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**DAV PG COLLEGE**

Maharshi Dayanand Saraswati Marg

Narharpur, Ausanganj, Varanasi, Uttar Pradesh 221001 (India)

Tel. 0542-2214438 # Fax : 0542-2214438

Mob. : 09415372059, 09415226118, 09415813379

Email : [davjecvns@gmail.com](mailto:davjecvns@gmail.com)#

jecwebsite : [www.davjournals.in](http://www.davjournals.in),

collegewebsite : [www.davpgcvns.ac.in](http://www.davpgcvns.ac.in)

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Mob. : 09415226118, 09415372059, 09415813379

Email : davjecvns@gmail.com#website : www.davpgvns.ac.in

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\* All correspondence regarding manuscripts, Subscription etc. may be addressed to :

Managing Editor

Journal of Economics and Commerce

DAVPG College

Maharshi Dayanand Saraswati Marg

Narharpura, Ausanganj, Varanasi □221001 U.P. (India)

Mob. : 09415372059,

Email : anupdav@gmail.com & davjecvns@gmail.com

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**EDITORIAL NOTES**

We are feeling great satisfaction that the Journal of Economic & Commerce (*JEC*) has successfully completed the thirteenth years of publication and entering in the 14th year. Early we successfully indexed our journal in QLI Database of INSTITUTE FOR STUDIES IN INDUSTRIAL DEVELOPMENT as well as in the UGC list (2018). We are also proud of our Editorial Board for the *Journal of Economics & Commerce (JEC)*, *Which* includes academicians in the fields of Economics and Commerce, who have marks of records of accomplishment in their respective disciplines and also share a burden of referee as per required from time to time. Ever since its inaugural publication in 2010, *JEC* has emerged as one of the most respected publications, encompassing both Economics and Commerce. We intend to build on this tradition with our present issue.

Over the years, *JEC* has endowed with a platform for the progression of knowledge and the quest of academic excellence. Many prominent scholars from different part of India have published inspiring high quality articles analogous to those in leading journals in the field. Even as maintaining its focus on contemporary developments in the broad areas of Economics and Commerce, the journal is now also pledged to the spreading out of research frontiers further.

Within this orientation the present issue of the journal provides a set of eleven articles which includes some special articles case studies on burning issues of economics, commerce and institutional area. In addition to this we have also kept our commitment towards promotion of new contributors and young researchers in the present issue.

The Editors welcome submissions of the research papers on vital issues concerning our economy and commerce, **with a token of note that these will strictly be referred before acceptance.**

DAV PG College  
Varansi  
30th, January, 2023

**Anup Kumar Mishra**  
Managing Editor

**special Article**

**TEACHING AND RESEARCH IN ECONOMICS IN UTTAR PRADESH AND  
UTTARAKHAND**

**Prof. I. D. Gupta\***

Level and standard of education in India have been of great concern for thinkers and policy makers for a long time. Visionaries of freedom struggle saw dreams about India of the future. They found out that mass illiteracy had been one of the major factors behind India's poverty and backwardness for hundreds and thousands of years and hence after Independence they chalked out plans for universal education for the children. And this was incorporated in the Directive Principles of State Policy (Articles 41, 45 and 46). Education is the quickest way of empowerment and it is a great leveler of socio economic reform. But much depends upon the quality of education and its direction.

In the post Independence years whereas there was a quantum jump in education, primary, secondary, and higher education, quality of education has often been questioned by the academicians and thinkers. In the era since globalization many of the things changed to suit the purpose of market and private entrepreneurs. Today education is an industry and private entrepreneurs are the planners of the game. The direction of higher education and research is more on the directions of the Corporate Elites. It is going out of the hands of academicians to the hands of administrators and business houses and in many of the cases in the hands of education mafias. Leaving aside these controversial issues let us focus our attention towards falling standards of higher education and research in India as well as in backward states like UP and Uttarakhand.

Our prime Minister recently remarked that we are lagging far behind in quantity and quality of research papers published as compared to China and many other developing/emerging economies what to talk of the developed countries. India had more number of research papers than in China and South Africa in 1995. But by 2007 China and Brazil have produced more papers than India. Eleven years back Deena Khatkhate in a paper in the EPW in 2002 lamented for a meager number of research papers published by Indian writers in foreign journals of repute. Many other economists of repute had been showing concern about the teaching and research in economics in India for quite a long period of time. What is a stark reality for India is starker in case of backward states like Uttar Pradesh and Uttarakhand.

To my mind quality of teaching in graduate and post graduate level depends upon the following factors:

1. The quality of the teacher,
2. The quality of the students,
3. The quality of the source material,
4. The environment of teaching and research and
5. The public policy towards higher education.

Lecturing is a performance which is backed by continuous study and up gradation of knowledge. In

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\* Lucknow University

my four decades of academic career what I have visualized, of late, is that barring a few of the universities the tradition of delivering lectures with references and quotes from standard textbooks and research articles is vanishing and in almost all of the degree colleges and post-graduate colleges teachers give **notes** and students are asked to mug up the answers. Hardly there is a scope for discussions and debates in the classrooms. And hence the power of analysis and analytical acumen is not created amongst the students.

For the past ten fifteen years there is a tendency towards **skipping classes by the students** (and a few teachers also) and only thirty to forty percent of the total strength attend the lectures in the classrooms. Obviously there is a huge rush at the time of admissions and the examinations and demand for short cuts and copying at mass scale. Acquiring university degree at any cost is the objective associated with several kinds of spoil systems. **Copying is our birth right** is the slogan of the students and those who interfere or check the practice face the ire regularly. In several of the institutions there is a flourishing business amounting to lakhs to crores of rupees changing hands regularly every year and the players of the game are not only the student's leaders and the clerical cadre persons but many of the principals of the colleges themselves are involved in it. When we talk of the quality of higher education these facts of life cannot be side tracked or ignored.

Similar is the case for **Rent-Seeking** in producing research dissertations. In many of the offices of the universities the mal practices from registration to the course to the award of degree continue with great secrecy. There are rates for each of the services (**Sale of Services**) available. In the absence of it things lengthen for unknown period. What has been a rare phenomenon a few decades earlier there seems a phenomenal rise in the trend now. Since the UGC has prescribed the Doctor of Philosophy degree a must for Lecturer's post the practice has took a quantum jump. When at an earlier pace there was a time limit for Ph. D holders exemption to appearing the NET, the author was informed by his colleagues, that in several of the cases viva voce was conducted on the railway platforms itself to meet the time limit requirement as in Leo Tolstoy's famous story of a land seeker.

Away from these sideline realities higher education in universities and colleges suffer severely from **lack of resources**. Social sciences research is being treated step motherly since the beginning as compared to physical and life sciences in India. The then Chairman of the ICSSR, Prof. Thorat had acknowledged the fact that social sciences research is getting step motherly treatment. Secondly he highlighted the point that social sciences has been widely affected due to **ban on recruitment for the last 15-20 years**. Hundreds of departments are maintained by one or two teachers. The vacancies are lying for years but the posts are not filled. According to Chaddha Committee report, a few years back, around 40 per cent of the posts are lying vacant in Indian Universities. In the circumstances teachers are over burdened and in many of the cases they have to take four to six lectures per day, that is, 28 lectures per week which is far above the limits prescribed by the UGC. Thinking of quality is a cruel joke in the circumstances.

The **pattern of employment** of faculty has greatly changed after 1991 liberalization and entry of private Universities in higher education. As there is a great demand for faculty positions in regular and private Universities, **guest faculty, contractual, and ad-hoc**, teachers are appointed leading to a dip in quality. So is the case in many of the post graduate colleges in U P where instead of regular appointment of faculty on the UGC scale, ad hoc appointments are made at a salary of around five thousand rupees. As the college has to run the course, otherwise they will lose the granting of PG course, they are in an urgency to somehow fill the positions. Besides the excess load of teaching on

these faculty members, the contractual lecturers do not know if they will continue teaching next year or not. Under employment and low wage employment is flourishing under the situation contrary to higher demand for faculty positions.

It was an overnight change of status also, in higher education with the accommodation of **private Universities**. As in the railways, years back, abolition of Third class made the Third class bogies stamped as Second class, other things being the same, so the private colleges turned into Universities, over the time, and their Principals became Vice-Chancellors, other things being the same. This is a great compromise to my mind.

In the traditional universities and colleges, it has been observed that there is a great **deficiency of infra structure** and study materials. The classrooms lack a chair and a desk for the teachers and in most of the cases blackboards are non functional. Teachers have no separate rooms to sit where they could discuss with their students and research scholars. The author itself had to protest with the then HOD Economics and the VC for several years for a chair and desk in the class rooms of the university. But it was not heeded.

Besides the quality of research and teaching also suffers in Uttar Pradesh and Uttarakhand owing to **lack of exposure of faculty members** and hence there is a need for better off Universities to collaborate and improve the quality of teachers on a regular basis. More of the Refresher courses, workshops, and seminars are to be organized for the purpose.

It has also been observed during the past two three decades that an inflationary trend has set into awarding marks to answers in the examinations and in the viva voce, leading to a dichotomy in between capability and evaluated awards. A generation or two back, during fifties and sixties, marks were awarded in more real terms of the caliber of the student. Now the quality in many of the cases has gone down but the marks awarded are much higher leading to a **departure in between real merit and the percentage of marks attained**. Thus a student of a caliber of 48 per cent is being awarded sixty eight per cent or higher in many of the cases for non merit considerations. The rush is higher in post graduate colleges of eastern UP and other parts where viva voce is compulsory after the final examinations. The author was pressurized unsuccessfully in many of the post graduate colleges of Uttar Pradesh by the resident HODs to award 82 per cent to 88 per cent or more marks to some particular candidates in PG Viva Voce, whereas in his judgment the award ought not have been more than 48 per cent. These students miserably fail in higher competitive examinations of all India level to their great disappointment.

Then the system of education and examination has moved into the direction of objective type question papers where candidates have to tick a number out the four options. This system has a great lacuna that thinking and explanation capability is not judged in the system of examination. Thus our education system has stopped producing thinkers despite producing so many first classes.

## **PART-2**

What should be taught in economics and what should be the orientation of research would be the area of discussion in this part of the paper. Economics holds a unique status in social sciences and its **domain is expanding** fast. Economics was classified into ten main branches and a total of 31 sub divisions till 1971. In 1981 this number was 35 and in 1993 one hundred. Currently the classification of main branches is in terms of alphabets limiting the main branches into 20. (A to R and Y and Z). The total two digit sub division is now 106. Three digit classification totals are above 697 in the Journal of

Economic Literature of December 2012. In course of time we familiarized ourselves with new subjects like Economic Growth, Micro economics, Macro economics, Mathematical economics, Public Economics, Environmental economics and later of Economics of special themes of development, Planning, Demography, Law, Culture, Natural Resources, Discrimination, Crime, Poverty, Health, Education, Justice, Technological change, Uncertainty and Information, Elderly, Minorities and Races, Gender, Feminist Studies, Arts and Literature, Health economics and the latest being Neuro-economics and Religion and Ontology. The domain seems to be endless with new subdivisions, permutations and combinations like Relation of Economics to Social Values (A 13), Sociology of Economics (A14), Household production and Intra Household Allocation (D13), Equity, Justice Inequality, Other Normative Criteria and Measurement, Altruism (D 63), Analysis of Collective Decision Making (D 7), Religion (Z 12), and Economic Sociology; Economic Anthropology; social and Economic Stratification (Z 13). These titles are proof of the branching off of economics into terrain uncharted and unheard of a few decades back. There is a challenge to teachers in the profession to specialize and also to interact. There are nearly **700 branches of economics**; there is ample opportunity to specialize. The challenge is that when Universities do not have enough resources, a few branches are cultivated or each person emerges as a specialist in more than one branch. In reality most of the new territories remain uncharted in poor countries and only a few well endowed universities in human and material resources withstand the demands of academic excellence and collaborative theoretical or applied research and teaching.

It is said that economic philosophizing gains its ultimate fascination because its complex analyses of gain and loss are the 'vehicles of still deeper lying dramas, morality, contests of power and at some very profound level, the ultimate tensions of social bonding'. What lies at the heart of economics is this search for the order and meaning of social history and philosophy. As we journey through the evolution of economic thought, a number of landmarks stand out. They include the transformation of "regulated, codified world of the 17<sup>th</sup> century into the atomistic market capitalism" as captured by Adam Smith; the narrow escape of that capitalism from 'landlord dominated economy' as anticipated by Ricardo; to over populated subsistence society that gave such a fright to Thomas Robert Malthus to propound his dismal theory of population; the "presumptive self-destruction of capitalism as forecast by Karl Marx and its 'economic depression tendency' as dissected by John Maynard Keynes.

However, Keynes wrote in his general introduction to the Cambridge Economics Handbooks, "**The theory of economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, apparatus of mind, a technique for thinking which helps its possessor to draw correct conclusions**".

This widens the scope of economics as art and science, in contrast to Lionel Robbins' human behavior and scarcity oriented definition. Both as a description of the system and a prescription for future change, **economics has twofold objective:**

**i) to offer a detached and objective description of the world as it is;**

**ii) and a visionary analysis of a world we wish to see as it ought to be.** For a holistic analysis, economics no doubt encompasses the "intellectual terrain" of other social sciences specially the political science and sociology. Economics had already been named as political economy before Marshall. Social framework of economics gives it a more perfection. Therefore, for teaching, research and policy making a multi disciplinary approach is necessary.

The current trend is the expansion of economics towards a more inclusive social science. Concerns of



global warming and environmental sustainability, questions of justice and fairness, freedoms and unfreedoms, now form the agenda of development economics and welfare economics. The cross pollination from neighbouring social sciences has added a new perception to economics.

Nevertheless, challenges before economics and economists are multifarious. As the world is dynamic and time never ceases, so are the challenges. Economic theorizing pertains to a particular point of time, and human behavior in that era based on the socio-political structure of the time, and hence the theories become obsolete and dated in a new situation. This happened at the time of Great Depression when the Classical theories of market failed and Keynesian Revolution evolved adding new horizons to the theory of demand, employment and public policy. Working on the past prescriptions of theory to new challenges, when most of the things in the background had become a thing of the past, leads to failure of theories. Ragner Nurkse aptly remarked in 1952 that “Economic theory tends inevitably to lag behind the actual course of events. *John Brown's body lies a-moulding in the grave, but his soul goes marching on!*”

Economics is being criticized on the grounds of not conforming to the tests of time particularly in times of crisis. British Economist Paul Oremerod, argues in his book **Death of Economics** (1994) and again in 2001 that conventional economics offers a misleading view of how the world operates and needs to be replaced. He described orthodox economics\_ with the assumptions of 'rational' behavior in a mechanical, linear world of equilibrium\_ as in many ways an **empty box**. Economics should be recast, in his view, to reflect the current ills of Western society\_ including unemployment, crime, and poverty. A radical new approach is needed drawing upon ideas from other disciplines such as biology, physics and behavioural sciences.

Speaking on the U S Meltdown (2008) former Federal Reserve Chairman Alan Greenspan testified before the U S Congress that he had “found a **flaw**” in the ideology that **self-interest would protect society from the financial system's excesses**. It was amply understood that Economist's models are not always the right tools to predict instability in financial markets.

### **PART -3**

Life is a flow. It passes leaving impressions of the past. But time present and time future are never a repetition of the time past. Past experiences very often do not work in handling the crises of the time present and time future. The very purpose of education is to prepare the students to handle the unforeseen challenges of the future. They should be educated and trained in theory of the subject as well as making of new theories. How theories are created\_ In economics which is a human behavior related science, the facts are observed in the market. How people react and behave in a particular situation marks the core of formation of theory. And as time passes and many of the things change the reactions also change and accordingly theories are revised and updated. The price theory and the theory of market developed earlier by the Classical School were revised during early 1930s when it was found that products are not homogenous and they are differentiated by the producers/ sellers and that the market is not perfect but imperfect and that advertisement cost forms a substantial part of the total cost of production. Joseph Chamberlin and Mrs. Joan Robinson in their separate works in 1933 observed the changed realities in the market and found out that market is competitive as well as monopolist as there are many constraints on numbers of entrants. The new theories of Duopoly and Oligopoly markets came into existence. Now newer theories are emerging in many of the branches of economics based on the newer realities of the Post World War years and passing out of old millennium and the ideologies of Communism and Socialism.

“Old order changeth yielding place to new” said the King in Passing of Arthur. Newer additions, expansions, newer visions mark the field of economics as is evident from its list of around seven hundred branches. Newer problems of climate change, global warming, environmental concerns as well as behavior of financial markets and its outcomes alongside problems of unemployment, inflation, stagflation and recession form the agenda of economic study and research in the present time.

Now the realization has emerged that Man is in the center of all activities, human as well as non-human. The Human Development agenda formed in the start of the new millennium has become man centric and his welfare forms the core of development economics and economics as such. It is said that “man is the author as well as object of all the activities”. Today the orientation of economics is more fulfilling than before. But as human life is varied, the concept of an 'economic man' also has its limitations. Man's life is not purely a monetary phenomenon. He has a much wider humane functions to perform in his limited span of life. And pass on well endowed into yet another life. This has to be understood properly.

Long back D P Mukherjee advocated for 'An Economic Theory for India' rooted in Indian cultural milieu. India has a vast cultural and spiritual heritage and our way of life must be guided not by the borrowed visions of Western life but on sound vision of our own cultural heritage. Prof. J K Mehta propounded a well founded theory of limiting wants and reaching a stage of 'wantlessness'.

Gandhi spoke of spiritual attainments in man's life. He said man is the *Trustee* of God's property. He is not an owner of it. This vision transforms man's whole behavior. This approach puts economics away from a dismal science to an ethical plane.

Today in the context of environmental depletion and consequent threat to human life itself in terms of ozone layer depletion, global warming, climate change, concerns for Limits to Growth and *legitimate consumption* and more disciplined use of resources form the agenda of current discussions worldwide. The time has come where Indian scholars may provide alternative models of development based on spiritualism and Indian cultural heritage.

## CONCLUDING REMARKS

### Going Beyond Economics

Teaching and research in economics in India and in Uttar Pradesh and Uttarakhand should aim at enabling students to recognize and analyze real life economic problems. The purpose of education in economics is to prepare the students to face the unforeseen economic challenges of the present and future. Teaching of economics comes under the broader panorama of education. There are *three dimensions of education*; one is related with the development of mental faculties; the other pertains to the development of emotive faculties of the man, the development of sensibilities; and the third is skill development. One pertains to mind, the other to the side of the heart and the third relates with the employment aspect. Perfection in life depends upon the equilibrium among the three. Whereas art and culture belongs to the second part of the above which makes life fulfilling, the third aspect pertains to life's sustenance and freedom from want. The development of the first the intellectual capability development provides a wider perspective of judgments of right and wrong in life. Study of economics pertains to economic man. And therefore, it has its limitations too. As the man is not only an economic entity, he is much more than that. In Indian view of life over indulgence in money and materialism makes one *paishachic* \_the demonic. In our culture there are four *purusharthas* prescribed for man: *Dharm, Arth, Kamah, and Moksha* . Arth is only a part of the whole. And there

comes the limitation of the science (Arthshastra) which teaches man how to earn money (arthah) and how to spend it. Earning and spending in a rightful manner is the subject of rationality and rational behaviour. Indian tradition puts a prefix of dharmah before arthah and kamah. And that is the message of Indian culture.

Further in the whole of this message self is subservient to the society, the nation. That is national interest is paramount before the individual self-interest. That is the concept of *Rastra Dharma*. Education and teaching which does not inculcate the idea of Rastra dharmah and where people work solely in self-interest, the society is bound to be doomed. Western economic philosophy works in individual's self-interest and thereby serves the purpose of society. This theory is flawed.

The prevalence of corruption at mass scale in Indian society and politics is owing to failure of our education system to give right direction to students, young generations and society. There is a **need to go beyond the teaching of capital formation towards nation building and character formation**. And this is the challenge before intellectual fraternity, the teachers, to prepare younger generations with appropriate direction and education so that they could eliminate the evils of modern society and create a society based on equity, justice and universal brotherhood.

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## COVID-19 OUTBREAK AND IMPLICATIONS ON THE SUPPLY OF MINERAL FERTILIZER IN MENOUA, CAMEROON

Mbu Daniel Tambi\* Ngitte Ebolo Phill Armstrong\*\*

### ABSTRACT

*The Covid-19 Outbreak and its implications on the Supply of Mineral Fertilizer in Menoua, Cameroon has as objectives to: discuss the drivers of the supply of mineral Fertilizers in Menoua Division, verify the quantity of mineral fertilizers supplied before and during the Covid-19 pandemic crisis and to identify the strategies adopted by mineral fertilizer distributors due to Covid-19. Methodologically, the study collected primary data from 61 respondents using structured questions and result is analysed using ordinary least squared. Results showed that, the drivers that determine the supply of mineral fertilizers in the Menoua division are : the number of customers, reliability of customers, responsiveness of customers, experience in the distribution, the season, nature of land cultivated and the agricultural behaviour of the farmers. The quantity of mineral fertilizers supplied before COVID\_19 is marginally greater than the quantity supplied during COVID\_19. Further, using MoMo and bank account payment, use of intensified telephone communication services to arrange business deals, supply based on command, use of personal mobile delivery service, home delivery services, use of snowball marketing system to reach out to new farmers and ready to supply at any time are the principal coping strategies adopted by mineral fertilizer suppliers. The study suggests that association among the distributors and mineral fertilizers manufacturer will facilitate and ensure the constant supply of fertilizer and thus boost agricultural production.*

**Keywords:** : Covid-19 pandemic, mineral fertilizer, supply chain, OLS, Menoua Division.

### I. INTRODUCTION

COVID-19 pandemic is a major impediment in the food system (food production, processing, distribution, marketing and consumption) (Hayakawa and Mukunoki, 2021). Unless urgent actions are taken to ensure the functioning of domestic agriculture and food value chains, in order to protect and enhance the resilience of the most vulnerable populations, and mitigate the impact of the pandemic on agriculture, food systems and livelihoods of the rural poor, there are considerable risks that the current public health crisis could become a food and economic crisis. This would further increase the number of people facing acute hunger as jobs are lost, the flow of remittances slows, and food systems are disrupted (*World Fertilizer Trends and Outlook To*, 2020). As many African countries continue to enforce strict directives to combat the spread of the virus, little attention has been put on the effects of the lockdown directives on the people's ability to feed themselves (Numbers, 2021). Many Africans risk becoming food insecure because of this crisis. It is important to prioritize

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\* Department of Economics, University of Bamenda Cameroon

E-mail: [tambi2015@yahoo.co.uk](mailto:tambi2015@yahoo.co.uk)

\*\* Department of Socio-Economics and Agricultural Extension, University of Dschang Cameroon

agriculture by declaring it a critical sector that should not be interrupted by COVID-19 related measures. Food corridors need to be secured, and farmers supported, to ensure uninterrupted supplies and food security (Brenton & Chemutai, 2020). High-income countries generally use a larger quantity of intermediate inputs for their agricultural production processes. This share can exceed 80 percent of the value of the output in high-income countries but can remain below 10 percent in low-income countries. This means that on average, low-income countries are less exposed to disruptions in intermediate input supplies, as production is less reliant on their utilization. Conversely, high-income countries depend more on intermediate inputs and are hence more susceptible to a disruption in the input supplies, as potentially would be caused by a pandemic, such as COVID-19 (Haldar and Sethi, 2020).

The use of fertilizers has increased vastly over the twentieth century. The total fertilizer nutrient demand was estimated at about 20 million tons in 1950 compared to about 190 million tons in 2019 and 2020 (the latter was estimated by International Fertilizer Association (IFA) in November 2020). Ilinova and al (2021) declares world fertilizer industry is influenced by a number of macroeconomic factors ensuring a steady growth in demand for fertilizers. The following factors are crucial for stable global fertilizers consumption pattern: population growth (the world's population is expected to increase from 7.7 billion in 2019 to 9.7 billion in 2050 (Food & Analysis, 2020) ; reduction of land suitable for cultivation (Phosagro, 2020); growth of the world GDP (Knoema. World GDP, 2020); changes in diet (Phosagro, 2020); alternative uses of crops (e.g. bioethanol) (Phosagro, 2020). If COVID-19 were to disrupt the flow of these inputs either from local or international suppliers to the farm level, this could result in an immediate decline in outputs. Developing countries, by contrast, would be less exposed to these input supply shocks, in consideration of the low utilization of such inputs (Covid-2020)

This puts fertilizer at the forefront of an agricultural transformation, as it is estimated that, in absence of mineral fertilizers, farmers could only produce half of the current global food output (Heffer & Prud'homme, 2016). Agricultural productivity increase is only possible with the use of yield-enhancing technologies like inorganic fertilizer. However, low fertilizer use is one of the factors hindering agricultural productivity growth in Africa. Compared with other developing regions, fertilizer consumption in Africa has only risen marginally between the years 2000 to 2015 (On & Crop, 2020). The average fertilizer application rate in SSA has been growing, though still low, from 6kg/ha of nutrients in 2000 to about 15kg/ha in 2017. According to the International Fertilizer Association (IFA), this rate is projected to reach about 19kg/ha by 2021 still below the Abuja Declaration of 50kg/ha (Nations & Partnerships, 2020). In this light, Yara is therefore launching Action Africa : thriving farms, thriving future, an initiative with the goal to mobilize support for 250 000 smallholder farmer in seven African countries to secure. The initiative includes advocacy and partnerships, farmer connectivity and the digital solutions, and operational support including 40 000 metric tons of high quality fertilizers with zinc for improved nutrition (*Yara Fertilizer Industry Handbook*, n.d.).

