of Indian peninsula. They are often identified as primitive with respect to their love for nature, culture, language, freedom and own identities [13]. We consider ourselves as the developed, civilized, modern and educated mass compared to them who stay in forest (therefore vanabasi) [14]. According to their work pattern, they are often recognized as harijan & janjati (communities with folk and nature loving), adivasi (original settlers), girijan (the hill dwellers), etc. Anthropologists classify people who don't know the art of writing, backward living in a group in jungles and racially different from others as tribes (Menon, 1979)^{†††}. "Lokur committee" identified the necessary characteristics of scheduled tribes as distinct culture, geographical isolation, socio-economic backwardness, shyness of contact when coming to be touch with larger community and primitive traits (Kulkami, 1964)^{†††}. According to the commissioner of scheduled castes and scheduled tribes in 1952 in its report has identified the following features of tribes in India [15].

- They share a common cultural heritage and speak in a common dialect.
- Their main professions are related to hill dwelling, gatherings of forest products, hunting, animal husbandry and agriculture.
- They are believed to be the progenies of Mongoloids, Negros etc.
- They stay in a group, usually away from the civilized world.
- They dress themselves with forest leaves and remain in half naked form.
- Their main belief system is in primitive God known as "animist" according to which places, objects and all creatures possess some spiritual essence. They worship spirits & ghosts.

6. Important provisions in Indian Constitution

Apparently tribal population in India is labeled into four types. First is a tribal community which entirely depends on forest products for their livelihood. Second, tribes that confine to agricultural activities and animal husbandry, such as poultry, cattle herding and fishing in rural areas [16]. Third, tribes that migrate to semi-urban areas to live

^{†††} Menon, P.S.K. (1979). *Administration of Tribal Areas: A historical perspective, vocational papers on Tribal Development*, New Delhi.

^{†††} Kulkami, P.D. (1964). *Tribal Welfare some Problems of Implementation*, Published in *Souvenir : National Seminar on Welfare of Tribes and denotified communities with Reference to Fourth Plan*, Bhopal, p. 1 22

their life by way of vocational earnings. Fourth tribal that is completely assimilated with urban area. Tribal rights are protected through following important articles of the Constitution [17].

- Article 15 (4) empowers states to for growth and advancement of tribal people.
- Article 16 necessitates equality of opportunity in employment.
- Article 19 (5) protects interest in property of tribal population [19].
- Article 244 (1) deals with special provisions (5th schedule) for administration of specified areas as scheduled areas other than 4 north eastern states.
- Article 275 (I) Grants to be available from consolidated fund for welfare of ST and SCs.
- Article 339 empowers the Union Government to administer and control over scheduled areas and their welfare. Article 342 specifies tribal people as scheduled tribes. This apart, a number of laws were enacted to protect and develop tribal communities from time to time [18].

7. Tribal Lifestyles & approaches for welfare

Tribal communities are believed to share mostly the natural resources among them. Therefore, their economic arrangement is limited to a very small and clearly demarcated area with limited number of participants [20] [21]. In that sense, there is never a mismatch between demand for and supply of goods or services [22] [23]. The same can be thought of as operating as co-operative society where each member is contributing to other members' consumption [24]. Most of their economic pursuits centred on handicraft/artisan work, agricultural activities, cattle herder, hill and forest dwelling (Thakur, 1997)^{§§§}. Over a period of time since starting of Five-year plans, various methods had been devised to advance tribal communities through hundreds of schemes and programme. Following methods were adopted for their welfare [25].

- **Political approach**

Prior to independence of India, the British colonial rule used to divide India in the name of 'excluded' and 'partly excluded' which the nationalists had strongly opposed to. After Independence, the Constitution has given them a separate identity to protect and safeguard their interest and preserving specific primitive traits [26].

^{§§§} Thakur, R.N. (1997). *Tribal Development Need for a Fresh Perspective*, Kurukshethra, p. 92.

- **Administrative approach**

The constitution has clearly segregated the role of policy making (legislative), implementation (executive) and ensuring and protecting legislation (judiciary) [27]. Through administrative mechanism, Government of India ensures all schemes meant for progress of tribal communities must be carried through with true spirit by executors [28]. At state levels too, it is the Governor who is held responsible for discharge and effective performance of schemes aimed for tribal people.

- **Anthropological approach**

This is an approach by social researchers, universities, and independent agencies with the aim to fuse tribal people with conventional society. In this regard, many papers, articles presented by authors carrying out research along with their findings. For doing so, they A literature review is an essential tool for finding what has previously happened and aiding the researcher in spotting gaps in prior studies on the subject. The review of previous literature aids in the formulation of research topics.

A number of literatures have been reviewed specifying three broad aspects of objectives of the study as detailed below [36].