In Cameroon, the first confirmed case of coronavirus was announced on March 02, 2020. To limit the spread of the virus, the government announced on March 17, 2020, a series of restrictive measures including the closure of borders, closure of schools and the banning of demonstrations gathering more than 50 people, the closure of drinking establishments, restaurants and places of recreation from 6 p.m. and restrictions on sea, rail, air and road transport (Messages, 2021). Despite the relaxation of certain restrictions, such as curfews, mobility and gathering of people, and the implementation of the

government strategy to mitigate the effects of COVID-19, which includes economic support for the informal sector, in particular in the transport, hotel/catering and retail sectors, a full recovery has not yet been achieved (Food & Analysis, 2020). According to key indicators, with respect to a study realised by the HCR in September 2020, 85% of refugees' households in the East and Adamawa regions declare to face a decrease in their food consumption due to Covid-19. Around 60% of them observe a decrease in their daily revenue because of the closure of boundaries hinder access to food and to revenue by stopping the internal flux to North Cameroon and South Cameroon and cross-border trade principally to Nguembou and Dorofi in Nigeria (*Covid-19 et Le Rôle Des Productions Alimentaires Locales Dans La Construction de Systèmes Alimentaires Locaux plus Résilients*, 2020). A quick analysis of the new agricultural policy's implementation in Cameroon shows that the agricultural commodities sector remains very fragile and has few incentives. The hunger riots that took place in 2008 are quite revealing of the situation. Agriculture development is based on factors of production that have low productivity (especially labour and capital). Food crop production outside of vegetable products is characterized by traditional extensive or semi-intensive systems using little or no input coupled to an aging workforce that invests little in factors of production (Reetz, 2016). Besides, land size, professional training, average annual precipitation, the use of modern technology, male household head, urban residence and the cost of fertilizer are factors positively and significantly influencing the application of fertilizer on arable land in Cameroon. In terms of policy, the government of Cameroon should increase and subsidize the supply of fertilizer to farmers given the right conditions. This is an essential booster of agricultural production in this era of food security (Tambi & Tabi, 2017).

The disruptions resulting from the COVID-19 crisis have highlighted many of the fragilities of contemporary food systems. Challenges include accessing safe, nutritious food at affordable prices when movement is restricted and markets are closed and the vulnerability of employees (in terms of health and income) across the food system. There are risks to the very survival of firms and industries, particularly micro-, small- and medium-sized enterprises, from producers, manufacturers, traders and food processors to transporters and retailers (On and Crop, 2020). Admittedly, no slowdown in international trade has yet been reported, COVID-19 induced disruptions affect the entire agri-food system, impacting both supply and demand channels at different points in time. The impacts affect all components of the agri-food system, from primary supply to processing, trade to national and international logistics systems, and intermediate and final demand. World Bank, FAO, OECD estimate that international trade is expected to decline by between 13% and 33% (Nations & Partnerships, 2020). These falls are explained by reduction in goods production during the containment period, but also by the risks of stock retention by producing countries to cope with any resumption of the pandemic. Thus, imports of industrialized and unprocessed products could tighten globally and particularly in and will contribute to increased supply chain disruptions. The pandemic has affected factor markets, such as labour, capital, and intermediate inputs of production (Moseley et al., 2020).

Because food is a basic necessity, the level of food demand should be affected less by the crisis than the demand for other goods and services. However, there has been a major shift in the structure of demand, with a collapse in demand from restaurants, hotels and catering, the closure of open markets, and a surge in demand from supermarkets (Chain, 2020).

Meeting the world's escalating food needs cannot be achieved without fertilizers. Without fertilizer, the world would produce only about half as much staple foods and more forested lands would have to



be put into production. Inorganic fertilizer plays a critical role in the world's food security. It cannot be replaced by organic source although where available, organic nutrient sources should be utilized but fertilizer must be used efficiently and effectively. The 4Rs;right source, right rate, right time, and right place are the underpinning principles of fertilizer management and can be adapted to all cropping systems to ensure productivity is optimized (Morris et al., 2007).

Despite its agricultural resources, Africa is a net importer of agricultural and food products, with ten basic foods making up 66 per cent (US\$46 billion) of total African food imports. (Afrique, 2020). More than 80 percent of rural population rely on subsistence farming in West and Central Africa. The 2020 off-season harvests should be reaching markets and providing substantial incomes of stallholder farmer. However, market closure, restriction on internal and cross borders movement limit markets access. If the above-mentioned restrictions continue, farmers will not have access to market to buy good quality seeds and fertilizers (Pacific et al., n.d.). As many African countries continue to enforce strict directives to combat the spread of the virus, little attention has been put on the effects of the lockdown directives on the people's ability to feed themselves and the resultant outcry from majorly the urban poor has prompted many governments to think about emergency food relief provisions, some of which have turned into huge corruption scandals and supply of low quality food (Brenton & Chemutai, 2020).

Fertilizer production and distribution systems in Africa are still weak even after implementation of the 2006 Abuja Declaration. Constraints hindering production, trade, distribution and consumption of fertilizers in Africa can be grouped into marketing and technical constraints, marketing constraints, these are constraints related to market development and infrastructural constraints. The former include uncertain policy environment, inadequate human capital, limited access to finance, lack of market information; weak and ineffective regulatory frameworks/ systems; limited access to finance; size of commodity markets; and high fertilizer retail prices(Carreras et al., 2020). Fertilizer distribution and use in Africa are also hindered by a lack of farmer knowledge and farmer extension services, nonresponsive soils, climate change, and other risks. Numerous ports have further started to put health inspections in place and could proceed to require more cumbersome procedures such as a disinfection of vessels, causing delays and potentially supply chain hiccups as well as because of the vulnerability identified in West African supply chains(Heffer & Prud'homme, 2016). According to WFP's corporate impact risk analysis exercise, Western and Central Africa is a major hotspot with regards to WFP operations given that much of the food needs are imported into various landlocked countries through a few crucial corridors (Douala, Lomé, Cotonou) (M & Chain, 2020).

The COVID-19 pandemic is capable of affecting food systems directly via its impact on food supply and demand, and indirectly through a fall in total purchasing power of Cameroonians(Food & Analysis, 2020). Greater impact is felt in the capacity to produce and distribute food given the 13 measures proposed by the Head of State since March 16, 2020, which restrict the movement of food producers and vendors. Given that this pandemic coincides with the farming season, food supply is most likely going to be affected since few farmers can work as usual. Consequently, the economy is likely going to experience food shortages and price hikes in the months ahead (Numbers, 2021).

Mitigation effects of COVID-19 if prolonged may create a situation where imported goods will increase in price due to the factors explained earlier. This situation will make people to turn to local agricultural products, which will have an effect in the local mineral fertilizer demand to increase or boost the production to meet market demand. Surpluses on the market may occur that will decrease the prices of certain products and hence play on mineral fertilizer demand. The strain to supply can be port

restrictions or other mitigation measured related to mineral fertilizer transportation. The disruptions on the farm inputs is real, thus the main objective of this research study is to investigate on the implications of the outbreak of Covid-19 pandemic on the supply of mineral fertilizers in the Menoua division. Specifically it is aimed at : (1) identifying the drivers of the supply of mineral Fertilizers in Menoua Division, (2) verify the quantity of mineral fertilizers supplied before and during the Covid-19 pandemic crisis and to identify the strategies adopted by mineral fertilizer distributors due to Covid-19.

## 2. LITERATURE REVIEW

World fertilizer consumption increased steadily between 2000/01 and 2007/08, by 23%, rising from 137.0 to 168.4 teragrams (Tg) of nutrients (N+P<sub>2</sub>O<sub>5</sub>+K<sub>2</sub>O). During the same period, global N fertilizer consumption rose by 23%, from 82.1 to 100.8 Tg N. In 2008/09, world consumption contracted by 8%, to 155.4 Tg nutrients, due to the economic downturn and financial crisis. Nitrogen consumption was much less impacted (2%) than that of phosphate (P) and potassium (K), which fell by 12% and 20%, respectively. Global demand started to rebound in 2009/10, to reach 182.3 Tg nutrients by 2013/14, i.e. a 17% increase over this five-year period (Patrick Heffer and Michel Prud'homme, 2016). The main opportunities in increasing production are (1) to expand arable land use or (2) to increase yields on land currently in production. The potential for putting new land into production is limited, and if new lands are available these are often less productive. The need will probably be met by a combination of both approaches, but meeting future food needs with increased crop production through greater yields on existing farmland is a more favorable scenario (IFA, 2016). Cereal production accounts for about 50% of world fertilizer use. Globally, commercial fertilizer has been the major pathway of nutrient addition, more than doubling the quantities of new N and P entering the terrestrial biosphere since the 1970s. Of the gains in crop production worldwide, about half has been attributed to additional use of fertilizer. About 70% of global fertilizer consumption is in developing countries, and has been growing since the Green Revolution (IFA, 2016). Reflecting the smaller drop in 2008/09, N fertilizer consumption grew more modestly (+12%) during that period, to 110.4 Tg N. Between 2000/01 and 2013/14, aggregate world fertilizer consumption rose by 33%. Potash consumption recorded the strongest growth (+39% to 30.6 Tg K<sub>2</sub>O), followed by N (+35%, to 110.4 Tg N) and P (+26%, to 41.2 Tg P<sub>2</sub>O<sub>5</sub>), reflecting progressive rebalancing of the N:K ratio (Patrick Heffer and Michel Prud'homme, 2016).

The global total nutrient capacity (N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O) was 285.15 million tonnes in 2015, out of which the total supply was 245.77 million tonnes. During 2016, the total capacity is expected to increase by 3.7 percent and supply to grow by 1.7 percent. Over the following four years to 2020, global capacity and production of fertilizers are expected to increase further. The table below shows estimated world supply of ammonia, phosphoric acid and potash from 2015 to 2020. Between 2000/01 and 2013/14, 83% of the increase in world fertilizer consumption came from developing countries. East Asia and South Asia were the two key drivers, accounting together for 70% of the global expansion. During that 13-year period, N fertilizer consumption rose by 12.9 Tg N in East Asia (+44%) and by 6.9 Tg N in South Asia (+48%). Volume increases were much more modest in the rest of the world. In relative terms, the strongest expansion was observed in Eastern Europe & Central Asia (+84%) reflecting a progressive rebound of the regional market following the collapse of the Former Soviet Union. Western & Central Europe is the only region that witnessed a market contraction (2%) during that period owing to significant improvements in N use efficiency and increasing manure-N recycling. In the rest of the world, N fertilizer consumption evolved more modestly (IFA, 2016),



In its fertilizer outlook to 2019, FAO (2016) sees similar trends. World ammonia supply would increase by 11% between 2015 and 2019, to reach 171 Tg N. During the same period, the world potential Nitrogen surplus is projected to grow from 10 to 15 Tg N. At the regional level, the potential Nitrogen surpluses are forecast to further increase in Eastern Europe & Central Asia and Africa, while the potential deficit would continue to expand in South Asia. In contrast, the Nitrogen deficit in North America would sharply decline, and East Asia would transition from a modest surplus to a modest deficit. Balances are seen remaining relatively stable in all the other regions (IFA, 2016).

According to projections, world food production will have to increase by 50 percent (over 2012 levels) by 2050. This increase will need to be achieved with the same or fewer inputs under conditions of widespread land degradation, increasing competition for both land and water and the uncertainties of climate change. This is the premise for FAO's work aimed at enabling farmers' transition to sustainable crop production intensification and diversification (Haldar and Sethi, 2020). FAO strengthens the institutional and human capacities of Member Countries – through a combination of standard setting, policies and regulations on the one hand and field level operational activities on the other. It does so using the following pillars of sustainable crop production intensification : farming systems, soil health, crops and varieties, water management, plant protection and the enabling policies and institutions. The disruptions to these activities caused by the COVID-19 pandemic, coupled with the ongoing stresses from transboundary pests and diseases (in particular the current desert locust upsurge) and the increasing frequency and intensification of erratic weather events due to climate change, have considerable short-, medium- and long-term consequences (Ilinova et al., 2021b). The prevalence of resource poor smallholder farmers, significant yield gaps, and suboptimal institutions and enabling policy regimes characterize the crop production systems of developing Member Countries. These are the very systems that are the most vulnerable to the effects of this pandemic (FAO, 2020).

The immediate, or short-term, impacts of the COVID-19 pandemic on sustainable crop production systems derive from the near universal response of governments to impose lockdowns in countries. This has resulted in the inability of farmers, farm labourers, farm service providers, extension officers, input suppliers, processors and other various actors in the food system to perform their tasks. These constraints may manifest themselves in the failure to plant crops in a timely manner, or to use the optimal quality and quantities of inputs needed (such as seeds, fertilizers, pesticides), to carry out varied cultural practices, and harvest and post-harvest activities. The effect of this is that the expected crop produce is not readily available to those who need it where and when it is needed. While some may experience temporary setbacks from which production systems may recover relatively easily, the effects on more vulnerable smallholder farmers will be long-lasting (FAO, 2020).

In the medium term, the impacts of the disruptions will be felt in the scarcity of inputs. For instance, the failure to plant or harvest at the right times or to conduct necessary field inspections may result in a lack of quality assured seeds. This scarcity may also be replicated with other inputs if their production has been disrupted or input-related businesses have gone under. The COVID-19 pandemic will probably affect the global fertilizer industry in the short and medium term. In addition to the effects arising from the difficulty of access to fertilizers, the volatility of oil prices, and the economic slowdown, with recession in certain key markets, the fertilizer industry will have to deal with widespread disruption of transportation, labor shortages, trade restrictions, evidence of a new swine fever, and new restrictions on maritime emissions. The lockdown affected its imports of raw materials, production in fertilizer factories, the export of fertilizer products, and even domestic

consumption. A comparable situation occurred in India and the USA (Morris et al., 2007). The slowdown in demand for commodities means their prices cannot be kept at attractive levels for exporter countries. Nonetheless, food commodity prices suffer less than those of industrial commodities. Fertilizer prices also remain at low and moderate levels, especially in the early 2020s. As such, the impacts of the availability and cost of the main agricultural inputs (like fertilizers) in the early years are not so significant in Brazil, seasonal effects aside. However, food commodity producers who see their currencies lose value in this context of low economic growth are harder hit by the cost of agricultural inputs (especially for internal consumption). In this same scenario, the global availability of credit becomes an obstacle to major investments and new projects, constraining the restructuring of different global value chains, such as fertilizers. Furthermore, this limited availability of credit affects farming, reducing demand for NPK fertilizers (Veillard et al., 2020).

Improvements in agricultural productivity have a powerful knock-on effect to the rest of the economy by: creating jobs in neighbouring sectors such as food processing and input supply as well as directly in farming; increasing the supply of affordable food; and stimulating and supporting wider economic growth and development. To the extent that technology raises agricultural productivity, it should be the major factor in creating these positive effects. Thirtle et al (2003) explored the relationship between agricultural productivity and poverty. Thus, Lipton (2001) argues that no other sector than agriculture offers the same possibilities to create employment and lift people out of poverty (Les, 2020). Indeed, the adoption of new technologies and subsequent increases in agricultural productivity in different parts of the world explain, in large part, the regional differences in the reduction of poverty over the last few decades. Nkamleu et al (2003) calculate changes in agricultural productivity in 10 countries in sub-Saharan African countries between 1972 and 1999. In contrast with significant progress in Asia, Nkamleu et al found that, on average, total factor productivity decreased in that period by 0.2% annually. They suggest that, whilst efficiency was constant, technological change was the main cause of the failure of total factor productivity to increase (Kitchen and al., 2008).

Increased agricultural productivity usually comes from effective adoption of improved technologies. It is assumed that a combination of all the production factors and conditions in a given farm condition results in a given yield, so that if all factors are in optimum especially fertilizers : types and rates, methods and modes of application (broadcasting, deep placement, foliar spray, fertigation, band placement etc.), soil conditions, variety, irrigation water, yield will be increased. Among all factors, in fact, the contribution of fertilizers to increased yield is perhaps the greatest. The development of fertilizer use had an influence on the practice of advanced technology in agricultural production systems. Fertilizer use has not only provided additional nutrients and energy to the cropping systems, but has supported a continuous increase in annual crop production. Research has shown that fertilizer input contributes about 40–50% of total yield increase for most crops. Combining fertilizer use with advanced science and technology, improved management in crop production, and a favorable policy environment to support farmers, facing pressure to both increase yields and improve the environment, a new strategy is required to bring attention on improving fertilizer use efficiency (Balafoutis et al., n.d.).

Farmers have traditionally relied on two main practices to supply nutrients to root zones : manuring and burning. Inorganic fertilisers allowed the separation of crop production from animal husbandry, restored fertility to depleted soils, and contributed to the development of livestock production based on grain and other feed ingredients. Research into the specific needs of particular crop-soil combinations and livestock have led over the years to more scientifically formulated fertilisers and

feeds. Wider application of technologies that administer fertilisers only at the times and in the amounts needed can be expected to increase crop yields further while reducing leaching and runoff of nutrients. Supply response reactions to changing relative prices are usually analysed from the perspective of substituting fertilisers for reduced availability of nutrients from natural sources due to soil loss. Alternative approaches treat natural soil fertility as a function of capital and/or labour investment in conservation measures. Both factors tend to be scarce, especially in African agriculture. Soil mining practices appear to be a recurrent phenomenon and promotion of sustainable land use requires complementary strategies for selective intensification and productivity-enhancing soil conservation measures (OECD, 2001).

### 3.METHODOLOGY

Considering the choice of the zone of study, about one in every three urban Cameroonians lives in the two major regions : the centre (where the capital Yaoundé is located) and Littoral (where Douala the economic capital and major port city are located). Other smaller urban areas like the West Region (where Dschang the administrative centre of the Menoua Division) the administrative serve as regional administrative and economic centres across Cameroon's 10 diverse regions. While research on urban social issues in Cameroon has largely focused on Yaoundé, Douala and their surroundings, secondary cities like Dschang, Fongo-Tongo, Penka-Michel, Fokoue, Santchou and Nkong-Ni (Menoua Sub-Divisions), merit special attention given their rapid change and lack of local-level social welfare data. Agriculture is the main economic activity in the Menoua Division and is practiced in both rural and peri-urban areas of the area. Dschang large markets are among the most important in the division ; as such, majority of distributors are based in Dschang and Penka-Michel from which part of the primary data has been collected.

Considering the socio-economic activities of the Menoua division, part of the written historical record of the Menoua division begins with a visit in 1895 by a German government representative called Eugen Zintgraff (UCCC, 2020). Dschang became an administrative and civil city in 1903 and, after the first world war, came under French control after Cameroon was split between the British and the French. Dschang became the capital of the Bamiléké region in 1920 but at independence in 1960 was replaced as regional capital by Bafoussam. The administrative census of 1956 listed Dschang as having a population of 3,000 people. While under colonial rule, Dschang played an important role in the provision of commercial, educational, and administrative facilities to the adjacent rural areas of FongoNdeng, Fotetsa, Fossong-Wentcheng, and Fontem. Dschang is now the administrative centre of the Menoua Division in the West region.

Talking about the administrative centre, Dschang has a particularly dynamic demography as its growth is mainly due to the presence of the University of Dschang, which was established in 1994 and enrolls thousands of new graduate and undergraduate students annually. The University of Dschang is part of the national system of tertiary education and as such many civil servants are posted to Dschang from other parts of the country, contributing to a highly mobile and nationally connected population. The third General Census of Population and Housing in 2005 (the most up to date source of local population figures) lists the Dschang municipality's total population at 120,207 (Government of Cameroon, 2005). Extrapolating based on the rate of increase of Cameroon's urban population used in the World Bank (2020b) calculations, the 2020 population is about 200,000 and in 2040 the population will be close to 400,000 (AFSUN, 2020). Rural agriculture involves more than 70% of the Division's working population (UCCC, 2020). Production systems are still largely hand made and crops are mixed. In the same field, one can find both food and perennial crops, including Arabica coffee,

plantains, beans, maize, cassava, cocoyams and taro. The growing of food crops mostly vegetables like tomatoes and cabbage – is increasing in peri-urban wetland areas along streams and in valleys. Production of off-season corn has also increased (AFSUN, 2020).

The Menoua division is close to the border between Cameroon's Anglophone and Francophone regions and is therefore affected by the civil war and nearby military violence. There are an estimated 679,000 internally displaced people (IDP) as of January 2020 (ACAPS, 2020). While the exact number in the Menoua division is not known, anecdotal evidence during the survey implementation in December 2017 suggested that there were many displaced people. A large share of the displaced people were from the neighbouring Lebialem division, which shares a lot of cultural similarities with Dschang and there had always been mobility between the two areas prior to the current political instability. Local households absorb many of these people, for example when children are sent from conflict areas to attend school in a peaceful area and stay with relatives. The presence of IDPs likely contributed to the high level of household food insecurity in Dschang by stretching the resources of local households hosting guests and by the introduction of vulnerable displaced households (Board and Session, 2020).

### ***Data Setting***

The data collection has been done through documentary research, online and library thesis defense, articles, scientific books, scientific journals and on the internet. The data collected showed in first the effects of covid-19 mitigation measures in the world, in Africa and in Cameroon, over issues like poverty, livelihoods, food security and availability. It also showed effects of C19MM on some determinants of supply of goods with its consequence of the availability of mineral fertilizers on the market. Mineral fertilizers help in sustaining agriculture during crisis as food is a necessity. Considering the primary data collection, the data was collected from Yara Cameroon and the sample distributors enquired. These data concerns obtained by using different methods. The sampling population studied is made up distributors present in the Menoua division and well as Yara head quarters. Based on a cluster approach, convenience and judgement, a sample of 61 distributors was selected in the 6 sub-divisions of the Menoua division (Dschang = 30; Penka-Michel = 10; Nkong-Ni = 6; Fokoue = 6; Santchou = 6 and Fongo-Tongo = 3).

A questionnaire (opened and closed ended) was used as main tool for the data collection. The questionnaire was piloted in order to verify any ambiguities in the questionnaire structure. The information collected concerned data about: (1) the demographic profile and socio-economic characteristics of the distributors, (2) the drivers that determine the supply of mineral fertilizers in the Menoua division, (3) the fluctuation in the quantities of mineral fertilizers they received from various mineral fertilizer industries before and after the Covid-19 crisis (C19C) and (4) their adaptation strategies to cope against the C19C. The survey was done to collect the information from the target sample. A questionnaire was given to 61 mineral fertilizer distributors in the 6 sub-divisions of Menoua. The survey has been done on a period of 2 weeks, from the 28 April to 19 May. Due to the C19MM and the limited time distributors had, it was quite difficult to reach all of them, but all have been reached, hence a survey rate of 100% accomplished. This has been done mainly through: Observation structured survey methods and contact method including telephone interviewing and personal individual interviewing.

Considering the limitation of the study, apart from the global pandemic of C19 implications on the overall system, Cameroon's political tensions have reduced the quality of population data collected by the government, with one analyst noting that the five year delay in releasing the 2005 census data “did

not speak of a state interested in producing statistical data about its population” (Board and Session, 2020). Claims that the minority Anglophone population was underestimated in order to divert resources from these regions heightened tensions and skepticism about the veracity of the data. Most population figures are based on projections and municipal scale figures are not available. There is little way of knowing the characteristics of the local population, for example in terms of Anglophone or Francophone residents (Services, 2021). Similar to the lack of statistical data is the lack of secondary literature pertaining to the Menoua division. There are few studies focused on urban issues and none on food security in the Menoua Division. This means that certain surprising findings, for example with regards to the self-identification of households without “heads,” cannot be adequately explained with the survey data on its own. This thesis is therefore pioneering and in many ways serves to open up more questions for further investigation than resolve questions. A final point in need of highlighting is the geography of the Division itself. The urban core is very small and it is surrounded by densely populated periurban settlements. Beyond the most proximate periurban villages and the main tarmac road connecting the city to Douala in the south and Bafoussam in the east, about half the population of the division lives in rural areas that are not easy to have access to.

#### 4. RESULT AND DISCUSSIONS

##### *Socio-economic characteristics of Respondents*

It is important to know the demographic profile and socio-economic characteristics of respondents because it will better give information about the type of distributors in the Menoua division as well as their characteristics that can influence the distribution of mineral fertilizers.

**Table 1: Socio-economic characteristics of Respondents**

Variable	Modality	Perc ent	Obser
Gender	Male	38	61
	Female	62	
Age group	<25	6.6	61
	25 35	26.2	
	36 45	44.2	
	46 55	14.8	
	>55	8.2	
Marital Status	Single	56	61
	Married	40	
	Divorce	4	
Level of Education	Primary	32	61
	Secondary	28	
	Higher	40	
Mineral Fertilizer distributed per day	<20	20	61
	20 40	52	
	>40	28	

Source: author

From the figure above, we can observe that majority of distributors are men. They account for 62% of the total population of distributors while women account for 38%. This is explained by the fact that the distribution task deals with cumbersome and heavy stocks that need mostly man power to overcome these burdens. In the Menoua division, mostly men take care of business. This is with respect of the statement made (Board & Session, 2020), in Cameroon, the responsibility for the various daily activities in the household (preparing meal, fetching and storing water and others) primarily relies on



women. Women spend more than men on unpaid household tasks. As a result, and because these tasks require significant daily investment, women are particularly affected by lack of access to income-generating activities.

In the figure above, it is observed that the age group of 35-45 years have the highest value of 44,30%. Followed by the age group 45-55 years (26,20%) accounting both for more experience in the management of the business. The age group of 25-35 years is represented at 14,80% while <25 years correspond to 8,23% which is explained by less experience in the business management. The lowest value was recorded in the age group >55 years with 6.60%. This corroborated with the study (Halder & Sethi, 2020), the number of older workers is expanding rapidly in Africa. Although only 5% of the population was +60 in 2000. Age affects us all, namely our physical, functional and intellectual capabilities. Age is a non-modifiable factor that will influence the lives of people who live longer. This is because in the Menoua division the business is held by people they believe are mature enough to take decisions relevant to the business performance. Younger people are usually less experienced and hence less designed to run business. Older persons are already tired by past work, they are more consultants and do not usually take part to the day-to-day running of the business.

Professional performance of top executives, particularly CEO's, as well as money managers is influenced by distractions originating in their personal life events. Because human attention is naturally limited, major life events, such as marriage or divorce, can have detrimental effects on the professional performance of a business executive, and therefore also on the firm performance (Kitchen et al., 2008). This is in accordance with our results whereby 56% of the respondent are single, 40% are married and 4% are divorced. It is explained by the fact that single are more represented to the fact that many are lost their partners or are not legally married. Thus the high level of single distributors in the Menoua division. The number of divorced is very low due to the fact that less persons are legally married and hence do not undergo all the legal procedures to be so called divorced.