8.Scope of The Study

MSE (“Micro and small-scale enterprises”) sector has already proved its potentiality in generating a huge opportunity for being employed. Over the next decade the sector is expected to achieve a share of around 20 % of Gross Domestic Product which is a significant one in terms of both value additions [31]. Currently MSE sector employs around 45 to 50 % of total employment in the country both in formal as well as informal, which is expected to grow further across manufacturing, services and agro processing and contract farming [32]. It is well known fact that, some social groups like scheduled caste, scheduled tribe and minority groups are the most unprivileged groups and deprived of all sorts of opportunities and rights in India [33]. Near about thirty-seven percentage of SC and forty-eight percentage of ST people of this country are living below poverty line. The ST people are the poorest among them; most of them are casual labours and depend on forest to earn their daily livelihoods. Even they do not have any land and not able to maintain the minimum standard of living (Thakur, 1997)^{****}. Micro and small enterprises encourage self-employment to a large extent. The study is an endeavor to examine the role of micro enterprises for social and economic empowerment of tribal community in Odisha [34]. The scope of the study is limited to eight tribal dominated districts with more than 50% of the tribal population. The research includes the response of 871

^{****} Thakur, R.N. (1997). *Tribal Development Need for a Fresh Perspective, Kurukshetra*, p. 92

respondents spread over eight tribal dominated districts- “Gajapati”, “Kandhamal”, “Koraput”, “Malkangiri”, “Mayurbhanja”, “Nawarangpur”, “Rayagada” and “Sundargarh” [35].

9. Literature Review

A literature review is an essential tool for finding what has previously happened and aiding the researcher in spotting gaps in prior studies on the subject. The review of previous literature aids in the formulation of research topics.

A number of literatures have been reviewed specifying three broad aspects of objectives of the study as detailed below [36].

10.Socio-Economic Condition of Tribal People

Ghurey (1963) studied the lives of tribal in India. The majorities of tribal groups in India are still completely isolated, economically backward, socially illiterate, traditional, simple, honest, and live in the lap of nature. [37]

Nirmal (1971)^{††††} examined several facets of Indian tribal life. He studied the society, economy, and culture of tribes from all over India, including those from the Northeast and the Andaman and Nicobar Islands. He also discussed the many ways in which Indian tribes make a living, including their societal structure, culture, art, music, and dance. [38]

Chatopadhyaya, K. (1978)^{‡‡‡‡} studied that the tribes of India have a strong feeling of self-identity. Language, religion, and magical beliefs and practices, as well as eating habits, clothing styles, habitation patterns, and reliance on forest produce, are essential aspects of their lives that distinguish them from non-tribal cultures. Poverty, unemployment, and illiteracy are the primary issues they face. [39]

S.C. Dutt (1984)^{§§§§} described India's indigenous tribal people as having withdrawn to the country's impenetrable jungles, hill-tracts, and fenland. Tribes are often economically and educationally disadvantaged. [40]

Arun Ghosh (2007)^{*****} studied the reasons for poor literacy among the tribals of Jharkhand's and West Bengal's. The authors noticed that the tribal female

^{††††} Nirmal Kumar Bose. (1971). *Tribal Life in India*, New Delhi: National Book Trust, pp. 1-53

^{‡‡‡‡} Chatopadhyaya, K. (1978), *Tribals in India*, Vikas Publishing House, New-Delhi, p.2.

^{§§§§} Dutt, S.C. (1984): *The Wild Tribes*, Cosmo Publications, New Delhi

^{*****} Ghosh, Arun Kumar.2007. 'The Gender Gap in Literacy and Education Among the Scheduled Tribes in Jharkhand and West Bengal', *Sociological Bulletin*, 56 (1): 109-125

enrolment rate in school education system is substantially lower than the male enrolment rate.

Devindrappa K., V. Shinde (2014)++++ studied that scheduled tribes has occupied near about fifteen percentage of geographical area in the country. They are mostly accessible in hilly and forest area in India.

Prajina. P.V and J. Godwin Premsingh (2015)++++ conducted a study on tribals and pointed out that tribal group is known for their culture and the group is the poorest amongst all. They are socially challenged and deprived of all basic facilities of lives. But in Kerala, the tribal are now days taking interest in educating their children.

Haseena V.A (2015)\$\$\$\$ examined about socio-economic problems of tribal people in the article based on scheduled tribes in Kerala. In general, tribals are the most unprivileged section of the society and deprived of all sorts of basic amenities like nutritious food, educational facilities, infrastructural facilities and all types of exploitation in the society.

Vishwa Ballabh and Pooja Batra (2015)***** discussed the social revolution of tribals in Central India. The author opined that the ability of tribal's to learn new technology and to be skilled can be enhanced through interventions of appropriate educational institutions. Indian tribal people are mostly dependent on forest and natural products for their foods.

Jayakumar, P. Palaniyammal (2016)+++++ conducted a study with an objective to examine how the scheduled caste people are living their live in the sample district and what is their per day income. The author found a majority of people are below poverty line and their income is even less than Rs. 5000 per month. Abdin, MD. Joynal, (2019)

11. Objectives

The main purpose of the study is to find the solution for the sustainable development of the tribal people through

++++ Devindrappa, K. & Shinde, R. V. (2014). *Socio-Economic Conditions of Scheduled Tribes in Karnataka*, *Indian Streams Research Journal*, 4 (8), 1-2.

++++ Prajina, P.V. & Singh, Prem, J. G. (2015). *A study on the socio-economic status of tribes with special reference to the Tribal students of Kannur district, Kerala*, *Indian journal of Applied research*, 4(10), 566-568

\$\$\$\$ Haseena, V. A. (2015). *Poverty and livelihood problems among the scheduled tribes in Kerala-A Study on Attappady*, *Journal of Poverty, Investment and Development, An International Peer-reviewed Journal*, 14, 94-101

***** Ballabh, Vishwa & Batra, Pooja, (2015). *Socio-Economic Transformations of the Tribals in Central India: Lessons and Experiences*, *Indian Journal of Agricultural Economics*, 70(3), 1-11.

+++++ Jayakumar, A. & Palaniyammal, P. (2016). *Socio-economic status of scheduled tribes in kalrayan hills*, *International Journal of Research*, 4(3), 22-30

micro entrepreneurship as they form the poorest community of society. However, the specific objectives of the study are as follows [41].

1. To evaluate the existing Socio-economic conditions of the tribal people in the sample area.
2. To assess the performance of micro enterprises in the sample area.
3. To examine the attitude of the tribal population towards Micro entrepreneurship.
4. To analyze and examine the link between tribal entrepreneurship with social and economic empowerment in the sample area.

12. Basis Hypothesis Formulation

The following hypotheses and their sub-hypotheses were framed in relation to each objective.

H₁-The factors that motivate tribal people to start micro enterprises are associated with their socio-economic profile.

“Mishra & Bal (1997)” examined the factors responsible for entrepreneurship based on one hundred ten randomly selected entrepreneurs in the study area. The authors argued “socio-economic background” along with other factors is accountable for the activities related to entrepreneurship in any nation. [42]

H₂-The problems of micro enterprises are associated with their demographic profile.

It is a fact that because of the lack of schooling, inaccessible accommodation and lack of knowledge, tribal people are still not part and parcel of the modern economic system. They are thus working in a separate economic structure that is entirely different from the conventional economy and thus facing a lot of hazards in managing their entrepreneurial activities (“Bhagabata Behera (2017)”). The “education of entrepreneurs”, “work experience of the entrepreneur” and “age of the entrepreneur” are important factors for entrepreneurial activities and its development. (“Jyoti Kumar and Lalhunthara (2012)”).

H₃- The performance of micro enterprises is positively related to EDP training, Source of capital, Education and Place of selling products.

“Loganathan (2007) stated that EDP training, micro financing, and marketing tie-ups were all needed to support microenterprises, and all of these should be provided under one roof. “Choudhury (2001) showed that the flow of micro credit was a pushing factor for the promotion of micro enterprises”. “Himani Maggo Kumar (2017)” stated the importance of EDP training for the development entrepreneurship.

H4. Micro enterprises face the similar types of problems relating to their enterprises.

The study revealed many factors exhibitions facility by the govt. to clear the stock, lack of govt. assistance and lack of motivation are the main reasons for micro and small scaled units to be sick in any nation. (“Mohanty and Acharya (2003)”). MSMEs in India are facing many challenges in terms of funds, advanced technology, skilled men power, facilities for ware houses, efficient planning for marketing and non-availability of raw materials at cheaper rate (“Azad Basha (2013)”), The unavailability of sufficient credit facility, high rate of interest, no use of updated technology in production, cost of credit, lack of modern technology, unsatisfactory training facilities to develop the skill and complicated labor laws are the main troubles for the growth of SME’s. (“Anis et al (2014)”)

H5-The regional area has significant impact on the problems encountered by micro-enterprises in tribal area.

Rural development is possible only through entrepreneurship. (“Merrett and Gruidl, 2000”). The scope of selling the products only in local area has limited the growth of tribal entrepreneurship. (“Nerys F. et. al, 2006”)

13. Research Design

The study is both descriptive and analytical in nature. Here, the descriptive study is concerned with describing the demographic profile, socio-economic profile and the details about entrepreneurial activities of the sample respondents. Under the demographic profile, the description of regional area, age, gender, marital status and caste of the sample respondents are detailed. Similarly, socio-economic profile includes information about- parental occupation, education, land owned and annual income of the respondents [43]. The information about type of enterprises, amount of investment, source of capital, EDP training, selling of products and success of business have been collected as the entrepreneurial activities adopted by tribal people in the study area. In reality, no research can be conducted by including all the units of the population [44]. The research is on the other way bound to be conducted based on the sample selected from population. Here, the research is based on tribal people of eight tribal dominated districts of Odisha and Andhra Pradesh. The detail of sample, sampling method and sample size determination is illustrated below [45].

14. Sampling Method

The respondents (tribal people) were selected from each of eight districts by using stratified random sampling techniques as detailed below.