It is well known that the level of education influences the performance of business firms. Thus validating the results of Norman Chiliya and al (2012) stating that the level of education of the owner impacts on the financial performance of the business is accepted. Our results showed that 40% of the distributors attained higher education, 32% attained secondary education and for the lowest value 28% attained primary education. The presence of the University of Dschang in the Menoua division and the various secondary schools present has highly contributed to increase the literacy level of the distributors. They believe that education helps in managing skills. The frequency of distribution determines the performance of firms, the higher the frequency the more performant a firm is. The efficiency and effectiveness of the logistic operations has a considerable influence not only on the business performance of manufacturers but also on the customer's perception of the quality of the products and services provided by the plant (Kahia and Iravo, 2014). The overall distribution according to daily frequency shows that the majority of distributors have 20-40 times representing 52%, followed by >40 times with 28% and <20 times with 20%. This is due to the fact that the C19P did not have the same effects over people mobility, it somehow affected the distribution of fertilizers as it reduced the mobility of customers, so they usually command their fertilizers in bulks to reduce movement that will increase other charges like transportation and handling.

#### ***The drivers of the supply of Mineral Fertilizers in Menoua Division***

The drivers determine the supply of mineral fertilizers in the Menoua division. Statistically, the 'Ordinary Least Squares (OLS)' is a method for estimating the unknown parameters in a linear regression model. This method minimizes the sum of squared vertical distances between the observed responses in the dataset, and the responses predicted by the linear approximation (Agronomy &

Sciences, 2019). The results showed that all the independent variables are significant. Hence, the dependent variables, Number of Customers, Reliability of customers, Responsiveness of customers, Experience in distribution, Access to credit, Season, Nature of land cultivated, Type of crop cultivated and Agricultural behavior of the farmer highly influence the supply of mineral fertilizers in the Menoua Division. The data collected give us more details about that.

**Table 2: The drivers of the supply of mineral Fertilizers in Menoua Division**

Variable	Estimation Strategy: OLS				
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>Dependent Variable: The supply of mineral Fertilizers</b>					
(Constant)	.484	.206	N/A	2.351	.020***
Number of Customers	.704	.080	.578	8.763	.000****
Reliability of customers	.271	.064	.299	4.251	.000****
Responsiveness of customers	.270	.105	.224	2.581	.011***
Experience in distribution	.150	.075	.130	1.994	.049***
Access to credit	.047	.067	.041	.708	.480
Season	.271	.064	.299	4.251	.000****
Nature of land cultivated		.002	.011	1.691	.041***
Type of crop cultivated		.064	.042	.810	.621
Agricultural behavior of the farmer	.484	.206	.422	2.381	.020***
R-Squared	0.821	N/A	N/A	N/A	N/A
F-Statistics	34[9; 0.000]	N/A	N/A	N/A	N/A
<b>Total</b>	<b>61</b>				

**Source :** Computed by author using SPSS (May, 2021).N/B: N/A = not applicable

The number of customers determine the performance of the business and hence the demand which in turn call for a subsequent supply to satisfy the demand with respect to the law of demand and supply that is the less the consumers, the less the supply of that distributor. The reliability of customers as well as their responsiveness correspond to their commitment to a firm, which in turn plays on the number of customers. As it concerns the experience in distribution as mentioned above, older firms tend to build good network business partners and customers and have good relationship with financial institutions. Older firms have already built a good reputation in the market; experience in the industry is the influential factor for firm success.

From the table, access to credit and Type of crop cultivated are both insignificant. Cultivated Season, Nature of land cultivated, both influence highly the Agricultural behavior of the farmer and his incentive to demand for mineral fertilizers and hence the subsequent supply of the mineral fertilizers by the distributors. For example, tomato culture is practiced in the rainy season mostly, on a soil that

will certainly require a specific quantity of mineral fertilizer and therefore will influence the consumer on which quantity of mineral fertilizers as well as the period he will need them.

**Quantity of mineral fertilizers supplied before and after the Covid-19 crisis**

The quantity of mineral fertilizers supplied before and after the C19P gives us information about the effect of the pandemic on the stock of mineral fertilizers in the Menoua Division.

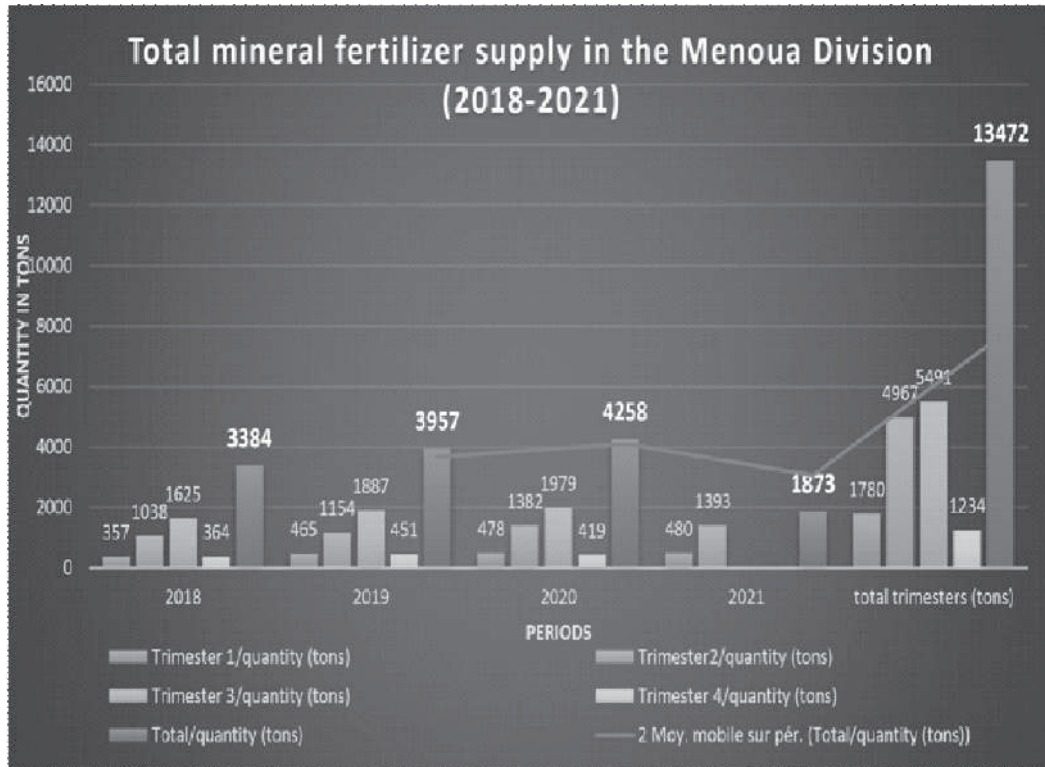


Figure 1: Quantity of mineral fertilizers supplied before and after the C19P crisis

Source: author from field survey

The results showed that more than + 2000 000 kg (2000 tons) of mineral fertilizers is supplied each year. In 2018, the total quantity supplied for all the seasons was 3384 tons, then increased of 7.81% during the C19P outbreak in 2019 thus a 3957 tons was recorded. In 2020, the C19P was at its apex, and an average increase of 3.66% was recorded thus the quantities supplied dropped to 4258 tons. In 2021, the two trimesters recorded 1809 tons and compared to the two first trimesters of 2020, a rise of 0.30% was recorded. This relies the increase in the stocks of mineral fertilizers declared In accordance with the statement, Yara is launching Action Africa: thriving farms, thriving future, an initiative with the goal to mobilize support for 250 000 smallholder farmer in seven African countries to secure.

The initiative includes advocacy and partnerships, farmer connectivity and the digital solutions, and operational support including 40 000 metric tons of high quality mineral fertilizers with zinc for improved nutrition (Yara, 2020). The average mineral fertilizer application rate in SSA has been growing, though still low, from 6kg/ha of nutrients in 2000 to about 15kg/ha in 2017. According to the International Fertilizer Association (IFA), this rate is projected to reach about 19kg/ha by 2021 still below the Abuja Declaration of 50kg/ha (AU, 2019). Producers declared that although the increase in



quantities of fertilizers, the disruptions caused by the C19P with C19MM, had an adverse impact on the mobility of persons and goods, thus a reduction in the mobility of customers (producers) to purchase the mineral fertilizers from the various distributors. Also, an increase of price was recorded. The forces of demand and supply are influenced by prices increase, thus the quantity of mineral fertilizer demanded instead reduced in response to an increase in prices. As a complement, the perception of respondents presented in figure 2 revealed the causes of changes in the trends of the quantity of mineral fertilizer supplied in the Menoua Division.

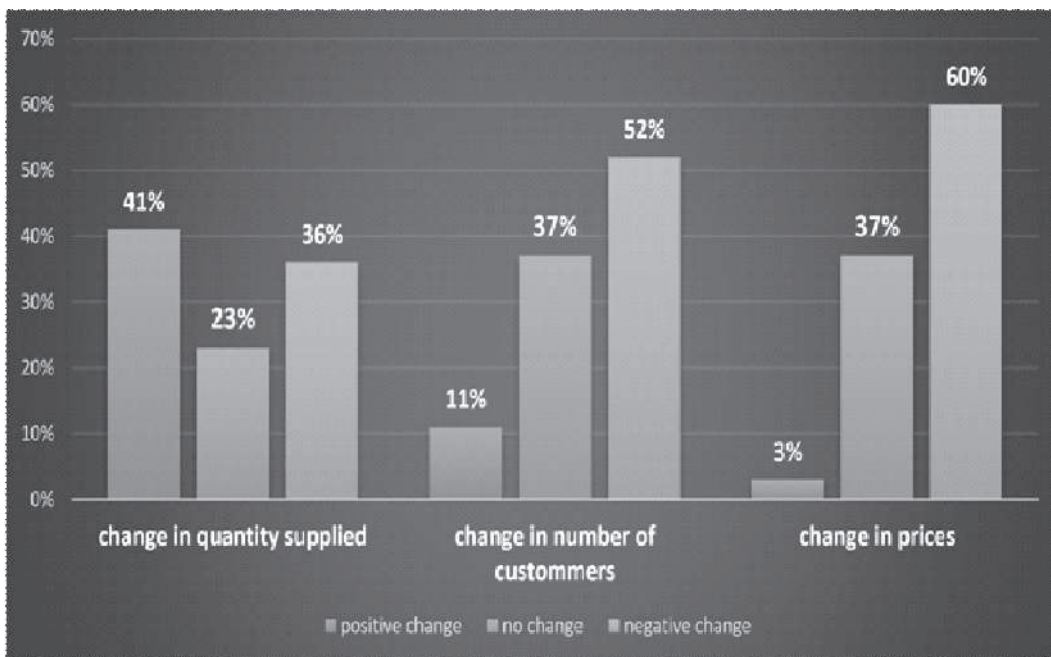


Figure 2: perception on the cause of changes in the trends of mineral fertilizers Supplied

Source: author, from field survey

We can observe from the results that, as it concerns the change in quantity supplied, we noted that a positive change of 41% was recorded, 23% accounted for no change and 36% accounted for negative change. As it concerns change in number of customers, 11% declared a positive change, 37% declared no change and 52% declared a negative change. Finally, a perception of change in price recorded 3%, 37% declared no change and for a negative change 60% were declared. Thus, this aligns with the statement, This means that on average, low-income countries are less exposed to disruptions in intermediate input supplies, as production is less reliant on their utilization (DG Agriculture, 2021) but instead the effect of the supply chain was caused by C19MM.

#### ***Sales of the major mineral fertilizers industry in the Menoua division***

The type of fertilizers sold in the Menoua Division showed that Solevo is the most represented type of fertilizers with 36%, next we have Yara Cameroon with 32%. In accordance with the statement, Yara is launching Action Africa: thriving farms, thriving future, an initiative with the goal to mobilize support for 250 000 smallholder farmer in seven African countries to secure. The initiative includes advocacy and partnerships, farmer connectivity and the digital solutions, and operational support including 40 000 metric tons of high quality fertilizers with zinc for improved nutrition (Yara

*Fertilizer Industry Handbook*, n.d.). Sam-Sam accounts for 25% in the third position, 5% for OCP and for others fertilizers it accounts for 2%.

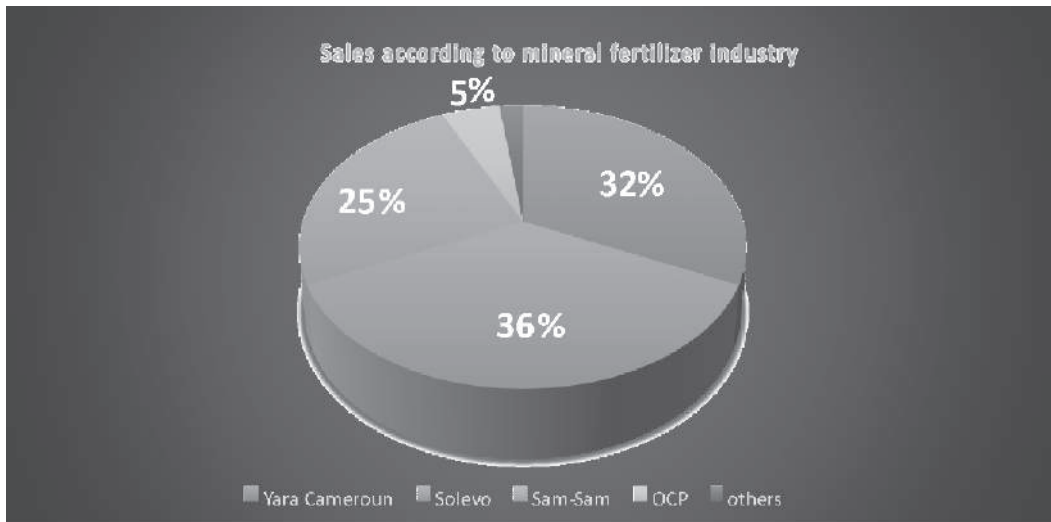


Figure 1: represented sales of the major mineral fertilizers industry in the Menoua division  
 Source: author

**The main distribution channel in the Menoua**

The different categories of the distribution channel in the Menoua can be presented as follows :

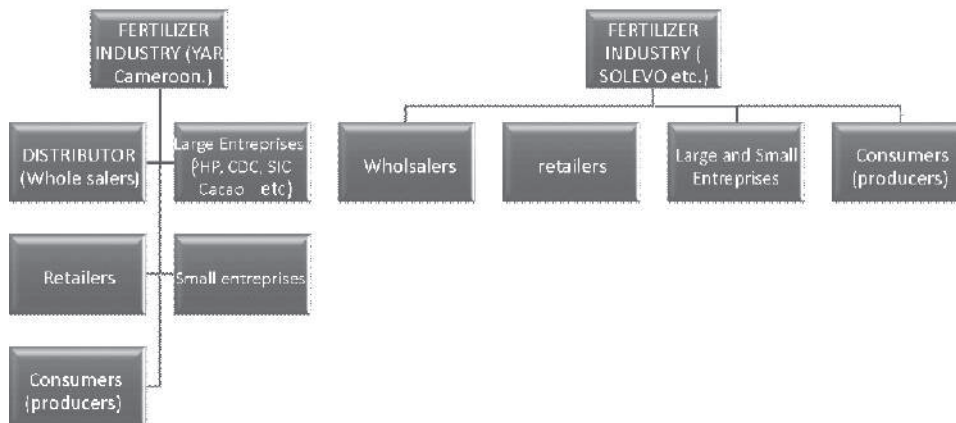


Figure 2: the main distribution channel in the Menoua Division  
 Source: author

The results showed that the distribution channel in the Menoua Division follows both an indirect and a direct supply chain pattern. The indirect pattern is going from the mineral fertilizer industry to the various wholsalers and or other large enterprises, which will channel it to the various final retailers and small enterprises who will distribute to final consumers or those producers can take it directly to the wholsalers. The direct supply chain pattern consist of a fertilizer industry supplying directly to any wholsaler, retailer large and small enterprises as well as to consumer.

As for the World leading fertilizer companies (Nutrien – Canadian Fertilizer Company formed

through the merger of PotashCorp and Agrium (Canada) in 2017; The Mosaic Company – the largest U.S. producer of potash and phosphate fertilizer; Yara International the global fertilizer company operating in regional organizational structure), according to their statements, the operation through COVID-19 remains stable and demand across the global fertilizer market remains solid. Agricultural output will need to significantly increase to accommodate the growing population. Most of the increase is expected to come from producing more on existing farmland (i.e., intensification), although some new farmland will likely be needed (Ilinova et al., 2021a). Boosting crop yields and closing the gap between actual and attainable yield can be achieved by the implementation and advancement of numerous practices and technologies, including nutrient management practices and fertilizer technologies (Halder & Sethi, 2020). An evaluation of long-term studies has shown that the average percent of yield attributable to fertilizer inputs generally ranged from about 40 to 60% in temperate climates (USA and England), and tended to be much higher in the tropics. All things considered, inorganic fertilizer plays a critical role in world food security (Das et al., 2015).

#### ***Strategies adopted by mineral fertilizer distributors to cope with Covid-19***

These strategies are important in the coping capacity in order to be resilient against shocks like the C19P. The results shows that on the 61 observations (distributors), the highest coping capacity was recorded with the strategy of using MoMo and bank account payment with 90.16%. Then we had use of intensified telephone communication services to arrange business deals with 78.68%. As it concerned the supply based on command, the coping capacity was of 77%. 68.85% was attributed to Use of personal mobile delivery service (personal car). Then based on home delivery services, the coping capacity was 62.29%. Use of snowball marketing system to reach out to new farmers accounted for 59%. 54% accounted for diversifying the business.

**Table 3: Strategies adopted by mineral fertilizer distributors to cope with Covid-19**

Variable	Obs	C	NC	%C	%NC
Supply based on command	61	47	14	77.0	33.0
Home delivery services	61	38	23	62.29	37.71
Use of personal mobile delivery service	61	42	19	68.85	31.14
Use of Momo (Mobile Money) and bank account payment	61	55	6	90.16	9.83
Use of intensified telephone communication services to arrange business deals	61	48	13	78.68	21.32
Use of snowball marketing system to reach out to new farmers	61	36	25	59	41
Diversifying the business	61	33	28	54	46
Ready to Supply at any time	61	28	33	45.9	54.1

*Source: author from field survey; C= coping, NC= non coping*

Finally, as it concerns ready to supply at any time, the noncoping capacity was at its highest value with 54.1%. This holds with the study about human capital, human capital is viewed mostly as the capacity to adapt. According to this approach, human capital is especially useful in dealing with “disequilibrium” situations, or more generally, with situations in which there is a changing environment, and workers have to adapt to this (Rajabhat, 2017).

## 5. CONCLUSION

The aim of the study was to investigate on the implications of the outbreak of the C19P on the supply of fertilizers in the Menoua Division. The C19P disrupted many economies functioning and hence the agricultural sector that should be declared as priority suffered from restrictions implemented by many governments in order to try to mitigate the effects of the pandemic on their countries. Mineral fertilizers play a great role in agricultural production as it is known that without mineral fertilizers, the world could only produce half of its agricultural products. Since most African countries rely mostly on imports, the disturbances created by the C19P on the international trade could cause a heavy toll on mineral fertilizers imports and in a long run, agricultural production. Thus the aim of this research to verify the effects of the pandemic on the supply of mineral fertilizers in the Menoua Division. 3 objectives were thus formulated to try to answer to this question. The results showed that ;

The results revealed about the gender 62% of male and 38% of female that are mostly single with 56% and divorced with 4%. Their literacy level was mostly represented by higher educational level with 40% and primary level education 28%, with ages of 35-45 years represented at 32.80% and >55 years at 11.43%. We hence have most of the distributors that are male, that are single, with a higher educational level and aged 35-45 years. The drivers that determine the supply of mineral fertilizers in the Menoua division are highly significant at sig <5%. We have, the number of customers, reliability of customers, responsiveness of customers, experience in the distribution, the season, nature of land cultivated and the agricultural behaviour of the farmers. The quantity of mineral fertilisers supplied before and during the C19P are, the quantity of mineral fertilizers supplied in 2018 was 3384 tons, in 2019 3957 tons, in 2020 4253 tons (with the first 2 trimesters having 1860 tons) and in 2021 (only the 2 first semesters could be computed) we had 1873 tons showing an increase in the quantities.

Finally, the strategies adopted by the mineral fertilizers distributors reduce the effect of the pandemic on their activities. We could find, using MoMo and bank account payment, use of intensified telephone communication services to arrange business deals, supply based on command, use of personal mobile delivery service (personal car), home delivery services, use of snowball marketing system to reach out to new farmers and ready to supply at any time.

The study revealed that the pandemic had an effect on the supply chain of mineral fertilizers distribution in Cameroon. Port restrictions created delivery or supply delays, which had an effect on the availability of some fertilizers, but the overall quantity did not decrease due to stocks that were released in order to balance the deficit that could be caused by the pandemic.

Nevertheless, it is too early to know the full impact of COVID-19 on Africa. According to the UN (2020), to date the experience has been varied. There are causes for concern, but also reasons for hope. Early estimates were pessimistic regarding the pandemic's impact on the continent. However, the relatively low numbers of COVID-19 cases reported thus far have raised hopes that African countries may be spared the worst of the pandemic. Many Africans risk becoming food insecure because of this crisis. However, the predicted favorable weather conditions and the projected increase in government support for inputs, intended to mitigate the impact of COVID-19 will allow agricultural activities to remain at average or slightly higher than average levels beginning in March 2021, other than in conflict zones where the agricultural population remains displaced with limited access (Covid-19 2020).

In terms of policy, Mineral fertilizers play a vital role in food security and agricultural production ; hence, it has great importance in the GDP and international exchange. Policy reforms are vital to stimulate private investment in and commercial financing of agricultural input and output sector. The scope of reducing cost through joint procurement, joint investment and regional market expansion

need to be tested. The government has to invest in transport, communication and storage infrastructures to reduce mineral fertilizer costs, increase farmers share of output prices, and reliability of service.

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## QUALITY OF WORK LIFE (QWL): A SYSTEMATIC LITERATURE REVIEW USING PARETO ANALYSIS

Dr. Anil Kumar Gope\* Dr. Wasif Ali\*\*

### ABSTRACT

*Quality of work life is becoming an increasingly popular concept in recent times. It basically talks about the methods in which an organization can ensure the holistic well-being of its employees instead of just focusing on work related aspects. Human Resources (HR) have always been central to organization. Recently, they have acquired an even more central role in building sustainable competitive advantage for the corporation. Hence, QWL is being used these days by organizations as a strategic tool to attract, motivate and retain the talent. Therefore, the present study aims to review and illuminate the status of QWL research in last three decades (1990-2020) and identify important factors leading to a better QWL using Pareto Analysis technique. A systematic literature review was done by going through various online journal databases. For selecting the studies various database of online journals were searched such as Emerald Insight, Elsevier's Science Direct, Google Scholar, Scopus, Taylor & Francis., Inderscience Publishers and other open-source journals. After reviewing the literature 45 articles were identified and selected for research purpose and reported in details with tabular form. From these studies various factors having same meaning and sense were grouped into 16 factors and renamed using semantic/linguistic techniques. Then with the help Pareto Analysis Technique these 16 (sixteen) factors were segregated into two parts i.e., first nine factors having 80 percent cumulative percentage as 'Vital Few' and rest of seven factors having 20 percent cumulative percentage as 'Useful Many'. Taking 'Vital Few' factors, a conceptual model has also been proposed by the researchers to demonstrate the significance of these factors in predicting QWL. At last conclusion, implications and limitation has been discussed in the light of study results.*

**Key Words:** *Quality of Work Life (QWL), Pareto Analysis, Healthcare, Vital Few, Useful Many.*

**Paper Type** □ Review Article

### 1. MOTIVATION AND OBJECTIVES OF THE STUDY

The success of any organization is highly dependent on how it attracts talents, motivates and retains its workforce. Further, the efficiency of organization depends on its work environment, and degree of employee satisfaction. Therefore, human resource department needs to pay more attention to the aspiration of every employee and should evolve strategies to constantly discover their true potential. One of the core objectives of the organization is to increase the efficiency by getting optimized

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\* Assistant Professor, Department of Commerce, Jai Prakash University, Chapra, Bihar, (INDIA)  
Email: [anil18bhu@gmail.com](mailto:anil18bhu@gmail.com), Mob.: +91 9580307990

\*\* Assistant Professor, Department of Applied Economics, Faculty of Commerce, Shri Jai Narain Misra Post Graduate College, Lucknow 226001, India  
Email: [wasifali098@gmail.com](mailto:wasifali098@gmail.com), Mob.: +91 9307278131

productivity at the minimum cost. Therefore, it is essential for the organization to adopt a strategy to improve the employee's quality of work life (QWL) for satisfying both the organizational objectives as well as employee needs. Quality of work life has recently emerged as an important area of concern in modern human resource practices and receiving widespread attention in more and more organizations, because of its contribution towards job satisfaction, productivity and organization effectiveness. The concept of QWL is based on the *assumption* that a job is more than just a job. It is the center of a person's life. Quality of work life (QWL) is a philosophy, a set of principles, which holds that, people are the most important resource in the organization as they are trustworthy, responsible and capable of making valuable contribution and they should be treated with dignity and respect (Straw & Heckscher, 1984). Quality of work life has different meaning of different peoples; some consider it industrial democracy or increased worker's participation in decision making process. For managers and administrator, the term denotes improvement in the psychological aspect of work to improve productivity. Union and worker interpret it as more equitable sharing of profit, healthy and humane working condition and job security. Others view it as improving social relationship at workplace through autonomous work group. Robert H. Guest (1979) a noted behavioural scientist talks about feelings of an employee about his work while defining Quality of Work Life. He further points out the effect of Quality of Work Life on person's life. According to him "Quality of Work Life is a generic phrase that covers a person's feelings about every dimension of work including economic rewards and benefits, security, working condition, organizational and interpersonal relation and its intrinsic meaning in person's life". It aims is achieving an effective work environment that meets with organizational and personal needs and promotes health, wellbeing, job security, job satisfaction, competency development and balance between work and non-work life. It takes in to consideration the total values both material and non-material, attained by an employee throughout his/her career life (Jahanbani et al. 2019; Agarwal et al. 2017; Naghibi et al. 2017; Singh et al., 2015; Taher, 2013).

The scholars, before taking up this research work, have made an attempt to review the studies that have been published in the last three decades (1990-2020) in the field of quality of work life. The review of national and international literature on the subject reveals that, there is much research, both conceptual and empirical. Besides knowing the fact that there is plethora of literature reviews of QWL available, the authors also realized the need for a systematic literature review on QWL. The scholars observed that in the last three decades, previous scholars focused the study of QWL in relation to job satisfaction, job performance and organizational commitment (Efrat et al., 1991; Haque, 1992; Igbaria and Greenhaus 1992; Hossain and Islam 1999; Normala, 2010), motivation, competitive advantage (Rao, M. G. 1993; Das and Gope, 2013), growth and profitability (Lau, 2000), health and wellbeing, job security, competency development, work and non-work life balance (Maimunah et al. 2008) organizational excellence and efficiency (Dayana, 2017). Further, most of the studies are related to QWL practices in academics, agro industry, nursing and healthcare, manufacturing, MSME, BPO and IT sector etc (AlMuftah and Lafi, 2011; Connel, 2009; Jahanbani et al. 2019; Agarwal et al. 2017; Naghibi et al. 2017; Singh et al., 2015; Sarah and Saad, 2008). Therefore, the present study aims to review and illuminate the status of QWL research in last three decades and enumerate the various important factors of QWL practices across the organizations using Pareto Analysis technique.

## 2. FRAMEWORK FOR THE STUDY

The present review paper is divided into four parts: the first part represents the methodology adopted in the study; in the second part, systematic literature review has been conducted; in the third section a

quality tool Pareto Analysis is applied to identify important factors of QWL practices and in the fourth part the scholars have proposed a conceptual model of QWL based on analysis and discussion of systematic literature review.

### 3. RESEARCH METHODOLOGY

#### 3.1. Online Database Sources of Literature

In order to explore the existing literature on Quality of Work Life (QWL), we conducted an organized electronic search. For selecting the studies various database of online journals were searched such as Emerald Insight, Elsevier's Science Direct, Google Scholar, Scopus, Taylor & Francis, Inderscience Publishers and other open source journals.

#### 3.2. Eligibility Criteria for selection of Papers

It was not possible to go through among the all studies available in the above online databases. Hence we have developed a criteria to short list the studies which are: (a) articles which were published during 1990 to 2020 has been selected for the present study only (b) Dissertation, conference proceedings, book chapters and Ph.D. thesis has not been considered for the study (c) key words such as Quality of work Life, QWL, dimensions of QWL, QWL practices, antecedents and consequences of QWL, relationship of QWL with employee wellbeing, job satisfaction, employee commitment, business performance, impacts of QWL etc. has been used to find the articles and research papers and (d) We found a total of one hundred fifty (150) articles published in English language.

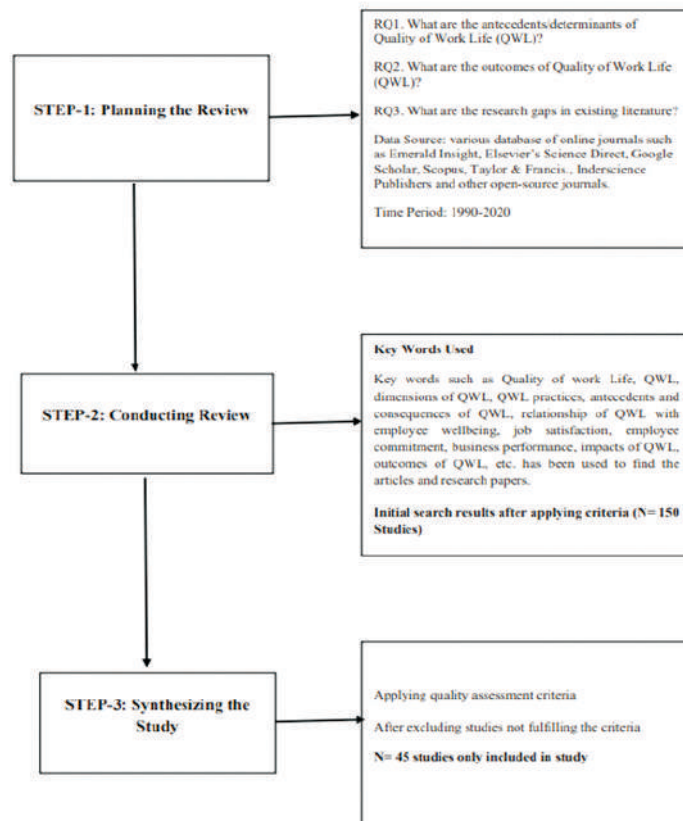


Figure 1: Data Extraction Process

Source: Author's Own Compilation



### 3.3. Systematic Review of Literature

Since the core objective of this study is to review the studies on QWL in last three decades (1990-2020) and to identify its predicting factors, we have considered both empirical and conceptual articles published during the above mentioned period. The final list of selected forty five (45) articles has been presented in a tabular form in below table number 1.

**Table 1: Systematic Literature Review of QWL Concept**

SN	Author(s)	Year	Area	Study Type	Antecedents of QWL
1	Baba and Jamal	1991	Healthcare	Empirical	Job Satisfaction, Job involvement, Work role conflict, Work overload, Job Stress
2	Haque	1992	Manufacturing Sector	Empirical	Supervision Quality
3	Shani et al.	1992	Academics	Conceptual	Job Satisfaction, Challenging Job, Clarity of Goals and Policies, Opportunity for Progress, Working Relationship with Superiors and Peers Work Enjoyment, Tangible Rewards, Learning Opportunity Interesting and Meaningful Job, Task Variety, Autonomy, Identification with Task, Peer Recognition, Work Environment, Flexibility, Basic Individual Needs
4	Chander et al.	1993	Academics	Empirical	Decision making authority, growth and development, recognition and appreciation, promotional avenues.
5	Rao M.G	1993	Service Sector	Conceptual	Salary, Benefits, Job Security, Flexible Work Schedule And Occupational Stress
6	May et al.	1999	Financial Services	Empirical	Job Security, Pay and Perk, Better Mutual Relationship
7	Lau	2000	Financial Services	Empirical	Pay And Benefit, Opportunity, Job Security, Prideln Work And Company, Openness and Fairness, Camaraderie and Friendliness
8	Wyatt&Wah	2001	Service Sector	Empirical	Work Environment, Personal Growth and Autonomy, Nature of Job, and Stimulating Opportunities and Co-Workers
9	Lewis et al.	2001	Healthcare	Empirical	Job Demands, Supervisory Support
10	Lau et al.	2001	Information Technology	Empirical	Rewards, Job Security and Career Growth Opportunities
11	Kameswaramoun d Venugopal	2009	Service Sector	Empirical	Favourable Work Environment, Personal Growth and Autonomy, Nature of Job, and Opportunities for Development and Co-Workers.
12	Cole D.C. et al.	2005	Healthcare	Empirical	Working Condition, Work Load
13	Che rose et al.	2006	Academics	Empirical	Organizational climate, Career achievement, Career satisfaction, Career balance
14	Saad et al.	2008	Academics	Empirical	Meaningful Job, Optimism on Organizational Change and Autonomy
15	Connell, &IanniI	2009	Business Process Outsourcing	Empirical	Job Content, Working Hours and Managerial/Supervisory Style and Strategies
16	Li, and Yeo,	2011	Academics	Empirical	Career Development Support, Flexibility and Autonomy in Job Design

17	AlMuflih and Lafi	2011	Mining	Empirical	Growth and Job Development, Supervision and Co-Workers, Relationship, Stress, Communication, Salary and Rewards, Work, Conditions and Environment, Social Satisfaction
18	Aziz et al.	2011	Academics	Empirical	Job Involvement, Work Role Conflict, Work Time, Schedule Flexibility, Family Involvement, Family Conflict
19	Almalki et al.,	2012	Healthcare	Empirical	Working Hours, Work and Family Needs, Vacations Time Management and Supervision Practices, Professional Development Opportunities, Working Environment, Level of Security, Recreation Facilities, Salary, Co-Workers
20	Sinha, C.	2012	Service Sector	Empirical	Job Satisfaction, Family-Responsive Culture, Employee Motivation, Organizational Support, Compensation, Career Development and Growth, Flexible Work Arrangements, Emotional-Supervisory Support, Rewards and Benefits, Communication, Organizational Commitment, Organizational Climate
21	Zare et. al.	2012	Service Sector	Conceptual	Job Content, Work-Life Balance, Social Factors, Economic Factors
22	Islam	2012	Service Sector	Empirical	Organization Culture, Compensation Policy, Career Growth and Relative Facilities
23	Das and Gope	2013	Agro based industry	Empirical	Working Environment
24	Arifand Ilyas	2013	Academics	Empirical	Perceived Value Of Work, Work Climate, Work-Life Balance And Satisfaction With Relationships
25	Taher	2013	Academics	Empirical	Creative Work, Professional Skills, Creativity Involvement, Potential Development, Realization and Learning New Things, Jobs Benefits, Jobs Security and Healthy Benefits, Good Peers, Respect and Appreciation.
26	Mosadeghrad, A.M.	2013	Healthcare	Empirical	Pay, Benefits, Job Promotion, And Management Support, Job Proud, Job Security and Job Stress
27	Almarshad	2015	Service Sector	Conceptual	Work Stress, Work Occupy, Job and Career Satisfaction and Working Conditions
28	Singh et al.	2015	Information Technology	Empirical	Social Aspects, Work Aspects, Human Resource Policies, Work Environment, and Other Life Domain Factors

29	Naghibi et al.	2017	Pharmaceutical	Empirical	Fair and Adequate Payment, Safe and Healthy Work Environment, Overall Atmosphere of Life
30	Hayati	2016	Service Sector	Empirical	Employee Participation, Developing Career, Safety at Work, Organizational Identity, Health at Work, Safety at Work, Compensation, Solving Problem/Conflict
31	Nayak T. et al.	2018	Healthcare	Empirical	Social Support, Occupational Stress, Compensation and Rewards, Work Environment, and Professional Development
32	Huda	2017	Pharmaceutical	Empirical	Organizational Atmosphere, Fairness, Experience Sharing Culture, Employee Suggestion Scheme, Opportunity to Use Skill and Satisfactory Reward System
33	Dayana M.C.	2017	MSME	Empirical	Job Content, Career Development Working Environment and Recognition.
34	Agarwal et al.	2017	Information Technology	Empirical	Support From Management, Freedom from Work Related Stress, Salary and Additional Benefits, Job Satisfaction, Challenge, Use of Skills and Autonomy, Relationship with Work Colleague, Involvement and Responsibility at Work, Communication, Decision Making and Job Security
35	Nayak, T. et al.	2017	Healthcare	Empirical	Compensation and Rewards, Managing Grievances, Conditions of Work, Employee Welfare and Job Security.
36	Parveen, M. et al.	2017	Healthcare	Empirical	Personal Growth and Salary Package
37	Rastogi, M. et al.	2018	Manufacturing sector	Empirical	Flexible Work Schedule, Job Autonomy
38	Jahanbani et al.	2019	Healthcare	Empirical	Social Cohesion, Rule and Law, Growth Opportunity and Job Security
39	Brousseau et al.	2019	Healthcare	Empirical	Leadership Development, Political Skills, Organizational Humanization, Positive Organizational Support, Professional Satisfaction and Worth, Learning Organization, Competency Development
40	Yadav, R. et al.	2019	Academics	Empirical	Job Security, Degree of Grievances, Salary, Participative Management, Reward and Recognition.
41	Sahni, J.	2019	Telecom Industry	Empirical	Job Satisfaction, Working Conditions, Opportunity for Growth, Work Life Balance Stress Management, Social Relationship Within Organization, Organizational Culture and Communication
42	Permarupan,	2020	Healthcare	Empirical	Safe and Healthy Working Conditions,

42	Permarupan, P.Y. et al.	2020	Healthcare	Empirical	Safe and Healthy Working Conditions, Social Relevance of Work, and Constitution at Work Organization
43	Fakhri, M. et al.	2020	Service Sector	Empirical	organizational culture, organizational facilities
44	Adikoeswanto, D. et al.	2020	Financial Services	Empirical	Employee development, participation, Compensation, Supervision, and work environment
45	Balanagalakshmi, B., & Lakshmi, T. C.	2020	Academics	Empirical	Working Environment Workplace Stress Work –Life Balance Pay and Compensation Job Satisfaction

Source: Compilation from systematic literature Review

### 3.4. Pareto Analysis Technique

The Pareto principle (80:20) found important and often used in decision making issues and solving complex problems in many areas, especially in the field of quality management. Joseph Juran applied the principle to quality control functions and disseminates the Pareto analysis in Japanese and U.S. firms to resolve many problems of poor quality. Joseph Juran gives a new aspect to the principle introducing the concept of the “vital few” and “trivial many” to explain that a small number of causes is responsible for a large percentage of effects (Williams, 2007). Pareto analysis is a relatively simple methodology that is used when trying to determine which tasks or factors in an organization will have the most impact (Talib et al., 2010). The factors are ranked in the descending order from the highest frequency of occurrences to the lowest frequency of occurrences. As per this rule, the “vital few” items occupy a substantial amount (80 percent) of cumulative percentage of occurrences and the “useful many” occupy only the remaining 20 percent of occurrences (Talib et al., 2010). Modern management guru Peter Drucker said that effective executives cannot efficiently decide on many things at the same time and that is why they concentrate their efforts only on the important ones (Drucker, 1996). Pareto principle is very widespread in the field management that offers a way to prioritize the resource allocation to achieve maximum returns. The essence of this principle in the management science is to encourage changes in order to ensure continuous improvement.

## 4. RESULT AND DISCUSSION

To fulfill the purpose of study firstly we identified various factors available in literature. In our study we selected forty five (45) research papers to extract the important factors affecting Quality of Work Life (QWL). Factors available in the literature having same meaning and sense had been categorized by using semantic/linguistic techniques. After this process various terms used for factors were categorized into individual groups. The process of compilation was done and frequency of occurrence of important factors was also mentioned which resulted into sixteen (16) factors and these factors has been termed as Adequate and Fair Compensation (AFC), Learning and Development Opportunity (LDO), Core Job Characteristics (CJC), Social Integration and Cohesiveness (SIC), Work Place Environment (WPE), Work Life Balance (WLB), Job Security (JS), *Supervision Quality (SQ)*, Respect and Recognition (RR), Occupational Stress Management (OSM), Organizational Culture and Climate (OCC), Employee Health and Wellbeing (EHW), Work Flexibility (WF), Job Satisfaction (JSA), Worker Participation in Management (WPM), and Communication (COM). Grouped and renamed factors have been arranged in descending order with their frequency of occurrence and cumulative percentage. As per the rule mentioned by Pareto that is 80:20, the

identified factors were divided into two categories viz. 'Vital Few' (having 80 percent of cumulative percentage) presented in table number 2. Remaining factors having 20 percent of cumulative percentage were categorized as 'Useful Many' (UM) which is shown in table number 3.

**Table 2: List of QWL Factors “Vital Few” (80 percent)**

S.N.	QWL Practices	Symbol	Frequency of occurrence	Percent of Frequency of occurrence	Cumulative Percentage
1	Adequate and Fair Compensation	AFC	35	15.90	15.90
2	Learning and Development Opportunity	LDO	30	13.63	29.53
3	Core Job Characteristics	CJC	28	12.72	42.25
4	Social Integration and Cohesiveness	SIC	20	9.09	51.34
5	Work Place Environment	WPE	17	7.72	59.06
6	Work Life Balance	WLB	14	6.36	65.42
7	Job Security	JS	11	5.00	70.42
8	Supervision Quality	SQ	10	4.54	74.96
9	Respect and Recognition	RR	10	4.54	79.50

**Table 3: List of QWL Factors “Useful Many” (20 percent)**

S.N.	QWL Practices	Symbol	Frequency of occurrence	Percent of Frequency of occurrence	Cumulative Percentage
1	Occupational Stress Management	OSM	8	3.63	83.13
2	Organizational Culture and Climate	OCC	8	3.63	86.76
3	Employee Health and Wellbeing	EHW	7	3.18	89.94
4	Work Flexibility	WF	7	3.18	93.12
5	Job Satisfaction	JSA	6	2.72	95.84
6	Worker Participation in Management	WPM	5	2.27	98.11
7	Communication	COM	4	1.82	99.93

The result of Pareto analysis has also been demonstrated in the form of graph which is shown in Figure. 1. It shows the various factors in descending order and a clear pointer, covers the line graph which divides 80 percent cumulative percent and also helps in finding out the remaining 20 percent which are least important factors. In this graph 80 percent value factors are 'Vital Few' and factors which are included in 20 percent has been termed as 'Useful Many' (UM).



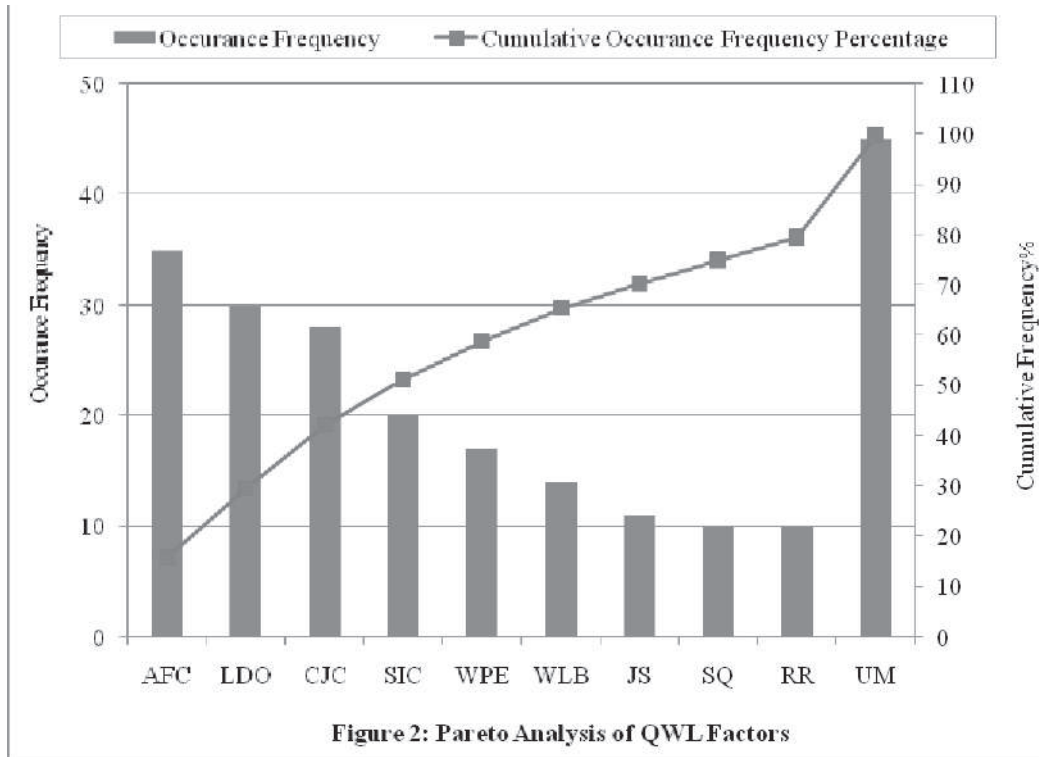


Figure 2: Pareto Analysis of QWL Factors

**5. PROPOSED CONCEPTUAL QWL MODEL**

On the basis of results of Pareto Analysis, we have framed a conceptual model of antecedents of quality of work life which has been shown in Figure 2

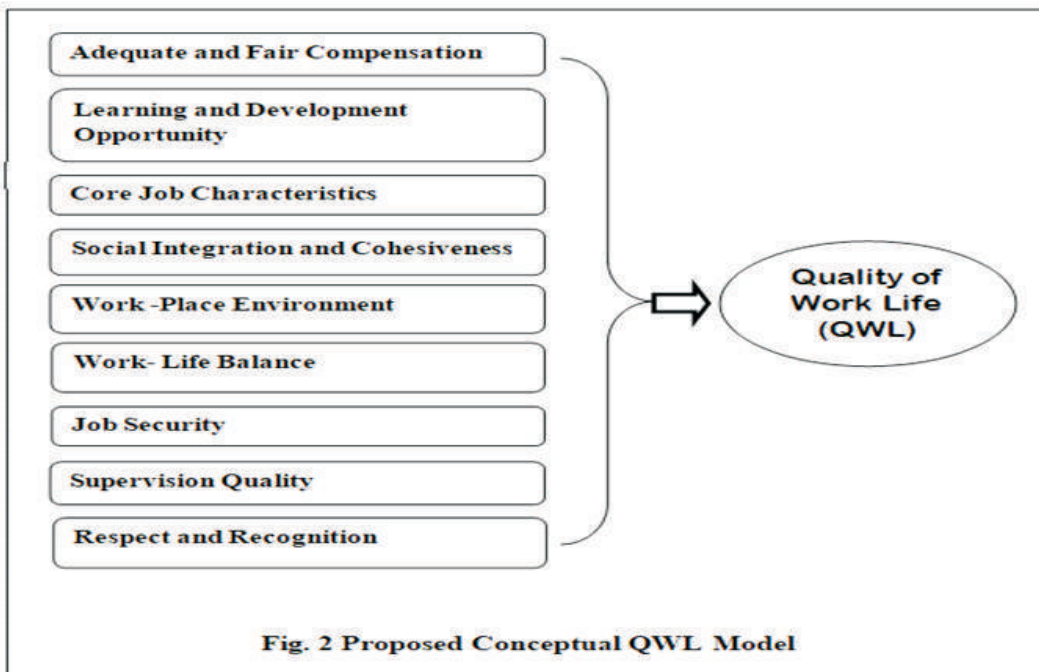


Fig. 2 Proposed Conceptual QWL Model

This model shows the significance of 'Vital Few' factors in prediction of Quality of Work Life (QWL) of employees working in different organizations. In prediction of QWL, these factors consist of 80 percent value. However, factors termed as 'Useful Many' which are 20 percent of total value are also important in prediction of Quality of Work Life of employees but not as important as Vital Few factors. Therefore, researchers had taken only 'Vital Few' factors for proposed conceptual model of QWL. Analyzed and extracted factors through Pareto Analysis also are much significant in prediction of QWL of employees working in organizations which is supported by previous studies conducted in the area of QWL i.e., Adequate and Fair Compensation (Lewis et al., 2001; Rao, 1993; May et al., 1999; Lau, 2000; Lau et al., 2001; Almalki et al., 2012; Mosadeghrad, 2013; Naghibi et al., 2016;), Learning and Development Opportunity (Shani et al., 1992; Lau, 2000; Wyatt and Wah, 2001; Lau et al., 2001; Kameswararao and Venugopal, 2009; Almalki et al., 2012; Chandranshusinha, 2012; Almarshad, 2015), Core Job Characteristics (Shani et al., 1992; Lau, 2000; Wyatt and Wah, 2001; Kameswararao and Venugopal, 2009; Saad et al., 2008; Connel, 2009; Almalki et al., 2012; Zare et al., 2012), Social Integration and Cohesiveness (Islam, 2012; Yadav et al., 2019; Brousseau et al., 2019; Jahanbani et al., 2018; Agarwal et al., 2017; Huda, 2017), Work Place Environment (Huda, 2017; Dayana, 2017; Nayak et al., 2016; Hayati, 2016; Naghibi et al., 2016; Singh et al., 2015; Almarshad, 2015; Das and Gope, 2013; Almuftahand Lafi, 2011), Work-Life Balance (Shani et al., 1992; Rao, 1993; Aziz et al., 2011; Almalki et al., 2012; Chandranshusinha, 2012; Arifand Ilyas, 2013; Sahni, 2019), Job Security (Yadav et al., 2019; Jahanbani et al., 2018; Mosadeghrad, 2013; Lau, 2000), Supervision Quality (Haque, 1992; Lewis et al., 2001; Connel, 2009; Almuftahand Lafi, 2011; Almalki et al., 2012; Mosadeghrad, 2013), Respect and Recognition (Sahni, 2019; Yadav et al., 2019; Dayana, 2017; Taher, 2013). Studies in the area of QWL validate our proposed conceptual model and this conceptual model is very much applicable in various sectors as mentioned in this study.

## 6. CONCLUSION AND IMPLICATIONS

The present study is a conceptual study based on prior researches. The in-depth and systematic analysis of literatures revealed that there are sixteen important factors which affect the quality of work life of employees. These factors are: Adequate and Fair Compensation, Learning and Development Opportunity, Core Job Characteristics, Social Integration and Cohesiveness, Work Place Environment, Work-Life Balance, Job Security, Supervision Quality, Respect and Recognition, Occupational Stress Management, Organizational Culture and Climate, Employee Health and Wellbeing, Work Flexibility, Job Satisfaction, Worker Participation in Management and Communication. Thus, the present study offers a set of vital factors of QWL using Pareto Analysis Quality tool. The authors also proposed a unique model for clear and comprehensive understanding of QWL. Therefore, the study has important managerial implications for human resource managers, practitioners and policy makers. We argue that the outcome of this study is very useful to design healthy QWL strategy to foster an ethical corporate culture and to increase employee wellbeing and organizational effectiveness. It will not only benefit the organizations explicitly but also implicitly by employee commitment and loyalty.

## 7. LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

Concept of Quality of Work Life has been introduced in 1980s. In the present study only researches of three decades (1990-2020) have taken into consideration. Further, this study includes only forty-five (45) studies as research content. This could be a limitation of this study because a lot of research has been done in this area. Furthermore, QWL has also its consequences which could also be studied. Since this model is based on restricted and few studies, it could vary from organizations to

organization. The QWL study could also be done in the light cause and effect relationship. Further researchers can also develop a scale taking into consideration the results of this study as a base.