15. Sample Size

The sample size decision is tested as follows.

$$n = \frac{z^2 p(1-p)}{1 + \frac{z^2 p(1-p)}{N e^2}} = 385 \text{ (Cochran, W. G. (1977))}^{#####}$$

The total number of tribal populations of each district constitutes the sub-population size (N_i) of each district.

N = Population size (total of tribal population in eight districts) = 1182924

P = Proportion of tribals = 0.5

e = Margin error = 5%

Z = Critical value for large sample at 95% confidence level = 1.96

Finally, it is decided to include 385 tribal people in the research. Further, the total number of tribal people to be selected from each district is decided by using following rule.

n = Total Sample size = 385

N = Population size = 1182924

$$n_i = \frac{n}{N} N_i$$

16. Sources of Data and Method of Data Collection

This study makes the use of both secondary & primary sources.

17. Method of Secondary Data Collection

Sample data collected from secondary sources are mainly through journals, magazines, articles, books, published and unpublished documents and thesis on tribal entrepreneurship. In most of the cases government publications, public websites, reports and articles on the role of MSME in promoting tribal community have been referred for the secondary data collection. [46]

18. Method of Primary Data Collection

The information about the attitude of tribal people toward entrepreneurship, its associated problems and the effect of micro entrepreneurship on socio-economic development of tribal population constitutes the primary data of this research. Primary data have been collected from the tribal people of eight sample districts. [47]

Cochran, W. G. (1977). *Sampling techniques*. New York, NY: Wiley.

19. Micro Enterprises in Tribal Areas of Odisha and Andhra Pradesh

A brief explanation of important micro enterprises operating in the state is given below.

Handicrafts Industry

Odisha as well as Andhra Pradesh known for its rich cultural heritage can have the potential to grow and prosper more and more small industries in handicraft and cottage segment. In fact, the Government of Odisha has taken various measures including financial and marketing expertise to prop up the industries especially in backward districts. As part of the promotion, for instance, Government of Odisha has distributed to more than 7000 artisans the solar lantern under a scheme “Distribution of Solar Lanterns to Artisans Households” during 2017. This apart, insurance coverage was provided to artisans of handicraft under a scheme of “Aam Aadmi BimaYojana”. A brief overview of Odisha’s Handicraft industry is given below in the following table.

Handloom & Textile sector

Handloom and textile sector perhaps the oldest in the country which holds a paramount significance in shaping the economy of the Nation. The Government has supported the industry in a big way with the aim of developing districts’ socio-economic conditions. Government runs various schemes such as Health Insurance Schemes, schemes under “Mahatma Gandhi Bunakar BimaYojana”, Integrated Handloom Development Scheme etc targeting the wellbeing of weavers working in the industry. The Government has initiated step to register Odisha’s textiles product (“Ikat” product) under Geographical Indication (GI) to protect weavers from competition. [48]

Animal Husbandry

Animal husbandry refers to livestock keeping, breeding and overall management by households which is more prevalent in backward districts. In fact, this is one of the major sources of income of some districts like Malkangiri and Gajapati. Being a part of agriculture sector, Government of Odisha has a dedicated animal Husbandry & Veterinary Services Department working at district level [49]. Two autonomous bodies called as OPOLFED and OMFED are operating for promotion and selling & distribution of milk, milk related products, eggs etc. Being an integral part of the state, livestock with mixed farming has been predominant throughout all the districts [50].

With measures of State, the sector in past few years has grown considerably.

Agriculture

Odisha Government had announced its first agricultural policy in the year 1996 which accorded the industry status to the sector. In this year, 2020, “SAMRUDHI-Agricultural policy has been launched to strengthen the farmers’ income and simultaneously developing allied

sectors by sorting out the issues and constraints faced with use of technology [51].

Sericulture

Being an agro based industry; the sericulture provides employment to the poor people in huge numbers. Tassar mostly developed by tribal farmers across 14 districts in the state, it is one of the products which is world famous. The Government of Odisha has taken several measures to promote sericulture activities that directly impact the livelihood of STs and SCs especially in economically backward districts. The activities include silkworm rearing, cultivation of plant for silkworms feeding, silk cocoons spinning, weaving and processing of silk. The Government of Odisha under state plan and in joint venture with Central Silk Board, Balgalore provides various incentives for promotion of sericulture industry in the state [52].

Coir Industry

With a huge potential for development of Coir industry in Odisha, various initiatives were undertaken by Government from time to time.

20. Major Findings of the Study

Objective Wise Findings

Socio-economic Status of Tribal People

The tribal communities in Odisha are regarded as the most disadvantageous group of people in terms of their socio-economic status. They are backward and geographically isolated communities who depend on agriculture for their livelihood. Though ST people are dominant in their numbers in sample districts, but they have lower literacy rate as compared to SC people. The use of Chi-square” statistic resulted that “unemployment” is the most important motivational factor for micro enterprises in the tribal area irrespective of their socio-economic profile. [53]

Performance Analysis of Micro-enterprises

The performances of micro-enterprises have been tested with respect to three broad aspects - “**problems of micro-enterprises**”, “**Better performance of micro-enterprises**” and “**relationship of performance with other related factors**”. The “**problems of micro-enterprises**” is further studied in three phases. The first phase explored three important factors “Financial assistance with all sorts of problems” “Irregularity in trade fair creating problem in Marketing” and “Community Support” with the use of “factor Analysis”. In second phase, “Chi-square statistic” resulted that the problems of microenterprises are associated with age and gender but not with marital status. In the third phase, “One –way ANOVA” identified that- the problems of microenterprises relating to-“Government rules and

regulations in availing loan”, “Marketing of products”, “Irregularity in trade fair”, “Community support”, and “Transportation problem” varies significantly with respect to their types, amount of investment, source of capital and place of selling of products. Further, t-tests resulted that the problems of micro-enterprise in terms of “Financial assistance from the banks /microfinance companies”; “Marketing problem”; “Inadequate availability of skilled labour” and “lack of community support” vary significantly area wise. [54]

Attitude of tribal people towards Micro-enterprises

“Factor Analysis” is used to find out the attitude of tribal people towards micro-enterprises. The analysis resulted four important factors “Increase in employment, self-confidence and gender equality”, “Ability to provide better life to family members in own area”, “Recognition in society and women empowerment”, “Ability to provide basic facilities to family members with increased income”. [55]

Linkage of Tribal Entrepreneurship with socio-economic empowerment of tribal people

SEM identified that there is a lower degree of positive impact of “Tribal entrepreneurship” on “Economic Empowerment” and “women Empowerment” and lower degree of negative impact on “Social Empowerment”. It is also concluded that Economic Empowerment of tribal entrepreneurs through micro-enterprises has reduced the dependency on private money lenders the most. Women Empowerment of tribal entrepreneurs has helped the women to achieve gender equality and the social Empowerment aids in the development of competency and technical skills through micro-enterprises. [56]

21. Conclusion Recommendation and Suggestions

The following suggestions are recommended by the researcher.

1. In Odisha and AP, states where people are illiterate, even though literate are not skilled enough to take own decisions; agriculture is a very important sector to create and sustain employment for a long period of time. Unemployment is the most important motivational factor for micro enterprises in the tribal area. And so, government and voluntary organizations may take steps to educate and train these people to create employment through agriculture. [57]
2. Continuous change in Government policies, both at Central and State level with respect to ST & SC schemes often make them confused and sometimes unaware about the new benefits embedded in those schemes. And the tribal people who are into entrepreneurship face the problem of availing loan due to stringent rules of government. Continuous

awareness programmes are therefore recommended by the researcher. [58]

3. Tribal people, who are in manufacturing and trading, mostly sell their products in the village market and local market and there by not able to generate a good revenue. Lack of marketing skills of tribal entrepreneurs thus makes them somehow laggard compared to companies, and other organizations that manufacture and market similar type of products [59]. Proper training for tribal entrepreneurs to increase their marketing skill is therefore suggested by the researcher [60].
4. Irregularity in trade fairs is also creating problems in marketing the products of small scale and micro and small scaled products. The tribal entrepreneurs may be assisted with the trade fair at regular intervals by the government [61].
5. Absence of motivation because of lack of business-related training is another major challenge to bring about economic change in their society [62]. Though sample districts are dominated by ST people but, majorities of SC are in entrepreneurship of micro-enterprises [63]. ST being the poorest amongst all need to be pushed further for entrepreneurship to start with small business [64].
6. The poor amount of investment of tribal in micro-enterprises is the biggest problem for the growth of their enterprises. Some tribal youths, despite possessing good skills to run enterprises, lack capital and inability to take courage in expanding business somehow warrants external motivation [65]. Though the government has devised many schemes to give financial assistance to these people, they are not able to utilize all these schemes due to their ignorance and lack of awareness [66]. It is therefore suggested to mobilize the so-called leader of the village and to convince about the usefulness of different schemes and how to utilize these schemes for the growth of marginalized section [67].
7. Adequate infrastructural facilities have always been a hurdle for achieving success in any business. Infrastructure refers to access to power, roads, basic amenities, market facilities, telephone facilities etc. [68]. Transportation is also another biggest problem for tribal entrepreneurs which needs to be resolved [69].
8. Regression analysis identified that the educated entrepreneur with good source of capital is more likely to be successful in tribal area [70]. But lack of up-to-date knowledge about use of technology in the business, lack of organization skill, unable to manage inventories of the business, maintaining environmental balance etc. add more to challenges to micro-enterprises. “Awareness programme to create knowledge about Micro enterprises” is therefore recommended by the researcher [71].

9.

Acknowledgements.

The authors want to give special thanks to the members, subsidiaries and some owners of microenterprises and small-scale industries for interpreting the real world of the business and the challenges faced from the big corporations.