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## **YIELD FROM GOODS AND SERVICES TAX: OVERALL AND INTER-STATE COMPARISON**

**Dr.Parul Jain\***

### **ABSTRACT**

*The implementation of Goods and Services Tax(GST) from July 1, 2017, after nearly 17 years of consultation between the States and the Union and recommendations of several committees is said to be one of the finest examples of cooperative federalism . GST has subsumed in its ambit 17 different taxes of the Centre and States and 13 cesses into one tax. The Goods and Services Tax (GST) is a tax that one has to pay every time one buys goods and services. In this system, the consumer pays the final tax but an efficient input tax credit system ensures that there is no cascading of taxes. GST is essentially a tax on value addition at each stage. GST has several components -Central GST(CGST), State and Union Territory GST(SGST)/(UTGST), Integrated GST (IGST) , as also the Compensation Cess. While the Union Government and the States Governments has each enacted their own laws and rules , they have been following from decisions taken within the GST Council. It was expected that overtime, higher compliance would result in significant revenue productivity. However, analysis shows that after the implementation of the GST, there has been deceleration in revenue, although, in absolute terms, the yield from GST increased after the country overcame from COVID-19 pandemic. With the revival of the economy, the Goods and Services Tax has emerged as a buoyant source of revenue for both the Centre and the States. There are four components of GST:CGST,SGST,IGST and cess. An analysis of revenue collected under these heads has shown that IGST has been the most important component of yield from GST. Wide inter-state differentials in GST revenue collections have been noticed since the implementation of GST from July, 2017. According to the figures released by GST Council , the implementation of GST has been most beneficial for most north -eastern States. GST has been undergoing continuous changes in the structure and in operation details. It is an ongoing reform process. In conclusion, it can be said that benefits of GST system can only be reaped if challenges related to the design and structure of GST are addressed by the government.*

**Keywords:** *Goods and Services Tax, CGST,SGST, IGST, Overall and State wise revenue productivity.*

### **INTRODUCTION**

The implementation of Goods and Services Tax(GST) from July 1, 2017, after nearly 17 years of consultation between the States and the Union and recommendations of several committees is said to be one of the finest examples of cooperative federalism . Both the Centre and the States pooled their power to tax goods and services to attain the idea of 'one country one tax'. GST in India has been variously described as ' a good and simple tax'. Persons behind the reforms have been P.

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\* Assistant Professor (Economics), DAV PG College, Varanasi

Chidambaram, Vijay Kelkar, Asim Das Gupta, Pranab Mukherjee, Arun Jaitley, Arvind Subramanian, Sushil Modi and Nirmala Sitharaman. GST has subsumed in its ambit 17 different taxes of the Centre and States and 13 cesses into one tax. These include central excise duty, duties of excise ( Medicinal and toilet preparation), additional duties of excise (goods of special importance), additional duties of excise (textile and textile products), additional duties of customs, special additional duty of customs, service tax, cesses and surcharges in so far as they relate to supply of goods and services. State tax subsumed in GST comprise State VAT, Central Sales Tax, Purchase tax, luxury tax, Entry tax, Entertainment tax, taxes on advertisements, taxes on lotteries, betting and gambling, State cesses and surcharges in so far as they relate to supply of goods and services. However, petroleum products and alcoholic products have been kept outside the ambit of GST.

This paper is divided into 4 parts. In the first section, meaning and scope of GST has been explained. In the second section, yield from GST at the All India level has been analysed. The third section critically analyses the inter-state yield from the GST since its inception. The last section, briefly outlines the overall impact of GST on revenue productivity.

### **Meaning and Scope of GST**

The Goods and Services Tax (GST) is a tax that one has to pay every time one buys goods and services. In this system, the consumer pays the final tax but an efficient input tax credit system ensures that there is no cascading of taxes i.e., taxes on tax paid as inputs that go into the manufacture of goods. Put simply, GST is levied only on the value added at every stage of production. The price of any input going into production will have a cost and a tax component. The system ensures that when final tax is calculated, the tax paid on input is taken out and the tax is levied only on the cost of goods produced. In the pre-GST regime, multiple of indirect taxes caused effective tax rates to be high and differences across states fragmented the national market along state boundaries. GST has replaced all these taxes with simple levy, lowering effective tax on goods and creating a national market in Goods and Services. GST is essentially a tax on value addition at each stage. The final consumer thus bears only the GST charged by the last dealer in the supply chain with set off at all previous stages. In short, "GST is a comprehensive multi stage Value Added Tax (VAT) on goods as well as services and it provides concurrent taxation powers to the Centre (Federal) and State (Provincial) Governments to collect tax on every stage of value addition". (R. Kavita Rao and Sachidananda Mukherjee, 2019). (M. Govinda Rao, 2022) in his book has also observed, "the challenge of implementing such a reform at national and sub-national levels in India involving the Union Government, 28 States, and 3 Union Territories with legislatures with different ruling parties is formidable. The reform of this nature is a great experiment in cooperative federalism and required a statesmanlike stewardship".

GST has several components – Central GST (CGST), State and Union Territory GST (SGST)/(UTGST), Integrated GST (IGST), as also the Compensation Cess which is levied on luxury and sin items such as aerated drinks, coal, pan masala, cigarettes and automobiles. CGST is payable to the central government on supply of goods and services within state/union territory. SGST/UTGST is payable to the State/Union Territory Government on supply of goods and services within state/union territory. IGST is levied in case of inter-state supply of goods and services. IGST is levied by Government of India. The revenue from IGST is put in a separate account to allow adjustment for input tax credit and finally settled with the States on the basis of final consumption through a clearing house mechanism. Equivalent IGST is also levied on imports into India. IGST is apportioned between the Union and States in the manner as may be provided by parliament by law on the recommendations on Goods and Services Tax Council. Thus, the GST in India is designed to be a destination based tax

with seamless input tax credit mechanism. While the Union Government and the States Governments has each enacted their own laws and rules , they have been following from decisions taken within the GST Council. The GST Council makes recommendations on the design and structure of the GST regime as well as on the compliance and administration of the regime. To ease the concerns of the States regarding the revenue productivity of the tax regime , the Union Government has assured the States a minimum rate of growth in revenue of 14% per annum for 5 years on a base of revenue collections in the year 2015-16. This compensation is designed to address the concerns of the States without putting undue pressure on the Union Government . The cesses have been introduced to raise revenues to compensate the States for any loss of revenue.

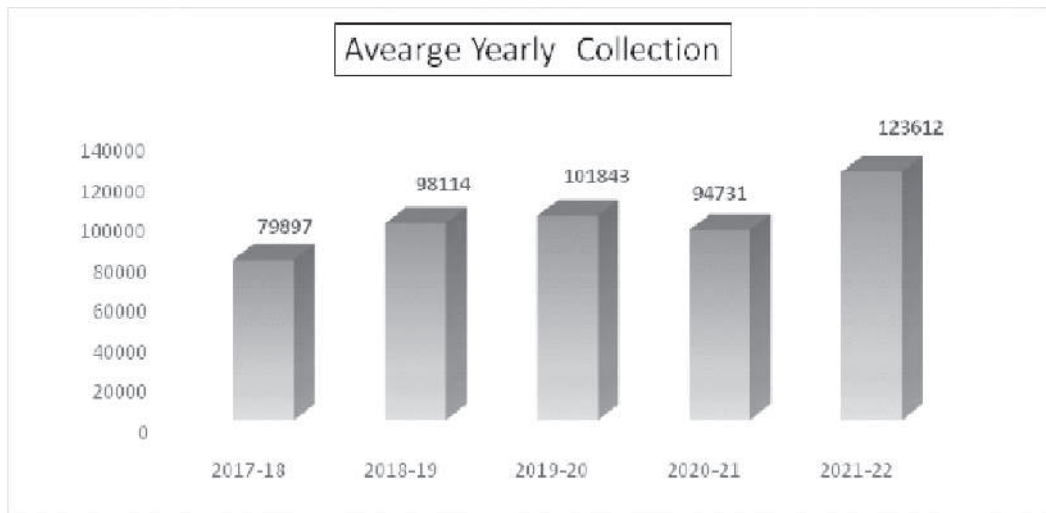
### **REVENUE COLLECTION FROM GST (All India)**

In the short term, the GST was supposed to be revenue neutral. It was expected that overtime, higher compliance would result in significant revenue productivity. However, analysis shows that after the implementation of the GST, there has been deceleration in revenue, although, in absolute terms, the yield from GST increased after the country overcame from COVID-19 pandemic. Against the Revised Estimates of GST revenue of Rs.4,44,631 crore , the actual receipts were Rs.4,42,561 crore in 2017-18. In 2018-19, the actual GST revenue receipts were only Rs.5,81,560 crore against the budget estimate of Rs.7,43,900 crore. During 2019-20, the actual GST collection was Rs.5,98,748 crore against the Budget Estimate of Rs.6,63,343 crore. The shortfall vis-à-vis budget estimates was 22 per cent and 10 per cent for the years 2018-19 and 2019-20, respectively. (CAG Report, No.1,2021).

When GST subsumed in its ambit various indirect taxes in July, 2017, it was expected that in the initial period the yield would be low. During the period July 2017 to March 2018(9months), the yield from GST was below Rs.1 lakh crore every month and the total yield during this period was Rs.7,19,078 crore( Table1). During the period April, 2018 to March 2019, the yield improved a little but it was below Rs.1 lakh crore in eight out of twelve months and the total yield from GST during 2018-19 was Rs.11,77,370 crore giving an average of Rs.98,114 crore per month. It is from now on that the yield from GST started crossing Rs.1 lakh crore. It is happy to note that during 2019-20, gross collection from GST exceeded Rs.1 lakh crore in seven out of twelve months and total collection from GST was Rs.12,22,117 crore in 2019-20. It was highest at Rs.1,13,865 crore in April, 2019. It was below Rs.1 lakh crore in 5 months of 2019-20. While the yield from GST was above Rs.1 lakh crore in the months of January and February,2020, the yield sharply declined due to outbreak of COVID-19 in the month of March, 2020. A stringent nationwide lockdown was imposed on March 24, 2020 which was subsequently extended till May 31,2020. On account of spread of COVID, there was wide spread economic dislocation, contraction in income and demand, disruption in supply chain and decline to Rs.97,597 crore in March 2020. Revenue collections from GST continued to be below Rs.1 lakh crore mark upto September 2020. Due to Government's efforts to reduce the impact of second wave of pandemic, a sustained resurgence in various indicators was witnessed. Indian economy started experiencing V-shaped economic recovery. With the revival of the economy, the Goods and Services Tax has emerged as a buoyant source of revenue for both the Centre and the States. (Economic Survey, 2021-22). There was quick recovery in the monthly GST collections. Over the last five years, GST revenue have steadily grown. From October, 2020, gross GST collections exceeded Rs.1 lakh crore in all the six months from October 2020 to March 2021. Similar increasing trend was observed during 2021-22 when GST collections exceeded Rs.1 lakh crore in 10 out of 12 months during the year and were highest at Rs.1,42,095 crore in the month of March, 2022. This buoyant trend is witnessed in all the six months of financial year 2022-23. The month of April , 2022 saw a record GST collection of



Rs.1,67,540 crore and during first six months of the financial year 2022-23, the GST collections have exceeded Rs.1.4 trillion every month. The average monthly collection of GST has also improved from Rs.98,114 crore during 2018-19 to Rs.1,01,843 crore during 2019-20 and further to Rs.1,23,612 crore in 2021-22 as it is evident from the following bar diagram.



The improvement in GST collections has been due to the combined effect of rapid economic recovery post pandemic, the nationwide drive against GST evaders and fake bills along with many systematic changes and various rate rationalisation measures undertaken by GST Council to correct inverted duty structure.

As already pointed out, there are four components of GST: CGST, SGST, IGST and cess. An analysis of revenue collected under these heads has shown that yield under these different heads has increased with the passage of time, except during the Covid-19 pandemic. Yield under CGST was Rs.20944 crore in the month of January 2020 which touched the lowest figure of Rs 5065 crore in April, 2020 (Table 2). The yield started recovering since May, 2020 and touched the highest figure of Rs 33159 crore in April 2022. Similar trend is witnessed in respect of SGST. The revenue from this source was Rs. 28224 crores in January 2020, lowest at Rs.5950 crore in April 2020 and was maximum at Rs.41793 crore in April, 2022. It is important to note here that IGST has been the most important component of yield from GST. Revenue from IGST was Rs.53013 crore in January 2020, lowest at Rs.7955 crore in April 2020 and highest at Rs.81939 crore in April, 2022. The reason why IGST contributes to maximum amount of revenue collections is that IGST is applicable on inter-state transactions as well as on imports in the country. These transactions include those between two registered entities as well as supplies to unregistered purchases. In other words, IGST represents the value of supplies to final users. The GST (Compensation to States) Act guaranteed the States full compensation for the first five years of the GST if their revenue under the new indirect tax fall below 14 per cent annual growth on the base year of 2015-16. It is worth noting here that collections from Cess are deposited in the non-lapsable compensation fund to be placed in the Public Accounts from which payments are made to the States. The yield from cess was Rs.8637 crore in January 2020 and was maximum at Rs. 11018 crores in June 2022. It is worth mentioning here that the share of IGST in total GST revenue was 47.8 per cent in January 2020, 48.9 per cent in ,2022 and 53.3 per cent in July, 2022 and 54.5 per cent in September 2022.

### State-wise GST collections

Wide inter-state differentials in GST revenue collections have been noticed since the implementation of GST from July, 2017. Table 3 gives an account of State-wise GST collections during the month of March in the years 2018, 2019, 2020, 2021 and 2022, as also its growth rate in different years. The GST collections in all the States together was higher at Rs.82165 crore in March 2019 as compared to Rs.69014 crore in March 2018. All the States, except Daman and Diu and Andaman and Nicobar Island, registered a positive growth rate. Most Northern states like Arunachal Pradesh (165.6%), Nagaland (283.3%), Manipur (84.0%) and Mizoram (354.5%) experienced a very high growth rate in GST collection in March 2019 over March, 2018. However, some relatively bigger States experienced relatively lower growth rate of 15.6 per cent in Uttar Pradesh, 2.3 per cent in West Bengal, 10.1 per cent in Gujarat, 17.0 per cent in Maharashtra, 16.4 per cent in Karnataka and 26.7 per cent in Tamil Nadu. Due to the impact of Covid-19, while the total revenue of all the States from GST in March, 2020 was higher at Rs.78700 crore, as compared to Rs.69014 crore in March 2019, most of the States experienced a negative growth rate in March 2020 from March, 2019. These States included Jammu and Kashmir, Uttarakhand, Delhi, Rajasthan, North eastern States, Assam, West Bengal, Madhya Pradesh, Goa, Tamil Nadu, etc. The States which experienced positive growth rate in March 2020, over March 2019 were Punjab (1.3%), Haryana (6.9%), Sikkim (18.1%), Tripura (4.7%), Meghalaya (4.7%), Gujarat (4.6%), etc. Further, while the total revenue from GST was higher at Rs.101983 crore in March, 2022, as compared to Rs.91870 crore in March, 2021, wide inter-state differentials are also witnessed here: The total GST collection in March, 2022 was higher for all the States as compared to March, 2021 but the highest growth rate was seen in Odisha (25.6%) followed by Jharkhand (24.8%), Manipur (20.0%), Maharashtra (19.2%), Meghalaya (19.1%) and Andhra Pradesh (18.2%). However, States which experienced a negative growth rate 2022 over 2021 were Uttarakhand (-3.8%), Nagaland (-4.4%), Tripura (-6.8%).

Table 4 provides information in respect of the State-wise GST collection during the financial years 2018-19, 2019-20 and 2020-21, as also growth rate in 2019-20 over 2018-19 and in 2020-21 over 2019-20. In 2019-20, most of the States experienced a higher GST revenue collection except the States of Uttarakhand and Jharkhand. Among the Union Territories, Puducherry had lower GST collection of Rs.1871 crore in 2019-20 as compared to collection of Rs.1924 crore in 2018-19. The important States which recorded highest collections in descending order in 2019-20 were Maharashtra (Rs.185917 crore), Karnataka (Rs.83408 crore), Gujarat (Rs.78923 crore), Tamil Nadu (Rs.74430 crore), Uttar Pradesh (Rs.65281 crore), Haryana (Rs.59560 crore) and West Bengal (Rs.43386 crore). However, States which experienced very high growth rate in 2019-20 over 2018-19 were Arunachal Pradesh (46.0%), Manipur (40.8%), Nagaland (39.6%), Mizoram (39.0%). On the other hand, relatively bigger States experienced lower growth rate. For example, Punjab observed growth rate of 9.0%, Rajasthan (6.4%), Uttar Pradesh (6.4%), West Bengal (9.1%), Gujarat (7.5%), Maharashtra (9.2%), Karnataka (5.9%), Tamil Nadu (5.5%), Telangana (9.4%) and Andhra Pradesh (5.9%). From Table 4 it is also evident that during financial year 2020-21, due to the impact of pandemic overall GST collections declined by 8.3 per cent. There was decline in GST collections in most of the States, as also decline in growth rate of collections. But it is worthy of note here that the implementation of GST was a boom for most north-eastern States. States which experienced positive growth rate in 2020-21 over 2019-20 were Arunachal Pradesh (12.0%), Nagaland (22.7%), Tripura (7.6%). Among Union Territories, Dadra and Nagar Haveli had positive growth rate of 29.8% in 2020-21 over 2019-20.

According to the figure released by GST Council, the implementation of GST has been most beneficial for most north-eastern States like Arunachal Pradesh, Mizoram, Manipur and Sikkim which experienced GST revenue collection higher than the guaranteed annual 14 per cent increase in States' GST revenue by the Centre. However, States like Puducherry, Punjab, Nagaland and Uttarakhand had the highest revenue shortfall in financial year 2021-22 over 2020-21 level. However, a positive news is that the national level, the GST revenue shortfall has narrowed to 27.2 per cent in F.Y 2021-22 from 37.9 per cent in financial year 2020-21.

Data published in Economic Survey 2021-22 (Statistical Appendix, pp 63-64) give an account of the State wise break up of total revenue received under GST in different heads of CGST, SGST, IGST and Cess during the financial year 2019-20 and 2020-21. During 2019-20, the total collections for all the States under CGST was Rs.227443 crore, under SGST was Rs. 309232 crores, under IGST was Rs.319422 crore and under cess it was Rs.88307 crore. Total collections in 2019-20 was Rs.944403 crore. The highest collection under CGST was in Maharashtra (Rs.50683 crore), followed by Gujarat (Rs.21500 crore), Karnataka (Rs.19824 crore), Tamil Nadu (Rs.19185 crore), Uttar Pradesh (Rs.14258 crore) and West Bengal (Rs.12613 crore), to name a few in the order. In respect of SGST also this order remained the same with Maharashtra collecting Rs. 62275 crores, followed by Gujarat (Rs.27271 crore) and Karnataka (Rs.26472 crore). Tamil Nadu, however, showed a relatively higher collection of Rs.27141 crore under SGST. Same story is depicted in respect of IGST with Maharashtra collecting Rs. 61447 crores, Karnataka (Rs. 27667 crore), Haryana (Rs.32407 crore), Gujarat (Rs.25565 crore), Tamil Nadu (Rs.22210 crore) and Uttar Pradesh (Rs.16218 crore). During the financial year 2020-21, the total collections from all States under GST was lower at Rs.865842 crore due to impact of Covid pandemic. During the financial year 2020-21, total collection for all the States was Rs.209916 crore under CGST, Rs.272828 crore under SGST, Rs.303946 crore under IGST and Rs.79152 crore under cess. During the financial year 2020-21 also Maharashtra topped the list in collection with collection figures of Rs.44847 crore under CGST, Rs.53344 crore under SGST, Rs.58164 crore under IGST and Rs.8952 crore under cess. In the financial year 2020-21 also some other States in order of importance in respect of CGST, SGST, IGST and Cess collections were Haryana, Uttar Pradesh, Gujarat, Karnataka, Tamil Nadu, etc. While overall GST collection for all the States was lower in 2020-21, north-eastern States like Sikkim, Arunachal Pradesh, Nagaland, Tripura, etc registered a positive growth in this year.

#### **IMPACT OF GST ON OVERALL REVENUE PRODUCTIVITY AND INTER-STATE PERFORMANCE**

The implementation of GST is a major tax reform and nearly five years is too short a term to assess its impact. Since GST has been undergoing continuous changes in the structure and in operation details, it is an ongoing reform process. Some of the positives of introduction of GST comprise successful implication of several consumption taxes, reduction in compliance and administrative costs, harmonising the domestic trade taxes, reduced inter-state tax competition, elimination of check posts, cost saving on account of changes in supply chain management, reduced cascading, etc. Nevertheless, the GST has its own pitfalls. A large number of exemptions have been provided under GST. Large exemptions not only lead to narrowing of the tax base but also informalisation of the economy. Excessive rate differentiation is observed under GST. Such differentiation provides a good incentive to evade tax and also create distortions. Non-inclusion of major revenue-earning goods under GST (like alcohol and petroleum products) has reduced the revenue importance of GST and has rendered the GST design as complex. Year to year growth in GST collections declined from 9.75 per cent in 2018-

19 to 3.8 per cent in 2019□20 and negative of 6.95 per cent in 2020□21. As a percentage of GDP, GST was 6.23 in 2018□19, 6.09 in 2019□20 and 5.74 in 2020□21. Further, the issue of declining the revenue compensation to the States has not been clearly spelt out and the main objective of roll out of GST for simplified tax compliance system is yet to be achieved. In conclusion, it can be said that benefits of GST system can only be reaped if challenges related to the design and structure of GST are addressed by the government. Given the federal structure of India, it is desirable that tax rates be harmonised across States to minimise the compliance burden. There is need to keep the list of exemptions low to have a more comprehensive trail of transactions. We need to keep in mind that taxation policy has to be transparent, predictable and inclusive. It is worth mentioning here that when GST Constitution Amendment Bill, 2016 was being debated in Lok Sabha on 8<sup>th</sup> August, 2016, the Prime Minister gave new right meaning to the abbreviation of GST as 'Great Step by Team India', 'Great Step towards Transparency'. He also observed that GST will end 'tax terrorism' and is in line with the Government's policy of 'Ek Bharat Shrestha Bharat'.

**Table 1**

<b>Monthly Gross Collections from Goods and Services Tax (GST) (Rs. Crore)</b>						
Month	2017 □8	2018□ 19	2019□ 20	2020□ 21	2021□ 22	2022□23
April		10345 9	11386 5	32172	13970 8	167540
May		94016	10028 9	62151	97821	140885
June		95610	99939	90917	92849	144616
July	3 9228	96483	10208 3	87422	11639 3	148995
August	3 9563	93960	98202	86449	11202 0	143611
September	4 9406	94442	91916	95480	11701 0	147686
October	3 9333	10071 0	95379	10515 5	13012 7	
November	0 8378	97637	10349 1	10496 3	13152 6	
December	4 8431	94725	10318 4	11517 4	12978 0	
January	5 8982	10250 3	11082 8	11984 7	14098 6	
February	2 8596	97247	10536 6	11314 3	13302 6	
March	7 9216	10657 7	97597	12390 2	14209 5	
Grand Total	78 7190	11773 70	12221 17	11367 75	14833 41	
Average Monthly Collection	7 7989	98114	10184 3	94731	12361 2	

Note: Figures from April,2021 to July 2022 have been obtained from The Financial Express dated October 3, 2022

Table 2

<b>BREAK UP OF ALL INDIA GST REVENUE COLLECTIONS(Rs crore)</b>					
<b>Month</b>	<b>CGST</b>	<b>SGST</b>	<b>IGST</b>	<b>CESS</b>	<b>Total</b>
Jan'20	20944	28224	53013	8637	110818
Feb'20	20569	27348	48503	8947	105367
Mar'20	19183	25601	44508	8306	97598
Apr'20	5065	5950	7955	632	19602
May'20	10324	12905	16060	5578	44867
Jun'20	18980	23970	40302	7665	90917
Jul'20	16147	21418	42592	7265	87422
Aug'20	15906	21064	42264	7215	86449
Sep'20	17746	23131	47484	7124	95485
Oct'20	19193	25411	52540	8011	105155
Nov'20	19189	25540	51992	8242	104963
Dec'20	21365	27804	57426	8579	115174
Jan'21	21923	29014	60288	8622	119847
Feb'21	21092	27273	55253	9525	113143
Mar'21	22973	29329	62842	8757	123901
Apr'21	27837	35621	68481	9445	141384
May'21	17592	22653	53199	9265	102709
Jun'21	16424	20397	49079	6949	92849
Jul'21	22197	28541	57864	7790	116392
Aug'21	20522	26605	56247	8646	112020
Sep'21	20578	26767	60911	8754	117010
Oct'21	23861	30421	67361	8484	130127
Nov'21	23978	31127	66815	9606	131526
Dec'21	22578	28658	69155	9389	129780
Jan'22	24674	32016	72030	9674	138394
Feb'22	24435	30779	67471	10340	133025
Mar'22	25830	32378	74470	9417	142095
Apr'22	33159	41793	81939	10649	167540
May'22	25036	32001	73345	10502	140884
Jun'22	25306	32406	75887	11018	144617
Jul'22	25751	32807	79518	10920	148996
Aug'22	24710	30951	77782	10168	143611
Sep'22	25271	31813	80464	10137	147686

Source: Ministry of Finance, Department of Revenue(Different months)

<b>Table 3</b>										
<b>State wise GST collections during March (Rs. Crore)</b>										
<b>State Code</b>	<b>State</b>	<b>2018</b>	<b>2019</b>	<b>GR 2019 over 2018</b>	<b>2020</b>	<b>GR 2020 over 2019</b>	<b>2021</b>	<b>GR 2021 over 2020</b>	<b>2022</b>	<b>GR 2022 over 2021</b>
1	Jammu and Kashmir	258	388	50.4	276	□ 28.9	352	27.5	368	4.5
2	Himachal Pradesh	611	660	8.0	596	□ 9.7	687	15.3	684	□ 0.4
3	Punjab	1123	1166	3.8	1181	1.3	1362	15.3	1572	15.4
4	Chandigarh	136	162	19.1	153	□ 5.6	165	7.8	184	11.5
5	Uttarakhand	1264	1451	14.8	1195	□ 17.6	1304	9.1	1255	□ 3.8
6	Haryana	4272	4561	6.8	4874	6.9	5710	17.2	6653	16.5
7	Delhi	3249	3722	14.6	3273	□ 12.1	3956	20.9	4112	3.9
8	Rajasthan	2346	3132	33.5	2820	□ 10.0	3352	18.9	3587	7.0
9	Uttar Pradesh	4799	5548	15.6	5294	□ 4.6	6265	18.3	6620	5.7
10	Bihar	758	1177	55.3	1056	□ 10.3	1196	13.3	1348	12.7
11	Sikkim	145	160	10.3	189	18.1	214	13.2	230	7.5
12	Arunachal Pradesh	32	85	165.6	67	□ 21.2	92	37.3	105	14.1
13	Nagaland	12	46	283.3	39	□ 15.2	45	15.4	43	□ 4.4
14	Manipur	25	46	84.0	36	□ 21.7	50	38.9	60	20.0
15	Mizoram	11	50	354.5	33	□ 34.0	35	6.1	37	5.7
16	Tripura	45	64	42.2	67	4.7	88	31.3	82	□ 6.8
17	Meghalaya	105	127	21.0	133	4.7	152	14.3	181	19.1
18	Assam	619	956	54.4	932	□ 2.5	1005	7.8	1115	10.9
19	West Bengal	3756	3841	2.3	3582	□ 6.7	4387	22.5	4472	1.9
20	Jharkhand	2044	2149	5.1	2049	□ 4.7	2044	□ 0.2	2550	24.8
21	Odisha	1991	2626	31.9	2633	0.3	3285	24.8	4125	25.6
22	Chhattisgarh	182	21	17.2	20	□ 2.3	254	21.5	272	6.9



23	Madhya Pradesh	2000	2624	31.2	2407	8.3	2728	13.3	2935	7.6
24	Gujarat	5922	6521	10.1	6820	4.6	8197	20.2	9158	11.7
25	Daman and Diu	137	103	24.8	95	7.8	3	96.8	0.25	91.7
26	Dadra and Nagar Haveli	131	174	32.8	169	2.9	288	70.4	284	1.4
27	Maharashtra	13330	15596	17.0	15002	3.8	17038	13.6	20305	19.2
29	Karnataka	5997	6983	16.4	7144	2.3	7915	10.8	8750	10.5
30	Goa	346	389	12.4	316	18.8	344	8.9	386	12.2
31	Lakshadweep	1	1	0.0	1	0.0	2	100.0	2	0.0
32	Kerala	1249	1635	30.9	1475	9.8	1828	23.9	2089	14.3
33	Tamil Nadu	5479	6941	26.7	6178	11.0	7579	22.7	8023	5.9
34	Puducherry	144	184	27.8	149	19.0	161	8.1	163	1.2
35	Andaman and Nicobar Island	37	28	24.3	39	39.3	26	33.3	27	3.8
36	Telangana	2800	3897	39.2	3563	8.6	4166	16.9	4232	1.6
37	Andhra Pradesh	1865	2589	38.8	2548	1.6	2685	5.4	3174	18.2
38	Ladakh						14	#DIV/0!	23	64.3
97	Other territories	88	167	89.8	133	20.4	122	8.3	149	22.1
99	CBIC	56	74	32.1	81	9.5	141	74.1	170	20.6
	Grand Total	69014	82165	19.1	78700	4.2	91870	16.7	101983	11.0

GR = Growth Rate

Table 4

State wise GST Collection Growth						
State Code	State	2018-19	2019-20	Growth Rate in 2019-20 over 2018-19	2020-21	Growth Rate in 2020-21 over 2019-20
1	Jammu and Kashmir	3792	4010	5.7	3647	-9.1
2	Himachal Pradesh	7593	7960	4.8	7055	-11.4
3	Punjab	13979	15235	9.0	13913	-8.7
4	Chandigarh	1779	1988	11.7	1651	-17.0
5	Uttarakhand	15150	14722	2.8	12339	-16.2
6	Haryana	55233	59560	7.8	54890	-7.8
7	Delhi	39845	44161	10.8	36568	-17.2
8	Rajasthan	30722	32821	6.8	31797	-3.1
9	Uttar Pradesh	61337	65281	6.4	59721	-8.5
10	Bihar	10755	12640	17.5	11638	-7.9
11	Sikkim	1917	2248	17.3	2266	0.8
12	Arunachal Pradesh	398	581	46.0	651	12.0
13	Nagaland	227	317	39.6	389	22.7
14	Manipur	309	435	40.8	392	-9.9
15	Mizoram	213	296	39.0	257	-13.2
16	Tripura	556	680	22.3	732	7.6
17	Meghalaya	1368	1522	11.3	1337	-12.2
18	Assam	8989	10423	16.0	10030	-3.8
19	West Bengal	39780	43386	9.1	39694	-8.5
20	Jharkhand	23916	22847	4.5	20482	-10.4
21	Odisha	26952	29677	10.1	29844	0.6
22	Chhattisgarh	22932	24160	5.4	24419	1.1
23	Madhya Pradesh	25683	28354	10.4	27005	-4.8
24	Gujarat	73440	78923	7.5	74346	-5.8
25	Daman and Diu	1105	1155	4.5	305	-73.6
26	Dadra and Nagar Haveli	1718	1810	5.4	2349	29.8
27	Maharashtra	170289	185917	9.2	165308	-11.1
29	Karnataka	78763	83408	5.9	75660	-9.3
30	Goa	4103	4280	4.3	3270	-23.6
31	Lakshadweep	20	20	0.0	13	-35.0
32	Kerala	16343	19234	17.7	17349	-9.8
33	Tamil Nadu	70562	74430	5.5	69121	-7.1
34	Puducherry	1924	1871	2.8	1646	-12.0
35	Andaman and Nicobar Island	297	361	21.5	255	-29.4
36	Telangana	36408	39820	9.4	36346	-8.7
37	Andhra Pradesh	25331	27108	7.0	26163	-3.5
97	Other territories	2484	1753	29.4		-100.0
99	Centre Jurisdiction	580	1003	72.9		-100.0
	Grand Total	876794	944414	7.7	865842	-8.3

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## **CAN CENTRAL BANK DIGITAL CURRENCY TRANSFORM DIGITAL PAYMENTS**

**Dr. Aruni Kumar\* Prashant Gaurav\*\***

### **ABSTRACT**

*As it is evident that many countries are rolling E -currency through its Central Bank and recently India has also rolled out e-Rupee on 01 Dec 2022 in select cities as pilot project, so it becomes imperative to study in detail whether Central Bank Digital Currency can transform digital payments, its soft part and hard part. In this ongoing paper the author tries to address these issues.*

**Key Words:** *E-currency, CBDC, Physical Currency etc.*

### **INTRODUCTION**

An increasing number of central banks are exploring the possibility of creating their own version of digital money, typically referred to as central bank digital currency (CBDC). recently India has also rolled out e-Rupee on 01 Dec 2022 in select cities as pilot project. By now there is a clear consensus on the potential benefits and costs of CBDC, even if there is an ongoing debate on their relative size (e.g. Bank of England 2020). Most of the initial discussions were focused on the potential risks of bank disintermediation, in particular in times of crises (Andolfatto 2021, Brunnermeier and Niepelt 2019, Niepelt 2020). While the debate on the significance of these costs might not be fully resolved, it has produced a set of viable proposals to limit this risk. In this paper, we will focus on the other side of the arguments – the benefits of CBDC. The list of potential benefits is quite diverse but can be grouped into two big themes:

- the need for a public form of money that ensures financial inclusion and is a key pillar of the monetary system; and
- the importance of offering an alternative that competes with newly created forms of private digital money.

We argue that achieving each of these goals might require very different instruments and that the creation of retail accounts at the central bank can only deliver a small subset of the claimed benefits. For the others, we need an overhaul of the way the payments rails work in a digital world, one that involves different tools that are, to a large extent, orthogonal to the creation of CBDC.

### **THE EASY PART**

Central banks guarantee the value of the unit of account through their management of monetary policy and the provision of an asset – physical currency – that is the cornerstone of that trust (BIS 2021c). Private forms of money – bank deposits – coexist with physical currency, but individuals always have an option to redeem those assets for cash. In addition, central banks provide finality in payments by settling claims between banks when individuals make use of private money for payments.

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\* (Economist)

\*\* (Research Scholar)

As payments become more digital and the role of physical currency decreases, central banks are concerned about their diminishing role and the potential impact on trust in the monetary system. The Rabobank, an early mover in this area, summarizes it well: “There is a risk of basic trust in the Swedish krona and the monetary system being undermined when it is no longer possible for the general public to change their banks deposits into state money” (Söderberg 2019). Or in the words of the ECB (2020), CBDC is the “natural transition from currency”.

The creation of retail CBDC accounts will fully address this concern. It will create a digital alternative to physical currency that will maintain the role of central banks in ensuring the value of the unit of account. In addition, achieving this goal does not require that CBDC becomes widely used. Today, in many countries, individuals mostly rely on digital forms of payments, but the existence of cash and its availability still provides an anchor to the unit of account.

### **THE HARD PART**

Central banks want more than just a replacement for cash. They also want an alternative to private forms of payments to ensure a competitive landscape, one that includes everyone, is efficient and adds resilience. To reach these objectives, CBDC would need to be widely used, accepted everywhere. And if resilience is indeed a required goal, it would need to run in parallel with private forms of payments.

To achieve this goal, central banks need a lot more than just creating accounts at the central bank. For digital money to become a successful means of payment, it needs to be used everywhere (peer-to-peer (P2P) transfers, accepted as payment by merchants). Here is where central banks find themselves in a difficult position. In principle, central banks could aim to create an efficient, ubiquitous parallel infrastructure for payments. But, for many good reasons, central banks do not want to do this. Recreating a parallel system of payments for the sake of resilience seems wasteful and central banks might lack the necessary capabilities to do so (ECB 2020). As central banks recognize these limitations, they are exploring hybrid solutions (Auer and Böhme 2020, BIS 2021d). A hybrid solution requires collaboration with private entities that serve as intermediaries, facilitate customer-facing tasks, provide the last mile of the payment system and compete with each other.

But relying on the private infrastructure of payments will hinder the ability of CBDC to achieve all its goals. For example, central banks recognize that “resilience benefits would need to be assessed against the costs” required to provide it. The same can be said about inclusion: private payment providers might still lack the incentives to provide affordable services everywhere, so “legislation requiring basic access could be proposed” (BIS 2021d).

More fundamentally, what about the goal of making CBDC a widely used efficient payment technology? Here is where things get more challenging. Digital payments are as much about the underlying assets as about the payment technology that facilitates the transaction (Fatas and Weder di Mauro 2018). A modest goal could be to facilitate P2P transactions within CBDC accounts, replicating what private platforms such as Venmo or WeChat do today. But this is not enough to satisfy many of the CBDC goals.

Making CBDC an everyday payment technology requires full integration and interoperability with all the networks of the current ecosystem of payments. This is highlighted in the recent report by BIS and seven major central banks that emphasizes the importance of interoperability for CBDC success (BIS 2021d). But achieving this goal requires a substantial rewriting of the payment rules and a rethinking of what the future infrastructure should look like.

Today, interoperability between banks is guaranteed through the combination of a single settlement

system run by the central bank (all 'wallets' are connected through a node) and a set of unique digital identifiers (bank accounts). But as we add additional electronic wallets or payment rails run by FinTech and BigTech firms, the payments ecosystem becomes very complex. Today, transfers or payments across networks are facilitated mostly by banks operating as intermediaries, with the help of credit card companies that often provide the infrastructure. In some jurisdictions, banks and credit card companies hold substantial market power that results in inefficiencies and high costs. FinTech and BigTech are challenging this power by attempting to lure individuals into their own ecosystem. But that comes at the cost of more complexity and limited interoperability. This is the environment in which CBDC will be launched. Reaching the goal of interoperability requires a broad rethinking of the rules, the roles of intermediaries, the potential market power of incumbents or the power that BigTech could build over time.

As an example of the difficult trade-offs, one could argue that CBDC and interoperability might, in some cases, increase the market power of BigTech firms. Today, in regions such as the US and Europe, BigTech has not gained much traction when it comes to digital payments because of the power that banks and credit card companies exercise over the network of payments. What would happen if payments could easily be done using any form of digital money? And what if CBDC became the pillar for private providers to deliver an efficient settlement or to design successful stablecoins around it? In that environment, interoperability and safety of the underlying assets would mean that individuals would be indifferent between different electronic wallets. The decision to use one or the other would entirely depend on the benefits that the payment technology offers. Some of these benefits are likely to be linked to other digital activities originating in the ecosystem where the payments take place. BigTech firms are likely to have the upper hand when it comes to this race. CBDC could not compete with them.

## CONCLUSION

For central banks concerned about the disappearance of currency and the need to have a public form of digital money, retail CBDC is the solution. Accounts at the central bank available for everyone will become the digital equivalent of currency.

But when it comes to the goal of ensuring a competitive, efficient and inclusive payment system, the issues are more complex and they have to do more with the regulatory and technology environment of payment systems. CBDC is in no way a substitute for the needed reforms to the architecture of payments. In fact, we have seen, without CBDC, great progress in some countries when it comes to the payment infrastructure. Fast payments, access of non-banks to the central bank settlement system, the use of digital IDs to improve interoperability or even the promise of seamless cross-border payments by connecting national payment systems are all examples of increased efficiency, inclusivity and competition in payments. On the positive side, the creation of CBDC could become a catalyst for all these changes even if the tools required to reform the payment system are, to a large extent, orthogonal to the creation of CBDC. The biggest risk is that the attention on and energy put into CBDC becomes a distraction for central banks and regulators, moving the focus away from the necessary regulatory and technology changes.

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## **REGIONAL DISPARITIES IN AGRICULTURAL GROWTH IN INDIA: AN INTERSTATE ANALYSIS**

**Mukesh Kumar\***

### **ABSTRACT**

*Agriculture is the backbone of every civilization; it is a pivot on which the secondary and tertiary sector of an economy runs. According to the classifications of CSO, Agriculture and allied activities comprise four sub-sectors such as 1. Crops 2. Livestock 3. Forestry and logging 4. Fishing and aquaculture. The growth of agricultural sectors affects the growth of the overall economy and also gets affected by that. The unbalanced development across the regions leads to the social divide and separation demands in any country. Thus, it is necessary to ensure balanced and inclusive growth across every section of society and every region of the country. In the past four decades (1981-2019-20), government initiatives have reduced the agricultural disparity among states. Similarly, some concrete steps are required to eradicate the economic disparity.*

**Keywords:** REGIONAL DISPARITIES, BIMARU, GSDPA, GSDP, AAGR.

### **INTRODUCTION**

The growth of the agricultural sector is a prerequisite for the overall development of a country like India. This sector not only generates employment, contributes to National Income, and earns valuable foreign exchange but also affects the other sectors through forward and backward linkages.

Despite lip service paid since independence by the policy planners to the agricultural sector, the harsh ground realities have been different, especially after the inception of economic reforms. In the pre-reform era, the policy of the green revolution was to some extent responsible for widening inter-state, intrastate, and inter-personal disparities in the agriculture sector. The years following 1991 witnessed the agrarian crisis in the economy with a marked slowdown of agricultural growth rates due to systemic neglect. The distortions at all levels are evident when we observe that the agricultural sector employs 50% of the country's workforce but contributes only 16.5% to GDP and 12.86% to national exports. (Economic Survey 2019-20).

### **UNDERSTANDING REGION, DISPARITY, AND REGIONAL DISPARITIES**

The term 'region' can be taken broadly to mean a group – be it of nations, states, districts, blocks, and sometimes even villages that possess homogeneity, contiguity, and functional integration. While an 'area' is always associated with at least four properties, namely scale, location, content, and boundary. The term 'difference' stands for the variation between the individuals of the unit or regions based on biological or natural characteristics. On the other hand, 'disparity' is a man-made phenomenon that shows the inequalities between individuals, groups, or regions due to unfair treatment or unjust systems. Thus, 'regional imbalances or disparities' mean wide differences in a set of variables like income, health, education, industrialization, etc. between different regions. These regions can either

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\* UGC-JRF, Department of Economics, Banaras Hindu University, Varanasi, U.P., E-mail: [mukeshdbg11@bhu.ac.in](mailto:mukeshdbg11@bhu.ac.in)

be states in themselves or within states (West, 1966; Fisher, 1969; Meinig, 1978; Groenman, 1972; Ginsburg, 1968; Richardson, 1969 & 1973; Hoover, 1971; Harrison et.al., 2007; Sarabu, 2016; OECD, 2002; Vorauer, 2007; Gupta & Hiran, 1973; Sharma, 1974; Vidyanath, 1986).

### **INITIATION OF GREEN REVOLUTION IN INDIA**

During the decades of 1960 Indian economy was passing through a turbulent phase after wars with China and Pakistan. India was facing a huge shortage due to two successive drought years and was compelled to import food grains under the PL 480 law of the USA to get rid of mass famine. To solve the problem of shortage of food grains once and for all, the Green Revolution or high yielding varieties (HYV) package program was initiated in the name of the Intensive agriculture district program (IADP). This program was started as a pilot project in 7 districts in 1961-62 and extended to 9 more districts in 1962-63 of different states. So, the Green Revolution owes its origin to the finding of a new dwarf variety of wheat seed by Dr. Norman Borlaug (American Agronomist), and the term 'Green Revolution' was first termed by William S. Gaud in 1968 (Hardin, 2008; Swaminathan, 2013).

### **GREEN REVOLUTION AND GENESIS OF AGRICULTURAL DISPARITIES IN INDIA**

Many studies have emphasized that the spread of green revolution technology was highly skewed in favour of certain states and regions due to the early availability of better irrigation facilities. This led to high growth in agricultural output in some regions whereas maximum other regions suffered from stagnant or poor growth in agricultural output. We have reviewed some prominent studies dealing with the disparities in agricultural and economic development.

It is widely believed that the first decade following the green revolution has increased interstate disparities in agricultural and economic development. It has also brought inter-crop imbalances due to crop concentration in wheat and rice production; imbalances in agriculture production due to technical dualism; increase in unemployment situations due to automation in the farm sector; environmental degradation due to high use of insecticides & pesticides along with heavy metal contamination in groundwater due to deep irrigation and last but not the least, class divide in society due to inter-personal differences in income level (Rao, 1977; Bhalla and Singh, 1997).

Ghosh (2006) has examined the regional disparities in agricultural development across 15 major states during 1960/61-2001/02 by dividing them into four sub-periods. Results stated the divergence in the growth process such as the nine states (Andhra Pradesh, Assam, Bihar, Gujrat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh) share a common steady-state growth path with 'All India' and the remaining six states (Haryana, Kerala, Punjab, Orissa, Tamil Nadu, and West Bengal) are showing higher and divergent growth from 'All India' growth path. Contrary, the study of Murtaza and Masood (2018) and Chanda and Kabiraj (2020) suggest that there is a convergence in the growth of agricultural productivity.

Kurian (2007) in his study argued that after reforms economic growth is driven by an increase in private investment resulting in increasing regional disparities. The author observed that India is suffering from acute economic and social disparities. This paper made clear about the dimensions of regional disparities i.e., rural-urban differences, social class differences, or gender differences have been aggravated in the recent period.

For analysing the regional disparities, Bhalla and Singh (2009) have divided their study into two sub-periods such as post economic liberalization period (1990-93 to 2003-06) and the pre-economic liberalization period (1980-83 to 1990-93) and compared both of them. While, Banerjee and Kuri (2015) have divided their study into three different sub-periods such as the first phase of the green revolution (1970-71 to 1979-80), the second phase of the green revolution (1980-81 to 1990-91), and

the period after economic reforms (1991-92 to 2007-08). Findings suggest that the distribution of both public and private investment is skewed in favour of agriculturally developed states. The lack of adequate investment in rural infrastructure and irrigation facilities is the main factor behind increasing of the disparities.

Kundu and Varghese (2010) stated that a lack of urbanization is causing regional backwardness and outmigration in several states. While Joshi and Haque (1980) focused that disparities have increased due to the dominance of the backwash effect over the spread-over effect.

Mittal and Devi (2015) also found that the regional development is asymmetric in India and clustered into some states like Punjab, Maharashtra, Gujrat, Haryana, Tamil Nadu, and Andhra Pradesh, and the states like Bihar, Odisha, Jharkhand, Chhattisgarh, UP, Rajasthan, and MP are industrially and agriculturally backward. A similar sort of discussion has been stated by Ripudaman (2015) that the development has been clustered into some specific regions such as north-western, western, southern, and some eastern areas of India. The central and eastern regions lagged due to a lack of investment because of political instability, inefficiency, opposition parties' government, naxalism, and lack of good governance.

It is also found that in the short run states tend to converge to a single rate of growth but in the long run, there are two divergent patterns based on the spread of irrigation; states with a higher proportion of crop area under irrigation tend to converge to the higher rate of growth whereas states with a lower proportion of crop area under irrigation tend to converge to the lower rate of growth (Bhide, Kalirajan and Shand, 1998; Chand et al, 2011).

During the decade of 1980s, some efforts were made to spur agricultural growth in low-productivity and stagnant states and regions. New crop varieties, extension services, technologies, and enterprises were developed for dryland, rainfed, and other ecological settings to improve agricultural productivity and income. Some studies have concluded that in the phase of 1980s and 1990's the agricultural growth in the rest of India especially the eastern region picked up (Bhalla and Singh 1997; Sawant and Achutan 1995). This is taken to infer those regional differences in agriculture income and productivity across states have narrowed down after the initial phase of the green revolution.

#### **STATEMENT OF THE PROBLEM**

The government launched various schemes during the 1980s and 1990s to foster the principle of balanced growth across the different agricultural regions. The reform initiatives were started with the establishment of 'NABARD' (1982) to ensure the better availability of credit in rural areas for farm and non-farm practices. Again the 'National Oilseeds Development Program was launched in (1984-85) which was followed by the 'National Pulses Development Programme' (1986) dedicated to the betterment of agricultural practices in the central regions of the country. Similarly, the 'National Watershed Development Programme' (1986-87) and 'Accelerated Irrigation Benefit Programme' (1996-97) were launched for the extension of green revolution benefits toward dryland areas of the country. The 'Kisan Credit Card Scheme' (1998-99) and 'National Agriculture Insurance Scheme' (1999-00) were launched to advance the agriculture sector in the 21st century.

But after seventy-five years of independence, fifty-five years of the green revolution, and thirty years of economic reforms our country is still in the queue of developing nations. The widening interstate disparities in agricultural growth in the country are resulting in holding back the country's economic development and creating a divide among the farmers of the agriculturally prosperous and less developed regions. This is played out in the recent scenario of protests against the newly enacted and withdrawal farm laws where it appears that the resistance was concentrated in some regions of the

country, particularly in the paddy and wheat-growing states.

In this paper, we are going to analyze the growth of the agriculture sector vis-à-vis the overall economic growth of the major Indian states to understand the nation-wide clear picture of regional disparity in the past four decades (1981-82 to 2019-20).

### METHODOLOGY AND DATA SOURCE

We are going to analyze the growth performance of GSDP (Gross State Domestic Product) and GSDPA (Gross State Domestic Product from Agriculture) of the 15 major states of India (Andhra Pradesh, Bihar, Gujrat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, and West Bengal) for the period of 1981-82 to 2019-20.

We have taken the past four decades data from the 'States of India' package of the EPWRF (Economic and Political Weekly Research Foundation) databank. We have extracted the data of selected parameters of GSDP and GSDPA at the Factor Costs on Constant Prices at 2011-12 base year back series. This is important to be clear here that the EPWRF has linked the old base year factor cost data to the current base year GVA series which is reliable and usable according to the methodological declaration of the database. So, we won't be confused in the GVA and GDP terms (as GDP at the factor cost seemsequivalent to GVA at basic price).

In the case of GSDPA we have computed the year-on-year growth rates from the production values for each year and then find their mean value to get the AAGR (Average Annual Growth Rate) of selected states. While in the case of GSDP the year-on-year growth rates were already given and we have just computed the AAGR by finding their mean value.

AAGR: The average annual growth rate is a calculation of the arithmetic mean of a series of growth rates. The average annual growth rate helps determine long-term trends. It is a linear measure that does not account for the effects of compounding—to account for compounding, compound annual growth rate (CAGR) would be used instead. One thing to keep in mind is that the periods used should all be of equal length—for instance, years, months, or weeks—and not to mix periods of different duration.

$$\text{Average Annual Growth Rate (AAGR)} = \frac{\text{Growth Rate}_{t=1} + \text{Growth Rate}_{t=2} + \dots + \text{Growth Rate}_{t=n}}{n}$$

Where:

- n → Number of Years

Now, we are going for the descriptive analysis of the growth rates of the GSDP and GSDPA with the help of tabular and graphical presentations. The computation has been done with the help of MS Excel and the graphs have been made with the help of meta-chart.com.

### DELIMITATIONS

We have selected the major 15 states only and left the small states and union territories. We have also not considered the previous two years data of the Covid-19 period due to the lack of availability and uniformity of data for the selected 15 states.

## RESULT AND DISCUSSIONS

The decade of the 1980s was the period of the second phase of the green revolution and is also known as the decade of structural transformation in India. The decade of the 1990s was the period of economic reforms where we had seen the roll back and roll out of the government in the form of liberalization of governmental norms, privatization of public undertakings, and globalization of the Indian market (even the roots of these reforms were sown in the decade of 1980s). The decade of the 2000s was the starting decade of the 21st century and represents the revolution in information and communication technology. Lastly, the decades of 2010s were known for inclusive growth with faster development. Amidst all the spill over effects of the service, the sector crowded out the public and private investment from the agriculture sector.