References

- [1] **Journal article:** Ahamed, I. S. B. (2019). An Empirical Research on the Problems and Prospects Perceived by the Small Scale Entrepreneurs in Salem District, *International Journal of Innovative Technology and Exploring Engineering*, 9(2),473-476
- [2] **Book:**Abdin, J. (2019). Exploring MSME sub-sectors to attract more investment * Micro Small and Medium Enterprises or MSMEs has the potential to become the life line of this country's economy, *SSRN electronic journal*, 1-3
- [3] **Book Chapter** Abdin, MD. Joynal, (2019). Role of Micro, Small and Medium Enterprises in Economic Development, Dhaka Chamber of Commerce & Industry (DCCI), 1-2 <http://dx.doi.org/10.2139/ssrn.3438925>
- [4] **Conference:**Agarwal, S.P (2005). Report on "Strategy for Enhancing Competitiveness of SMEs Based on Technology Capacity Building" , UN Economic And Social Commission For Asia And Pacific (ESCAP), Bangkok.
- [5] **Journal article** Ali, A. & Husain, F. (2014) MSME's in India: Problems, Solutions and Prospectus in present scenario, *International Journal of Engineering and management studies*, 5 (2), 109-115
- [6] **Journal article** Anderson, J., & Gerbing, D. (1988). Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*.
- [7] **Journal article** Anwar, M., Rehman, A.U., Shah, S.Z.A. (2018). Networking and new venture's performance: Mediating role of competitive advantage. *Int. J. Emerg. Mark.* 13, 998–1025.
- [8] **Journal article** Akram, S., Shaheen, I., Kiyani, S. M. (2015). Socio-economic empowerment of women through micro enterprises: a case study of AJK, *European Scientific Journal August*, 11(22), 199-211
- [9] **Journal article** Akkeren J. & Cavaye, A.L.M. (1999). Factors Affecting Entry-Level Internet Technology adoption by Small Business in Australia: An Empirical Study. proceedings of the 10th Australasian Conference on Information Systems, Wellington, New Zealand, 1-3 December 1999.
- [10] **Book Chapter** Acs, Zoltan, J. and Audretsch, David, B. (1993) Innovation and Firm size: The new learning. *International Journal of Technology Management*. pp. 23-35
- [11] **Book Chapter** Arvind Kuma Singh, S. K. (2014). MSMEs challenges and opportunities: the key to entrepreneurship development in India. *International Journal of Engineering and management Science*, 5 (1), 22-28.
- [12] **Book Chapter** Basha, A. G. (2013). Problems and prospects of small and medium enterprise in India, *Shanlax International Journal of Commerce*, 1(4), 40-44.
- [13] **Book Chapter** Bardhan, A.B. (1976). The Tribal Problem in India, Communist Party Publication, pp. 39-43, New Delhi.
- [14] **Book Chapter** Bhownick,P.K. (1981).Reports of Scheduled Tribes an Appraisal" in L.P Vidyarthi (ed.) *Tribal Development and its Administration*, Concept Publishing Conlpany, New Delhi.
- [15] **Journal article** Bhuyan, U. (2016). A Study on the Performance of Micro, Small and Medium Enterprises (MSMEs) in India, *Global Journal of Management and Business Research*, 16(9), 33-36
- [16] **Journal article** Ballabh, Vishwa & Batra, Pooja, (2015). [Socio-Economic Transformations of the Tribals in Central India: Lessons and Experiences](#), *Indian Journal of Agricultural Economics*, 70(3), 1-11.
- [17] **Journal article** Beaver, G. (2002) Small Business, Entrepreneurship and Enterprise Development. Financial Times – Prentice Hall. pp. 2-3; 46
- [18] **Journal article** Bagale, G. S. (2016). Indian MSME Sector: A Review, *Saudi J. Bus. Manag. Stud.*, 1(1), 23-25
- [19] Bhanushali, S.G. (1987). Entrepreneurship Development, An Interdisciplinary approach, Himalaya Publishing House, Bombay.
- [20] **Book Chapter** Behera, B. (2017), Women Entrepreneurship Development in Tribal Areas in Odisha: An Effective Means of Women Empowerment, Socio-economic development, women entrepreneurship, leaf plate, tribal economy. *International Journal of Trade & Commerce*, 6(2) 387-395
- [20] **Book Chapter** Bekele, E. and Worku, Z. (2008).Women Entrepreneurship in Micro Small and Medium Enterprises: The Case of Ethiopia, *Journal of International Women's Studies*, 10 (2), 1-19
- [21] **Book Chapter** Balakrishnan S. Gopakumar K and Kanungo R.N. (1998). Entrepreneurship Development: Concept and Context, Entrepreneurship and Innovation Saga Publication, New Delhi.
- [22] **Book Chapter** Charumathi, B. (1998). Women Entrepreneur's Challenges and Prospects,Development of Women Entrepreneurship in India. Discovering Publishing House, New Delhi.
- [23] **Book Chapter** Chandra, S.K. 1991; Development of Women Entrepreneurship in India: A Study of Public Policies and Programmes. Mittal Publications, New Delhi.
- [24] Chandralekha, K. Kalyani, and Lovoice D. 1998; "Micro enterprise Management by Women in India". In Kanungo, R (ed) Entrepreneurship and Innovation Sage Publications, New Delhi.
- [25] **Book Chapter** Chakraborty, S and Anand M 1999; "Impact of Loan on Women Entrepreneurs" Unpublished. Development Credit Bank, Mumbai
- [26] Bose, N. K. (1971): Tribal Life in India, National Book Trust, New Delhi.
- [27] **Book Chapter** Cheeroli, J. (2018). A Study on the Problems and Prospects of Micro Enterprises with Special Reference To Kondotty Taluk, *Journal of Business and Management*, 20(2), 15-40.
- [28] **Journal article** Chatterjee, P. (2014). Social and Economic status of tribal women in India – The challenges and the Road Ahead. *International Journal of Interdisciplinary and Multidisciplinary Studies*, 2(2), 55-60, ISSN: 2348 – 0343.
- [29] **Journal article** Chami. (2006). Technological innovation in women-owned firms: Influence of entrepreneurial motivation and strategic intention. *The International Journal of Entrepreneurship and Innovation*, 4 (1), 265-274.
- [30] **Journal article** Chatopadhyaya, K.(1978), Tribals in India, Vikas Publishing House, New-Delhi, p.2.
- [31] **Journal article** Choudhury, R.C. (2001) "Micro credit interventions in promoting micro enterprises". NIRD Research Project No – 21, National Institute of Rural Development, Hyderabad
- [32] **Journal article** Cochran, W. G. (1977). *Sampling techniques*. New York, NY: Wiley.