**Table - 1: AAGR of GSDP and GSDPA of 15 Major States for 1981-82 to 2019-20.**

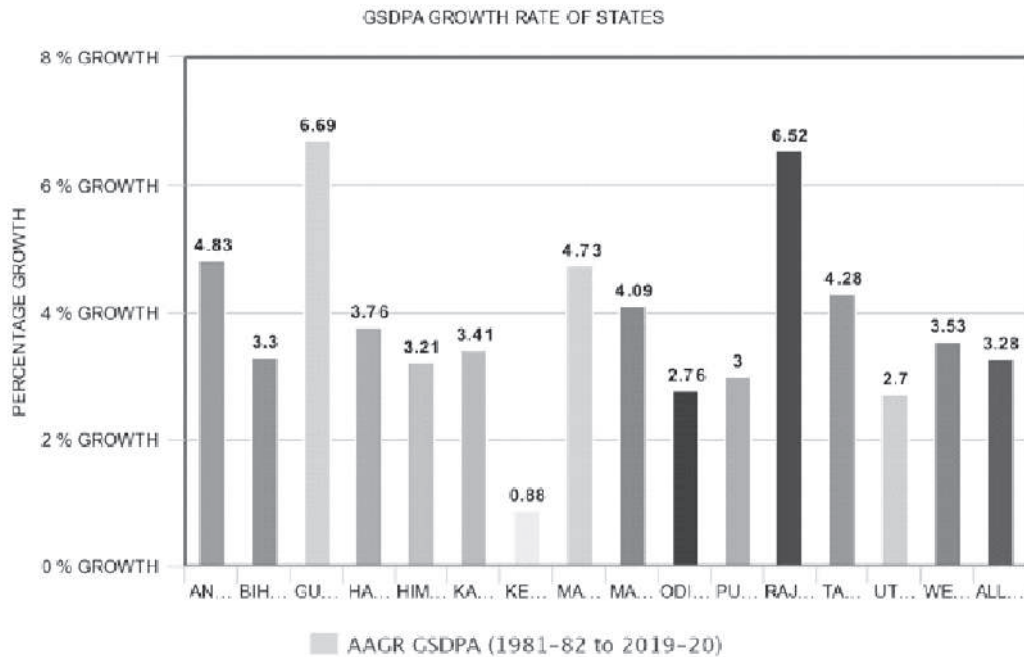
STATES	Percentage Growth y-o-y GSDPA (At 2011-12 Back Series Constant Prices) (1981-82 to 2019-20)	Percentage Growth y-o-y of GSDP (At 2011-12 Back Series Constant Prices) (1981-82 to 2019-20)
ANDHRA PRADESH	4.83	6.38
BIHAR	3.30	5.28
GUJRAT	6.69	7.64
HARYANA	3.76	6.92
HIMACHAL PRADESH	3.21	5.97
KARNATKA	3.41	6.69
KERALA	0.88	5.33
MADHYA PRADESH	4.73	5.69
MAHARASHTRA	4.09	6.53
ODISHA	2.76	5.38
PUNJAB	3.00	5.17
RAJASTHAN	6.52	6.51
TAMILNADU	4.28	6.56
UTTAR PRADESH	2.70	4.87
WEST BENGAL	3.53	5.48
ALL INDIA	3.28	6.00



**INTERSTATE DISPARITIES IN AGRICULTURAL GROWTH PERFORMANCES**

Table 1 and Figure 1 show that Gujrat (6.69 percent) has the highest AAGR in the agriculture sector in the past four decades followed by Rajasthan (6.52 percent) which is nearly double than the growth rates of the All India levels of (3.28 percent). While, Kerala has the lowest growth rate of (0.88 percent) in the agriculture sector which is a matter of great concern. There are three more states with Kerala which have achieved the fewer growth rates in the agriculture sector such as – Uttar Pradesh (2.70 percent), followed by Odisha (2.76 percent), and Punjab (3.00 percent). The remaining nine states are showing the same path of growth between 3.00 to 4.00 percent. It means if we look at the past four decades' performance, the state's order has been changed in terms of their performance in agricultural growth. The two most benefitted states of the green revolution were beaten by Gujrat and Rajasthan. So, we can say that the agricultural disparities have been reduced in the past four decades as the oilseeds and pulses producing states i.e., Gujrat and Rajasthan are performing well in agriculture due to rainfed area development programs of the government started in the 1980s and 1990s.

**Figure – 1: Growth Rates of GSDPA of 15 Major States for 1981-82 to 2019-20.**

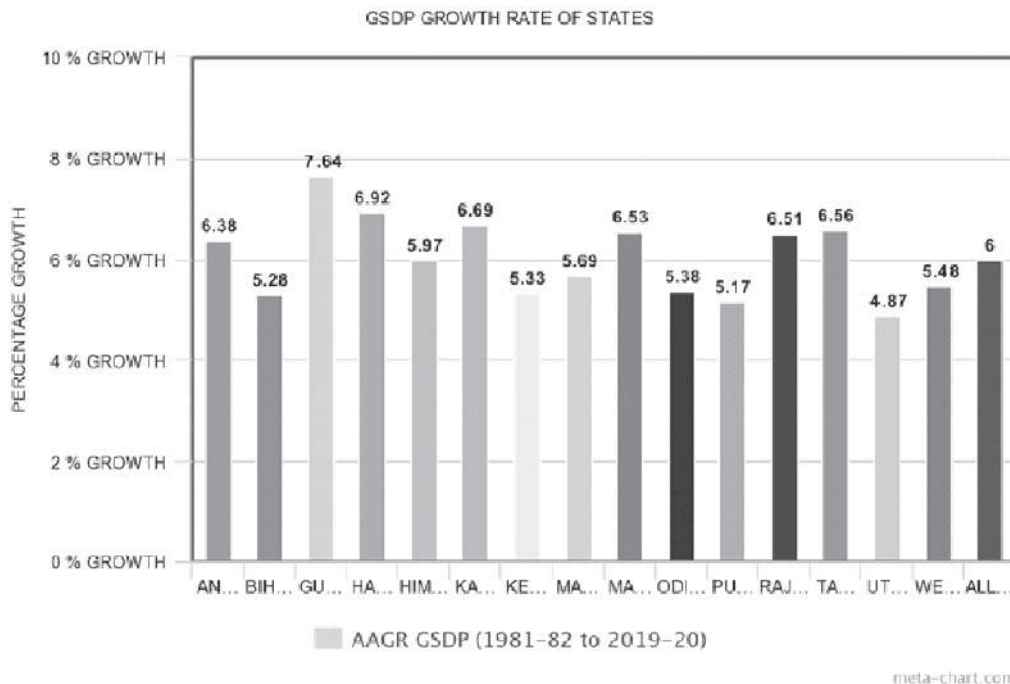


meta-chart.com

**INTERSTATE DISPARITIES IN OVERALL GROWTH PERFORMANCES**

Table and Figure 2 show that Gujrat (7.64 percent) has the highest AAGR in the overall economic performances in the past four decades followed by Haryana (6.92 percent). While Uttar Pradesh (4.87 percent) has the lowest growth rate followed by Bihar (5.28 percent). There is a total of seven states which have secured growth rates of more than (6.00 percent) of All India level in the overall economic performances. While looking at the BIMARU states, we can say that Rajasthan has successfully challenged this prejudice by achieving (6.51 percent) growth rates in the past four decades. But the rest backward states have not performed well in terms of overall economic development and we can say that economic disparities are still existing in the country as most backward states are still lagging. The rate of fostering a balanced growth path in terms of economic development is very slow.

**Figure – 2: Growth Rates of GSDP of 15 Major States for 1981-82 to 2019-20.**



**CONCLUSION AND POLICY SUGGESTIONS**

The past four decades' analysis of the time-series data shows that the agricultural disparities among states have been narrowed down as some central regions' states have performed well since 1981 due to the governmental schemes for the rainfed and ISOPOM regions. But in the case of overall economic performances except for Rajasthan no other backward states have broken the taboo of BIMARU states. One of the main reasons for the backwardness among these lagging states is the population explosion which is again giving birth to some other serious social problems of famine, epidemics, corruption, and threat to peace. So, the government should adopt the control and push policy such as – controlling the population on one hand and providing better life amenities on another hand in the form of better sanitation, education, and healthcare facilities along with peaceful employment and survival opportunities.

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## CRYPTOCURRENCY AND ITS IMPACT ON GLOBAL ECONOMY

Surabhi Mishra\* & Dr Yogita Beri\*\*

### ABSTRACT

*Technology is really the aspect of the twenty-first century that benefits people the most. Financial operations have also seized the chance by providing customers with a range of choices and services. Throughout history, humans have mainly used commodity currencies. The most popular form of money these days is fiat money, a relatively recent innovation that was first used roughly a thousand years ago. But the story of money might not be over just yet. Cryptocurrency is a novel, experimental form of money that is neither commodity money nor fiat money. To put it simply, cryptocurrencies are encrypted forms of digital money or tokens. Cryptocurrency and the underlying Blockchain technology are having a big impact on the world economy, with effects ranging from cross-border retail payments to interbank transactions. It only exists digitally and lacks a central issuing or regulatory body. The organic nature of cryptocurrencies is one of their distinguishing characteristics and may be what appeals to people the most. This characteristic has many benefits, but it also comes with a number of difficulties and drawbacks. However, the development of currency won't be complete until its legal aspect is included. This can be accomplished by issuing a recognised cryptocurrency. The concept of cryptocurrency is new to the world economy. They have only been around for a little over five years, yet they have garnered a lot of attention. Therefore, it is important to comprehend its current influence. This study aims to elaborate different aspects of, starting with the early development, impact on global economy, legal status and their challenges.*

**KEYWORDS :** *Cryptocurrency, Global Economy, Legal Status, Bitcoin, India, Challenges, Blockchain*

### INTRODUCTION

Cryptocurrency, sometimes called crypto-currency or crypto, is any form of currency that exists digitally or virtually and uses cryptography to secure transactions. Cryptography is used to safeguard the transaction and limit the generation of new units of currency in cryptocurrencies, which are digital assets created to function as a means of trade. Cryptocurrencies are categorized as subsets of alternative and digital currencies as well as subsets of digital and virtual currencies. A decentralized network powered by the Blockchain technology, which is a distributed ledger maintained by a dispersed network of computers, underpins many cryptocurrencies. The term "crypto" refers to the different encryption algorithms and cryptographic methods used to protect these entries, such as public-private key pairs and elliptical curve encryption.

Cryptocurrencies, even popular ones like bitcoin, are hardly used for retail transactions. However, the

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\* MA Economics, Department of Economics, Vasanta College For Women, Banaras Hindu University, Uttar Pradesh.

\*\* Assistant Professor, Department of Economics, Vasanta College for Women, Banaras Hindu University, Vanarasi, Uttar Pradesh.

skyrocketing value of cryptocurrencies has made them popular as trading instruments. Even though cryptocurrencies are trying to replace the current system of day-to-day transactions. Bitcoin is the most popular and valuable cryptocurrency. An anonymous person called Satoshi Nakamoto invented it and introduced it to the world via a white paper in 2008. There are thousands of cryptocurrencies present in the market today. Each cryptocurrency claims to have a different function and specification. For example, Ethereum ether markets itself as gas for the underlying smart contract platform. Ripple's XRP is used by banks to facilitate transfers between different geographies.

**DIGITAL CURRENCY** – A medium of trade that is created, stored, and transferred digitally is known as a digital currency. Unlike the coins and notes of traditional currencies, digital currencies are not normally linked to any nation's government or represented in tangible ways.

### **REVIEW OF LITERATURE**

Rahman and Dawood (2019) in their bitcoin and future cryptocurrency focussed on cryptocurrency as an imaginative and technically advanced alternative for globalization. It examined the possibility of an alternative of processing payments across geographical boundaries and if regulated effectively cryptocurrency could remove a lot of the financial challenges faced in the present. M Trivedi (2018) in his project, discusses the strengths, weaknesses, opportunities and threats of Cryptocurrency also. Smalley have raised the issue of cryptocurrency and tax claiming that there is more to be done in this aspect since the taxability of cryptocurrency transactions are not yet regulated formally. According to Trautman (2014), cryptocurrencies are a subset of digital currencies that may have either centralized institution or are based on a decentralized network. In simple terms, cryptocurrency is a new type of currency that is digital and produced from cryptographic algorithms, exchanged across the internet using protocols such as peer to peer networking. Bohr and Bashir reported the three main motivation of cryptocurrency adoption: anonymity, freedom and lack of trust in the banking system. Dr. Vijyant Banwari (2017) discusses the change in finance and the world of money. Cryptocurrencies have a huge risk factor but are increasingly popular and it will difficult for the government to control the transaction. Colon at al. (2021) examined the effect of political and economic uncertainties on the cryptocurrency using market using OLS regression model. The results of monthly data confirmed that cryptocurrencies are a strong hedge against GPU and weak against EPU. Cameron (2016) claims that it is very unlikely that government will allow the use of cryptocurrencies in the way that are currently operating. Most of the governments are well positioned to prevent integration of cryptocurrencies within current formal financial institutions. Without these institutions, the hurdles cryptocurrencies face to supplanting more legally privileges and centrally issued currencies appears to be insurmountable.

### **OBJECTIVES OF THE STUDY**

- To understand the concept of Cryptocurrency and its impact on Global Economy.
- To analyses different types of cryptocurrencies.
- To study the legal status and identify the challenges of cryptocurrency.

### **RESEARCH METHODOLOGY**

This paper is purely based on secondary data referring to various sources such as journals, newspaper articles and websites which focuses on cryptocurrency and their status. The study of review of literature also from various articles published in journals, articles and various research papers.

### **WHAT IS CRYPTOCURRENCY**

A cryptocurrency is a digital asset intended to function as a means of exchange, with each coin's

ownership history being recorded in a ledger that takes the form of an electronic database. Strong cryptography is used to protect transaction records, regulate the production of new coins, and confirm ownership transfers. It often isn't issued by a central authority and doesn't exist in tangible form (unlike paper money).

A cryptocurrency is a type of digital or virtual money that operates on a network spread over numerous computers. Decentralized networks powered by Blockchain technology underpin many cryptocurrencies. Cryptocurrencies typically use decentralized control as opposed to centralized digital currency and central banking system.

**BLOCKCHAIN TECHNOLOGY** – Blockchain is a simple, decentralised, electronic book or other collection of accounts. It keeps track of transactions. Blockchain is a method of tamper-resistant data storage that makes it hard or impossible to alter, hack, or game the system. The management and recording of transactions in cryptocurrencies is done through a distributed network of computers called Blockchain technology.

### **TYPES OF CRYPTOCURRENCY**

The purpose of cryptocurrency is to function as a medium of exchange. Over 1600 cryptocurrencies are currently accessible online, and that figure is rising. Any time a new cryptocurrency is invented. Bitcoin is now the largest Blockchain network in terms of market capitalization, followed by Ripple, Ethereum, and Litecoin.

**1. BITCOIN** – Referred to as "cash for the internet," Bitcoin is a type of digital currency. More specifically, it is regarded as cryptocurrency because Bitcoin generation and transactions are made possible through cryptography. By adopting the Satoshi Nakamoto, an unidentified person or group of people created the cryptocurrency known as Bitcoin in 2008. In 2009, when its implementation was made available as open-source software, the currency was put into circulation. Since Bitcoin is an open-source project, anyone can participate, no one owns or controls it.

**2. BITCOIN CASH** - Bitcoin cash (BCH) is both a cryptocurrency and payment network. It was created as a result of a hard fork with bitcoin in December 2017, with the aim of increasing the number of transactions that could be processed. The official bitcoin cash website describes the cryptocurrency as a "peer-to-peer electronic cash for the internet. It is fully decentralised, with no central bank and requires no trusted third parties to operate.

**3. LITECOIN** - Litecoin was released via an open-source client on GitHub on October 7, 2011 by Charlie Lee, a Google employee. He later became Engineering Director at Coinbase. The Litecoin network went live on October 13, 2011. It was a source code fork of the Bitcoin Core client, differing primarily by having a decreased block generation time (2.5 minutes), increased maximum number of coins, different hashing algorithm and a slightly modified GUI.

**4. ETHEREUM** - Ethereum is a sort of cryptocurrency that Vitalik Buterin, a researcher and programmer in the field of digital currencies, suggested in late 2013. It was first made available in July 2015. It is a platform that is open source and built on the Blockchain. The Ethereum Blockchain, which focuses on executing any decentralised application's source code in addition to monitoring ownership of digital currency transactions, enables application developers to utilise it to pay for transaction costs and other services on the Ethereum network.

**5. RIPPLE** - Ripple is a network for real-time gross settlement, currency exchange, and remittances developed by the US-based company Ripple Labs Incorporation. The cryptocurrency and digital payment network Ripple was introduced in 2012 and serves as a platform for financial transactions. Ripple allows for any type of currency to be exchanged, from USD and Bitcoin to gold



and EUR and connects to banks, unlike other currencies. Ripple also differs from other types of digital currencies because its primary focus is not for person-to-person transactions, rather for moving sums of money on a larger scale.

**6. MONERO - XMR**, or Monero, is a newly emerging cryptocurrency. Unlike Bitcoin, it is a decentralised and anonymous digital money that does not support transaction tracing. Every transaction on Bitcoin's Blockchain may be linked to a wallet, whereas Monero does not, which is meant to increase users' anonymity.

**7. DASH** - Dash is a peer-to-peer cryptocurrency that is open-source. It performs a similar role to Bitcoin. Transactions in the Blockchain, however, remain private as opposed to being publicly visible like in Bitcoin. Additionally, 10% of the money earned from the mining of new coins is set aside for marketing and development tasks. Dash is harshly condemned in the cryptocurrency community, nevertheless. For starters, Dash doesn't address any of the software issues that other cryptocurrencies face.

**8. NEO** - Since NEO is a software initiative started by a Chinese corporation, many see it as China's answer to Ethereum. The Chinese startup intends to be a point of contact for significant ICOs and to upend the smart contract market. NEO has only been used for three initial coin offerings (ICOs), which is a small number when compared to the almost 100 that were held using Ethereum. Recent restrictions on ICOs and the closure of numerous crypto exchange marketplaces in China speak against this.

#### **CRYPTOCURRENCY AND ITS IMPACT ON GLOBAL ECONOMY**

A few years ago, cryptocurrency and its processing technology, dubbed Blockchain, were presented to the globe. On the other hand, bitcoin mining is expanding because it not only has an impact on the environment but also has a significant effect on the global economy. A new market has emerged as a result of cryptocurrency. Cryptocurrencies like Bitcoin, Ethereum, and many others have paved the way for a brand new market that, unlike the current money system, is ungoverned. Cyberspace will become more like the governing body that controls and maintains such disruptive markets in the coming days. It is important to highlight that digital currencies are now even more advantageous than the conventional money we are used to using due to their almost free transaction costs. There is no doubt that it is only the beginning and that there are countless possibilities for the market of the future. In near days, cyberspace will rise up more like the managing body that will handle and maintain such disruptive markets.

The Internal Review Service (IRS) views cryptocurrency as a monetary resource or property even though it bills itself as a kind of money. The entire economy has been significantly impacted by cryptocurrencies.

#### **• "BITCOIN" DIGITAL MONEY**

Financial backers who mine Bitcoin or essentially sell their Bitcoin at a profit can generate income using digital money. It not only enables multinational businessmen to venture outside of the national market and try their luck. The world now has a new money to experiment with.

#### **• TRANSPARENT TRANSACTION**

According to estimates, cryptocurrency will be especially helpful to those who are frequently uninformed of how their money is being transferred. Now that corruption will be eliminated through the use of cryptocurrency, it will also improve the efficiency and effectiveness of asset exchange and conveyance in government. Additionally, it will save the global economy a tremendous sum of money on legal expenses.

**• IMPACT ON FINANCIAL SYSTEM**

The monetary system won't be the same again, which is one thing that appears clear. Some claim that because cryptographic money does not require intermediaries like banks, it will have a negative impact on the global economy, especially the developing ones. Additionally, they claimed that because of increased transparency during transactions brought on by its decentralised record-keeping system, cryptographic money supports monetary consideration in impoverished countries at a rate unmatched by any other type of currency.

**• COMBINATION OF BLOCKCHAIN AND BITCOIN**

Bitcoin performs at the highest level ever thanks to blockchain. Any age group can invest in bitcoin and other cryptocurrencies and consistently make money, even on a small scale. It's kind of everyone's best investing platform. The economy is at the ideal time to make investments. While Blockchain handles your financial transactions.

**• CRYPTOCURRENCY TO "NEW SUN" OF THE ECONOMY**

The new emergence of investment, which anyone may conduct from anywhere, is the most noticeable effect of cryptocurrencies. Additionally, anyone can invest with a tiny sum of money by being knowledgeable about a key cryptocurrency tactic. With certainty, we can state that cryptocurrencies are now the "New Sun" of global investment.

**• GROWTH IN FINANCIAL TRUST**

The entire procedure will hold and end the corrupt way of doing business while also making transactions easier. The folks who can manage their own hard-earned money have grown to warmly trust this procedure. Additionally, it raises people's expectations for the future. Therefore, we should all embrace the revolution of change and trust.

**IMPACT ON GLOBAL INVESTMENT**

Cryptocurrencies have a lot to offer in terms of frictionless transactions and inflation control, but many investors already include them as assets in their varied portfolios. In particular, cryptocurrencies, like precious commodities like gold, are a suitable risk hedge due to the market's lack of correlation. The abundance of exchange-traded products (ETFs and ETNs) for cryptocurrencies is due to this very reason. Industry insiders are concerned that a cryptocurrency crash might harm the market as a whole, much like how mortgage-backed securities contributed to the global financial crisis. It's crucial to remember that the combined market capitalization of all cryptocurrencies, which is presently between one and two trillion dollars, is still less than that of a number of large publicly traded companies, such as Meta (formerly Facebook) or A. Cryptocurrencies as an asset class, however, are an unique and illogical idea that may go any way. Ultimately, many investors view cryptocurrencies as a speculative tool or a means of hedging against inflation, but as of 2021, the market's size doesn't represent a systemic risk.

**CHALLENGES FOR ECONOMY**

The threat to the monetary system, concern over misuse for questionable purposes, and lack of control over private crypto-exchanges allowing for the sale and purchase of cryptocurrencies are some real challenges that the various nations face as cryptocurrencies become more prevalent and have a greater impact on the world economy. Taxing such transactions both domestically and abroad is a major additional consideration.

Different nations are taking different approaches when it comes to cryptocurrencies. The first are the nations that encourage the usage of cryptocurrencies, such as Malta, Singapore, and Switzerland.

Countries in the second group impose cryptocurrency restrictions. China is one of them; it has essentially outlawed cryptocurrency. Bhutan, Bolivia, Taiwan, South Korea, and Lebanon have all prohibited the usage of cryptocurrencies. The third group controls how cryptocurrencies are used. These countries seek to balance encouraging the use of cryptocurrencies and balancing the risks attached in use of cryptocurrencies, such as the USA.

There are differences in how cryptocurrencies are viewed for calculating taxes like VAT, capital gains, and property taxes. There is no question that every economy in the world needs to implement a robust, transparent, and fair taxation system. There is a chance that tax disparities will widen in this sector over the long term due to a lack of certainty. Although there are more difficult obstacles to overcome before crypto instruments may be utilised as money and a payment method, it would be possible to regard them as an asset.

### MARKET SHARE

The top 10 cryptocurrencies based on their market capitalization as on 25TH October 2021 as reported by coinmarketcap.com are depicted in the following chart:

**TABLE NO 1 MARKET SHARE OF CRYPTOCURRENCIES.**

NAME	MARKET CAP (IN USD)
BITCOIN (BTC)	1,198,215,211,571
ETHEREUM (ETH)	497,569,953,916
BINANCE COIN (BNB)	81,341,524,785
CARDANO (ADA)	71,416,294,691
TETHER (USDT)	69,638,054,440
SOLANA (SOL)	65,223,963,104
RIPPLE (XRP)	51,735,479,131
POLKADOT (DOT)	43,189,387,168
DOGECOIN (DOGE)	34,993,033,925
USD COIN (USDC)	32,579,838,567

Source: <http://www.coinmarketcap.com>

Cryptocurrencies are becoming increasingly significant in the global economy, both in terms of worth and in terms of the number of users who own them. With time, new sources of support for cryptocurrencies are emerging.

### HOW CRYPTOCURRENCY MAY IMPROVE THE GLOBAL ECONOMY AND PAVE THE WAY FOR A BETTER FUTURE

Although cryptocurrencies have been studied and argued for a long time, they are just now becoming known as financial tools that may be used and accessible by people other than die-hard enthusiasts. Because they make it simpler to access cash and financial services, cryptocurrencies have the potential to promote social and economic development everywhere in the world, particularly in underdeveloped nations. Cryptocurrencies and Bitcoin in particular have a highly utilitarian, yet also disrupting quality that has slowly, but steadily started to interfere with the way the traditional financial system works.

#### 1. A BENEFICIAL RISE IN ECONOMIC ACTIVITIES

A whole sector of the economy has already been created around cryptocurrencies, and it is controlled by organisations tasked with monitoring all the global trades of digital currency. Early adopters who became wealthy over night and discovered chances for financial growth may attest to the earth-shattering rate at which the bitcoin sector is expanding. Many people and businesses have already

been able to expand and flourish thanks to Bitcoin, the most well-known of these cryptocurrencies, and many also rely on trading as their main source of income. Cryptocurrencies have a huge potential to meet these needs as the economy gradually changes to accommodate them.

• **GREAT OPPORTUNITIES FOR POORLY BANK COUNTRIES**

More than one-third of the world's population lacks access to these services, which include loans, checking accounts, and a wide range of other necessary banking services. These people typically already have fragile financial situations, thus they commonly resort to dangerous and fraudulent lending practices. The folks who applied for the loan become even more unstable as a result of these discriminatory interest rates. Cryptocurrencies, with their high volatility and user-friendliness, are useful in this situation. Nowadays, there are many tools and programmes that make it simpler to use cryptocurrencies and increase their accessibility to a wider range of users. Another benefit of using cryptocurrencies is that they are completely decentralised and support international trade. Everyone will become more financially linked, empowered, and enabled as a result of the financial revolution made possible by the use of technology.

• **LOW TRANSACTION COST**

All cryptocurrency and Blockchain transactions are digitalized, automated, and recorded in a distributed ledger. The nicest thing about it is that there is very little chance of fraud and corruption because it cannot be influenced by either people or businesses. Because of this, developing nations also stand a better opportunity of participating in financial transactions and improving their own economies and social prospects. Additionally, residents will be able to monitor the direction of governmental finances and will thereby have a voice inside their local political environment.