- [33] **Journal article** Dasgupta, M. (2018). Literature Review on Micro Entrepreneurship development and Quality of Life improvement, *International Journal of Multidisciplinary*, 3(3), 54-60
- [34] **Journal article** Devindrappa, K. & Shinde, R. V. (2014). Socio-Economic Conditions of Scheduled Tribes in Karnataka, *Indian Streams Research Journal*, 4 (8), 1-2.
- [35] **Journal article** Daire H, Joseph C, Michael RM (2008). Structural Equation Modeling: Guidelines for Determining Model Fit. *Electron. J. Bus. Res. Methods* 6(1): 53-60
- [36] **Journal article** Deng, S. & Dart, J. (1994). Measuring Market Orientation: A Multi-factor, Multi-item Approach. *Journal of Marketing Management*, 10, 725-742.
- [37] **Journal article** Deshpande, M.U. (1982). Entrepreneurship of Small Scale Industry Deep and Deep Publications, New Delhi.
- [38] **Journal article** Dwivedi, A.K. and Dwivedi, N. (2011). Women-Empowerment through Women Entrepreneurship (A Study of Faizabad Zone of Uttar-Pradesh). Retrieved from SSRN: <https://ssrn.com/abstract=1886250> or <http://dx.doi.org/10.2139/ssrn.1886250>
- [39] **Journal article** Devi, S. K. & Dhal, N. (2020). Socio-economic Initiative of the Government and its efficacy on Tribal Women, *International Journal of Recent Technology and Engineering (IJRTE)*, 8(5), 22-35
- [40] **Journal article** Dhakal, N. H. (1999). Expansion of Microfinance Services: The Development of Community Based Savings and Credit Cooperatives in Nepal, *Agricultural Credit – Bi-annual Journal*, 31,1-8
- [41] **Journal article** Ghosh, Arun Kumar.2007. 'The Gender Gap in Literacy and Education Among the Scheduled Tribes in Jharkhand and West Bengal', *Sociological Bulletin*, 56 (1): 109-125
- [42] **Journal article** Dutt, S.C. (1984): The Wild Tribes, Cosmo Publications, New Delhi
- [43] **Journal article** Ebrahim, K. (2014). Women empowerment through micro-enterprises: An empirical Analysis of Kudumbashree unit in Kerala, *Journal of Rural and Industrial Development*, 2(1), 1-7
- [44] **Journal article** Fornell, C. and Larcker, D.F. (1981) Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18, 39-50. <https://doi.org/10.2307/3151312>
- [45] **Journal article** Gade, S. (2018). MSMEs' Role in Economic Growth – a Study on India's Perspective, *International Journal of Pure and Applied Mathematics Volume*, 118(18), 1727-1741
- [46] **Journal article** Gangadhara, R. N. (1986) Entrepreneurship and Growth of Enterprise in Industrial Estates, Deep & Deep Publications, New Delhi.
- [47] **Journal article** Gupta, M.C. (1987). Entrepreneurship in Small Scale Industries, Anmol Publications, New Delhi.
- [48] **Journal article** Gray, C. (2002). Entrepreneurship, resistance to change and growth in small firms, *Journal of Small Business and Enterprise Development*, 9, (1), 61-72.
- [49] **Journal article** Ghury, G. S. (1963): The Scheduled Tribes, Popular Prakashan Bombay.
- [50] **Journal article** Haseena, V. A. (2015). Poverty and livelihood problems among the scheduled tribes in Kerala-A Study on Attappady, *Journal of Poverty, Investment and Development, An International Peer-reviewed Journal*, 14, 94-101
- [51] **Journal article** Hazarika, B., Goswami, K.(2018). Micro-entrepreneurship Development in the Handloom Industry: An Empirical Analysis Among the Tribal Women in Assam, *International Journal of Rural Management*,14(1), 22-38
- [52] **Journal article** Hassan, T. & Ahmad, B. (2016). The Role of Micro Enterprises in Employment and Income Generation: A Case Study of Timergara City Dir (L) Pakistan, *International Journal of Economics & Management Sciences*, 5(2), 2-5, DOI: 10.4172/2162-6359.1000318
- [53] **Journal article** Harvie, Charles. (2003). The Contribution of Micro-enterprises to Economic Recovery and Poverty Alleviation in East Asia, Department of Economics, University of Wollongong, Working paper, 1-20
- [54] **Journal article** Hisrich, R. D. and Ozturk, S. A. (1999). Women entrepreneurs in a developing economy, *The Journal of Management Development*, 18, (2), 114-120.
- [55] **Journal article** Hair, J.F., Tatham, R.L., Anderson, R.E., & Black, W. (2010). Multivariate Data Analysis, vol. 7. Pearson Prentice Hall, Upper Saddle River, NJ,
- [56] **Journal article** Hair, J. F., Jr., Anderson, R. E., Tatham, R. L. and Black, W. C. (1995) Multivariate Data Analysis, 3rd ed, Macmillan Publishing Company, New York
- [57] **Journal article** Hair, Jr., Joseph F., William C. Black., Barry J. Babin., Rolph E. Anderson and Ronald L. Tatham (2006), Multivariate Data Analysis (6th Ed.), Upper Saddle River, NJ: Pearson-Prentice-Hall.
- [58] **Journal article** Hu LT, Bentler PM (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives, *Struct. Equ. Model.* 6(1):1-55.
- [59] **Journal article** Hemasrikumar, (2018). The Impact of Entrepreneurship for the Empowerment of Tribal Women –with Special Reference to Toda Women in Nilgiri District, *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*, 23(1), 46-51.
- [60] **Journal article** Islam, T. & Sheikh, Q. F. (2011). Women Micro Entrepreneurship and Socio Economic Development in Khulna. *The Jahangirnagar Journal of Business Studies*, Vol 2,
- [61] **Journal article** Jayakumar, A. & Palaniyammal, P. (2016). Socio-economic status of scheduled tribes in kalrayan hills, *International Journal of Research*, 4(3), 22-30
- [62] **Journal article** Jamali, D. (2009). Constraints and opportunities facing women entrepreneurs in developing countries: a relational perspective, *Gender in Management: An International Journal*, 24, (4), 232-251.
- [63] **Journal article** Jani, N. D. and Pedroni, M. N. (1997). Financing women entrepreneurs in South Asia: a conversation with Nancy Barry, *Journal of International Affairs*, 51, (1), 169-179.
- [64] **Journal article** Junare, S.O. & Singh, R. (2016), Technological Understanding and Usage vis-à-vis Knowledge of Government Scheme – A Study of Women Entrepreneurs of Selected Cities of Gujarat, *Amity Journal of Entrepreneurship*, 1 (1). 71-85.
- [65] **Journal article** Jena, S.K. (2011), Socio-Economic Development of Indigenous Artisans through Micro-Enterprises – A Case study of KBK Districts of Orissa”, Ph.D. Thesis, Utkal University, Vani Vihar.
- [66] **Journal article** Katyal, A. & Xaviour, B. (2015). A Study on MSMEs'-Role in Propelling Economic Development of India & A Discussion on current HR issues in MSMEs in India, *International Journal of Scientific and Research Publications*, 5(2), 2-11
- [67] **Journal article** Knorr, H. (2011). From top management to entrepreneurship: women's next move?, *International Journal of Manpower*, 32, (1), 99-116.
- [68] **Journal article** Kotey, B. and Sheridan, A. (2001). Gender and the practice of HRM in small business, *Asia Pacific Journal of Human Resources*, 39, (3), 23-40.

- [69] **Journal article** Lal, B. S. (2019), Economic Empowerment of Tribal Women: A Study in Telangana State, *Social Sciences International Research Journal*, 2(1),408-418
- [70] **Journal article** Lohith, C. P., Srinivasan, R., Rajeshwar, S., Kadadevaramath & Shrisha, S. (2017) Innovation the Key to Success: A Literature Review on Indian MSME's, *Indian Journal of Science and Technology*, 10(11),1-6, **DOI:** [10.17485/ijst/2017/v10i11/106136](https://doi.org/10.17485/ijst/2017/v10i11/106136)
- [71] **Journal article** Lucy Mair. (1972). An Introduction to Social Anthropology. New Delhi, Oxford University Press, pp. 13-115.