• **MORE POWER TO ENTREPRENEURS**

With the ability to accept payments in additional currencies thanks to blockchain technology and cryptocurrencies, there has never been a more successful time to start a business. One such organisation that aids African business owners in doing financial transactions with firms in Europe, America, and Asia is BitPesa. The goal is to assist small and medium-sized businesses worldwide in obtaining better financial protection and an emancipated financial link with the rest of the globe. Entrepreneurs may easily convert alternative currencies into fiat money using BitPesa and TenX's digital wallet, which they can then use for investments, purchases, and payments related to their businesses.

The world is changing faster than ever. A clear indication that existing financial institutions are no longer able to sufficiently hold down the fort and that new financial necessities are arising is the quick uptake of cryptocurrencies. Blockchain technology offers all the tools required to address these issues, much like how there is an increasing need to remove obstacles in order to attain complete social and financial inclusion.

**LEGAL STATUS OF CRYPTOCURRENCY AROUND THE WORLD**

Due to the fact that many states view cryptocurrencies as being very distinct, they have long been at the centre of the international discussion to establish a legal framework. Some States view them sceptically and think that their usage could harm the economy, while others either forbid their use or permit free migration. While some Western nations, like the United States and the United Kingdom, have adopted a generally positive stance toward new technologies that enable virtual currencies, other nations, like Canada and Australia, are still debating their options. Other nations, like Russia, China, and South Korea, have largely outlawed the use of virtual currencies.

**Graph 1. Crypto Regulation World Map in 2021**

**Sources:** <http://scalablesolutions.io>

#### **UNITED STATES OF AMERICA**

Despite the fact that there are many Blockchain companies and cryptocurrency investors in the United States, the nation hasn't yet created a clear regulatory framework for the asset class. The Commodity Futures Trading Commission (CFTC) refers to Bitcoin (BTCUSD) as a commodity, the Treasury refers to it as a currency, and the Securities and Exchange Commission (SEC) often considers cryptocurrencies as a securities. The Bank Secrecy Act (BSA) regulates cryptocurrency exchanges in the US, and they are required to register with the Financial Crimes Enforcement Network (FinCEN). They must also adhere to obligations related to fighting the financing of terrorism and anti-money laundering (AML). For the purposes of federal income taxation, the Internal Revenue Service (IRS) classifies bitcoins as property. Investors in cryptocurrencies should keep a careful eye on a high-profile court lawsuit between Ripple Labs Inc. and the SEC, filed in December 2020, for violating "registration restrictions of the federal securities laws."

#### **UNITED KINGDOM**

Cryptocurrencies are not regarded as legal cash in the UK, but rather as property. Additionally, cryptocurrency exchanges are prohibited from providing trading in crypto derivatives and are required to register with the Financial Conduct Authority (FCA) of the United Kingdom. Additionally, the regulatory body has implemented know your customer (KYC) regulations unique to cryptocurrencies, in addition to the aforementioned AML and CFT requirements. Taxability depends on the crypto activities carried out and who engages in the transaction, despite the fact that investors still pay capital gains tax on income from crypto trading.

#### **JAPAN**

In accordance with the Payment Services Act, the land of the rising sun adopts a proactive approach to

cryptocurrency rules and recognises cryptocurrencies as legal property (PSA). In the meanwhile, local cryptocurrency exchanges are required to register with the Financial Services Agency (FSA) and adhere to AML/CFT regulations. Japan classifies bitcoin trading earnings as "miscellaneous income" and taxes investors accordingly.

#### **AUSTRALIA**

Australia adopts a relatively pro-active approach to cryptocurrency regulation. Australia considers cryptocurrencies to be legal property, making them liable for capital gains tax. 16 Exchanges are permitted to run their businesses without restriction as long as they register with AUSTRAC and adhere to certain AML/CTF requirements. For initial coin offers (ICOs) and exchanges that are prohibited from providing privacy currencies in 2019.

#### **SINGAPORE**

The island state classifies cryptocurrency as property but not legal tender. The country's Monetary Authority of Singapore (MAS) licenses and regulates exchanges as outlined in the Payment Services Act (PSA). Singapore, in part, gets its reputation as a cryptocurrency safe haven because long-term capital gains are not taxed. However, the country taxes companies that regularly transact in cryptocurrency, treating gains as income.

#### **CHINA**

Despite not classifying cryptocurrencies as legal cash, the up-and-coming world power does treat them as property for the purposes of determining inheritances. Due to their facilitation of unauthorised public financing, cryptocurrency exchanges are prohibited from functioning in China by the People's Bank of China (PBOC). After China's crackdown on cryptocurrency legislation, Binance, the largest cryptocurrency exchange in the world, had to move its headquarters. Though there are rumours the corporation is in Malta or the Cayman Islands, the exact location of the organization's headquarters is unknown.

#### **INDIA**

The subcontinent declares that cryptocurrencies are not accepted as legal money, like the majority of nations. Nevertheless, the Central Board of Direct Taxation of the nation stipulates that investors must pay taxes on gains from cryptocurrency trading. The Supreme Court overturned the Reserve Bank of India's (RBI) restriction on financial institutions using virtual currencies in March 2020, however. Regulators in the nation are still unclear. For instance, India put up a law in the beginning of 2021 that would outlaw the creation, possession, mining, and trading of cryptocurrencies except than those backed by the state.

#### **South Korea**

The country didn't use to consider cryptocurrencies as legal tender or financial assets. However, in May 2021, the South Korean Financial Supervisory Service (FSS) was tasked to oversee crypto exchange regulation, with operators' subject to strict AML/CFT obligations. By September 2021, cryptocurrency exchanges and other virtual asset service providers were required to register with the Korea Financial Intelligence Unit (KFIU), a division of the Financial Services Commission (FSC). A few months later, parliament approved a new tax on digital assets to take effect in 2022. Now any cryptocurrency income earned above 2.5 million won (approximately \$2,000 USD) will be taxed at 20%. But anything valued under the threshold will remain tax-free.

#### **EUROPEAN UNION**

The majority of the European Union (EU) has legalised cryptocurrency, while exchange governance



is determined by individual member states. 34 In the meantime, taxes in the EU vary from 0% to 50% depending on the jurisdiction. The Fifth and Sixth Anti-Money Laundering Directives (5AMLD and 6AMLD) of the EU, which tighten KYC/CFT obligations and standard reporting requirements, have recently gone into effect. The Markets in Crypto-Assets Regulation (MiCA), a framework that strengthens consumer safeguards, specifies explicit industry behaviour, and adds new licencing requirements, was suggested by the European Commission in September 2020.

Informal statements made by a tax body in SWEDEN imply that digital currencies should be classified as assets rather than currencies.

SPAIN examines the "tax" issue carefully. According to a law that governs gambling, cryptocurrencies are taxable as electronic payment systems, but it is not yet clear how they should be managed and regulated in other areas.

Financial services using virtual currencies are governed by AUSTRIA.

The National Bank of BELGIUM has warned investors and savers of the risks associated with cryptocurrencies and proclaimed them to be illegal properties, while the Ministry of Justice has stated its intention to impose strict controls on cryptocurrency-related activities. Digital currencies are considered financial instruments under GERMAN law, or more specifically, a type of "private money" that is taxable as capital. However, some usage call for licences or permits.

#### **EL-SALVADOR**

Bitcoin was made legal tender in the country through the "Bitcoin Law", which was passed on 8 June 2021, and took effect on 7 September 2021. One month on, more Salvadorans have bitcoin wallets than traditional bank accounts, and the most popular bitcoin wallet—the government's officially sponsored Chivo wallet—had been downloaded by three million people, approaching 46 percent of the population.

#### **BRAZIL**

According to a Central Bank of Brazil statement on cryptocurrencies from 2014, they are not regulated but are discouraged due to operational hazards. The Central Bank of Brazil maintained this unregulated and discouraged position in November 2017. A report on cryptocurrency taxes in the nation was released by Brazil's Special Department of Federal Revenue on May 7, 2019.

#### **REST OF THE WORLD**

In BANGLADESH, the Central Bank has ruled that the exchange of Bitcoins or other digital currencies could cost up to 12 years in prison.

Even in BOLIVIA, the currencies "not issued and controlled by the government" are declared illegal.

Also in ECUADOR there is a ban, but basically because this nation is developing its own system of national electronic.

CHILE, There is no regulation on the use of bitcoins. In AFGHANISTAN in August 2022 Taliban banned trading in cryptocurrencies.

UNITED ARAB EMIRATES According to the Library of Congress "The Central Bank does not recognize cryptocurrencies as a form of payment yet. However, it is working on a new regulation for retail payment services that introduces the concept of tokens that could be used for payment purposes.

SAUDI ARABIA Financial institutions are warned from using bitcoin. The Saudi Central Bank (SAMA) has warned from using bitcoin as it is high risk and its dealers will not be guaranteed any protection or rights.

## **CHALLENGES AND ISSUES**

Despite all of the benefits, there are still a lot of obstacles that cryptocurrencies must overcome. Because of the risks and difficulties associated with trading and investing in cryptocurrencies, observers and new investors have certainly exercised care while deciding whether to make significant investments or not. Cryptocurrencies are a fascinating innovation that have drawn significant attention from theorists, analysts, and traders in today's global financial markets. This new type of currency introduces improvements in electronic payments and money transfers, lowering transaction costs and enhancing user privacy. It uses a totally decentralised mechanism to run. Understanding the risks associated with this new asset class and the technology that underpins it, Blockchain, is essential for investors, politicians, and regulators if they want to avoid asset bubbles, control liquidity, and properly diversify their portfolios.

### **• CYBERATTACK**

Anything that is accessible in internet is constantly at risk of hacking. Once the cryptocurrency's security mechanism has been breached, hackers will be able to manufacture a large number of cryptocurrencies, sell them, and even steal bitcoin from other users. A malware threat exists at all times. Because it is a digital currency, it is vulnerable to hacking, password loss, viruses, and other threats.

### **• MONEY LAUNDERING**

Due to the ease with which one can transmit money from one country to another without being held responsible, people will begin engaging in money laundering. According to a research, criminals used cryptocurrency exchanges to launder US\$2.8 billion in 2019, up from US\$1 billion in 2018. Internet research revealed that around 56% of cryptocurrency users. The process of creating cryptocurrencies differs greatly from the way the economy produces regular money. For instance, the RBI alone has the power to print money in India. Only after keeping the Minimum Reserve System in place and an asset with a value of up to 200 crores can it achieve this. As a result, supply and demand are in balance.

### **• ILLEGAL USE**

Cryptocurrency is a chance for people who want to avoid paying taxes or engage in money laundering. The WannaCry and Petya viruses, which were used as an easy method of transfer in cyberterrorism and in which \$300 in Bitcoin was used to unlock files, are the most well known examples. Wanna Cry is an excellent illustration of a cryptocurrency ransom that was used by crooks to extract money online. The hacker's machine was secured, and the hackers demanded cryptocurrency in exchange for ransomware. The identical assault was carried out in the Petya attack, and bitcoin was requested as ransom.

### **• SECURITY RISKS**

If a user misplaces their private key, they can no longer access their cryptocurrency (unlike traditional digital banking accounts, this password cannot be reset).

### **• MARKET VOLATILITY**

They are extremely volatile due to their speculative character. As an illustration, Bitcoin's value dropped from USD 20,000 in December 2017 to USD 3,800 in November 2018. 15

• **DIVERSITY** - The fact that cryptocurrencies are fundamentally distinct and non-interchangeable presents risk managers with their obstacle. The staggering variety of cryptocurrencies varies along

many different axes, especially in terms of security, programmability, and governance traits.

• **MALWARE THREAT**

A central bank is unable to control the amount of cryptocurrencies available in the market. If its use spreads widely, it might put the country's financial stability at jeopardy.

• **TRANSPARENCY**

In reality, it is a well-known truth that the majority of ICOs fail, with some of them even being fake. Power dynamics also underlie the agreements and partnerships established in the cryptosphere, much like in the more traditional economy, and the subtleties of marketing efforts can deceive users and investors. The advantages of digital currencies can be poisoned, and the strength and influence of Blockchain adoption in several industries outside of finance can be undermined by reputable institutions' lack of transparency, accountability, and professionalism.

• **LIQUIDITY**

Any market needs liquidity to function properly. When there is a dearth of it, the atmosphere becomes unbalanced and things spiral out of control. Orders are not placed or executed promptly as a result of the reduced liquidity, which gives significant holders the opportunity to manipulate prices. A lack of liquidity also makes markets more volatile and causes more price slippages.

• **REGULATORY AND LEGAL DILEMMAS**

Cryptocurrencies do not enjoy the same level of legal protection as traded financial items because they are not regulated products like financial instruments are. This introduces complex legal risks and ambiguity, which have the potential to significantly affect the investability and risk management of these digital assets. There is still no international consensus on how to best regulate cryptocurrencies, particularly with respect to policing product development and trading

• **TRANSACTION DELAYS**

Even though delays are common in bitcoin transfers, they can also serve as a safeguard against hacks and fraudulent activity. Exchanges will occasionally put a hold on a transaction if they believe the user did not authorize it.

**SUGGESTION**

International bodies recognize the opportunities and challenges that the cryptocurrency architecture presents to the global economy. Five global organizations/institutions have been identified that have been instrumental in shaping the dialogue on the regulation of cryptocurrencies from different perspectives.

The Financial Action Task Force (FATF) has investigated and made suggestions for a risk-based strategy to regulating cryptocurrencies with the intention of preventing money laundering and terrorism funding activities that use cryptocurrency. To this purpose, it has expanded the Travel Rule, requiring bitcoin service providers to gather, store, and share data on recipients and initiators of cryptocurrency transfers. A 12-month evaluation is used to track the application of these regulations.

The Financial Stability Board (FSB) has analysed cryptocurrencies from the lens of financial stability. In a 2019 report, the FSB reported that cryptocurrencies do not pose a risk to financial stability with a caveat that the topic of regulatory approaches and potential gaps and the question of increased global coordination be kept under review. It, therefore, highlighted the need for vigilant monitoring systems taking into consideration the rapid development of new products and services.

The Basel Committee on Banking Supervision (BCBS) is working on developing policy frameworks pertaining to risks and rewards due to the increased exposure of banking systems to cryptocurrencies.

For this purpose, it has released a public consultation. Categorizing cryptocurrencies such as bitcoin as Group 2 crypto-assets which are being considered as higher-risk assets due to their volatility and opacity has led to a conservative, prudential treatment of such cryptocurrencies.

The Organisation for Economic Co-operation and Development (OECD) Advocating the need for clear guidance by countries on the tax treatment of cryptocurrencies and other crypto-assets the OECD also emphasized the need to review/adapt such guidance frequently. OECD released a report in 2020 focusing on the issue of taxation of cryptocurrencies.

The International Organization of Securities Commission (IOSCO) is focused on protecting investors, ensuring that markets are fair, transparent and efficient, and reducing system risk. It has focussed on promoting education among retail investors in this regard. While recognizing the cryptocurrencies may facilitate capital formation and financial inclusion, it has warned against the risks arising from investing in cryptocurrencies.

In conclusion, international institutions have been analysing different dangers associated with cryptocurrency. The primary concerns that these guidelines aim to address include those related to taxation of cryptocurrencies, money laundering, terrorism financing, dangers to small investors, and threats to the stability of the banking and financial system.

#### **RECOMMENDATION**

1. Need for regulatory certainty: Clarity in the regulatory status of cryptocurrencies will allow the ecosystem to grow and promote innovation, thus harnessing the benefits of cryptocurrencies while mitigating the risks arising from them.
2. Developing a coordinated approach: Given the cross-border nature of the crypto ecosystem countries should coordinate and collaborate with each other and with international standard-setting bodies to avoid issues of jurisdictional arbitrage.
3. Taking a risk-based approach: The crypto ecosystem should be regulated commensurate to the risks posed. This involves countries assessing the various risks posed by cryptocurrencies and proactively focusing on mitigating them.
4. Evolving agile frameworks: Keeping in line with the rapid pace of development in this space, countries should follow agile frameworks, such that they can be monitored and reviewed on an ongoing basis.
5. And also international recommendations should highlight the need to evolve regulatory certainty, domestically and globally, through a coordinated approach with the aim of promoting uniformity and clarity while minimizing the potential risks arising from cryptocurrencies.
6. A more active role by governments and Global Institutions will help in find pragmatic and acceptable solutions.
7. Developing and regulating crypto exchanges.

These suggestions emphasise the need for a coordinated effort to develop regulatory certainty on a national and international level in order to promote uniformity and clarity while reducing the possible dangers associated with cryptocurrencies.

Here are other Suggestion can also be given

- Creating standards and regulations for the use of cryptographic instruments at the national and International levels.
- Establishing standards for taxing transactions and capturing transactions through KYC.
- Compiling information and performing research to identify and close money laundering loopholes.

- Striking a balance between regulation and the various uses of cryptographic devices. Although using cryptocurrency as a medium of exchange is challenging, handling it as an asset may be an option. 18

## CONCLUSION

Bitcoin in particular offers a fresh, practical, and alluring payment method model that can increase business and operator revenue. In addition, it offers substitute payment methods so that users can conduct financial transactions like buying, selling, transferring, and exchanging with ease in the global market. Cryptocurrency has the potential to improve the e-Business and e-payment sectors even further. Without a question, cryptocurrency has brought about a new era of money and a good transformation in both the economic and monetary systems. The pace of change in the globe is accelerating. The rapid adoption of cryptocurrencies is a glaring sign that established financial institutions are no longer able to adequately hold down the fort and that new financial requirements are emerging. Similar to how there is an increasing need to remove barriers in order to achieve full social and financial inclusion, Blockchain technology provides all the tools necessary to address these concerns. It will only be a matter of time before these cryptocurrencies firmly establish themselves in our lives, improving them with an eye toward inclusion and economic prosperity. Millions of individuals will now be able to save money, send money across borders, invest, and start enterprises thanks to the amazing prospects that cryptocurrencies bring. But there are positive and bad sides to everything. Despite these benefits, it also has disadvantages, the majority of which have a negative impact on the environment.

Therefore, it would be wonderful if this chance was utilised in an ethical manner. There is continuous research on the topic. Governments and international organisations should take more initiative to create practical and palatable solutions. Long-term benefits will undoubtedly result from pragmatic restrictions and transparency in the handling of this recently discovered tool. Numerous bitcoin systems are plagued by a variety of worries, difficulties, and problems. Users of cryptocurrencies should exercise extra caution when utilising it until it is properly regulated and managed. Therefore, the primary worry in cryptocurrency systems is the absence of laws. The RBI's silence over the legal status of Bitcoins in India could prove to be detrimental. To build more trust, cryptocurrencies need to be carefully regulated and managed. In India, a market for dealers, exchanges, and businesses that accept bitcoin payments has developed.

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## **SOCIAL SAGA AND ECONOMIC APATHY OF TRADITIONAL KUMHAAR COMMUNITY IN GHAZIPUR DISTRICT OF UTTAR PRADESH**

**Dr. Sheela Yadav\***

### **ABSTRACT**

*Pottery is one of the oldest crafts carried on by the most obsolete method of production in the rural areas of the Ghazipur district in Uttar Pradesh. Pottery has been playing an important role in the society and economy of Uttar Pradesh. The rural pottery industry not only provides income opportunities but also carries cultural and social significance. The significant aspects of the traditional industry are that it is largely environment friendly and an important tool for the empowerment of potters in the state. The nature of the pottery industry bears inherent problems in its growth and development for several decades in Uttar Pradesh. The right kind of investment in the pottery industry can turn it into a gainful primary and secondary occupation in the rural economy of Uttar Pradesh. The paper highlights the different aspects of the rural pottery industry of the Ghazipur district in Uttar Pradesh.*

**Keywords:** *Rural, pottery industry, socio-economic, livelihood, traditional, Kumhar.*

### **INTRODUCTION AND BACKGROUND**

Eastern Uttar Pradesh always received the development winds in the last phase. Most of the districts of eastern Uttar Pradesh are backward to other parts of the country. The traditional lifestyle, lack of technical education, centralization of the population, social evils, political ignorance, and least application of innovation are the main factors of backwardness in this area. This region is deeply affected by social and traditional complexity. A passive approach towards new technology and the least adaptability increases the economic and social challenges of the people. Most of them belong to the lower backward class in the caste-based society system. One of the most backward castes seen in the region is Kumhar. In this particular study, the socio-economic condition of the Kumhar caste in the Ghazipur district in Uttar Pradesh has been analyzed. This district is a prominent part of eastern Uttar Pradesh and the root of civilization in the consigned area gives a holistic approach to the study.

In recent years, a number of the study explained the traditional kumhar socio-economic character. Kym E young (2002) specified cultural traditions and the development of pottery work. he explains its traditional mobilization from generation to generation and generates self-employment. G. Sudhakar, Mr. Myder Ali Baig, and Dr. Prahalad Rao (2013) highlighted the importance of Pottery making business which helps to earn a supportable income for the family and it is a traditional, local, and environmentally sustainable activity. They discussed Hand-made art pottery used and practiced by a few of the oldest living generations. Though, It is a significant occupation in ancient times. Alex Acheamong (2015) Pointed out that the pottery industry establishes traditional manufacturing techniques and is still practiced by many people for their livelihood. These industries are contributing

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\* Assistant professor, Department of Economics, L.N.M.U, Darbhanga, Bihar, Email Id: [sheelaeconomics@gmail.com](mailto:sheelaeconomics@gmail.com)

to economic development by generating self-employment. (Jabu. S. Haji 2016) described that pottery industries have lots of potentials to generate income for poor people. It is a reliable source of income generation, through building the capacity of people, improves the skills, knowledge, and attitude of people, and improves the economic status of women. These industries have the opportunity to increase skills, and education and eliminate poverty with self-employment. Thus, we see the various study and explanations of traditional kumhaar, but the study area has different geo spatial and socio-economic challenges, so it has been thoroughly discussed in the present study.

### ORIGIN OF KUMHAAR

'Kumhar' word is derived from the Sanskrit word '*kumbhkar*' which means pottery makers. In the area of study, people also called them '*Kohar*'. Their origin carries so many myths they are also called '*Prajapati*' which is another name for Lord Bramha. They are believed to be originated from Lord Bramha. According to mythological tells. Their origin has numerous customaries. During the interview one of the respondent explained, "we are associated with lord Brahma Ji. Once Tridev wanted to perform a '*Yajan*', so they deputed a person to make the pots for auspicious deeds. Suddenly due to a lack of water, pot makers used his saliva for the joints of pots. Thus, impure pots were used during Yajan and failed. Finally, lord Brahma Ji used his supernatural power and created kumhar. lord Vishnu gifted his chakra as '*chaak*', lord shiva his '*Pindi*', and Brahma Ji gave his '*Janeyu*' thread for pots making to kumhaar for their Yajan. our first forefathers made the pots for the successful Yajan of Tridev after the failure of their first Yajan. Thus, kumhaar caste came into existence."

Kumhar caste is found all over India with various names. lifestyle and living standards are seen as simple and ordinary. Their life moves according to their inherited business. Most of the people live in a joint family. The social and cultural structure is like another Hindu caste. Despite the traditional occupation of pottery making, they also involve in marginal farming, agriculture labourers, and ceramic industry workers. Some exceptional are also contributing to government services. Kumhar of U.P. are identified as socially and educationally backward and they are in the process of changing their constitutional status from backward caste to scheduled caste. The Kumhar of Ghazipur district is mainly involved in the earth clay-making occupation. Their main products are *Diya*, *Kulhan*, *Ghada*, *Patki*, *Surahi*, *Kalash*, etc. Before globalization, the production of *Kunda*, *Kuthila*, *kathar*, *Nariya*, *Patari*, *Manka*, *Ghanta*, *Ghughru*, etc. were highly demanded products for household necessities. Most of the products were supplied by the Kumhar family. They received the cereals in place of their commodities. The process of the barter system was so consolidated and organized that their individual life passes with prosperous and respected manners. But in the last two decades, the condition became worsened. The barter system structure has been wreckage by globalization, new monetary policy, and market-oriented demand. These societies adopted traditional pottery-making industries. The traditional pottery-making industries could not compete with the globally manufactured plastic, steel, and other metallic substitute products.

### AN OVERVIEW OF KUMHAAR INDUSTRIAL STRUCTURE

The rural pottery manufacturing units had been traditionally set up by Kumhaars. These units are mainly depending on natural resources and raw materials like *clay*, *cow dung*, *hay*, and *coals* are easily available. So technically, these manufacturing units are producing only on behalf of the traditional skilled knowledge and hard work of Kumhar's family. The main requirements are *chaak* (wheel), *keel* (spike), *thread*, *stick*, and a traditionally skilled person who gives the shape of raw materials in form of products like *Kulhad* (earthen cup), *Diya*, *Ghada* (a pitcher), *Suraahi* (long neck water pot), etc to operate these units.



Picture 01



Picture 02



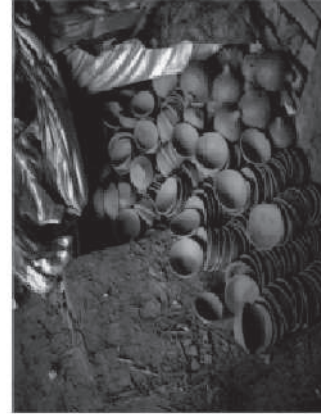
Picture 03



Picture 04



Picture 05



Picture 06

Sources: photos taken from Barahpur village

Picture 01 □ preparation of raw materials

Picture 02 □ chaak (wheel)

Picture 03 □ filtration of water and preparation of soft clay

Picture 04 □ one of the respondents (Nanhe Prajapati) is making kulhan

Picture 05 □ prepare unbaked kulhan

Picture 06 □ Kulhan and other prepared pottery

#### **THE OBJECTIVE OF THE STUDY**

1 □ To examine the socio-economic status of the traditional kumhaar community in the study area

2 □ To find out the impact of plastic and metallic product on the earthen product in the study area

#### **DATA SOURCES AND METHODOLOGY**

This study is conducted on the traditional kumhaar of Ghazipur district to examine their socio-economic condition. A total of 50 respondents were selected randomly from Naisara, Paharpur, Barahpur, Deokali, Bhitari, Raawal, and Chitoura villages. A total of 32 interviews and 18 informal talks provided all the information and data for the current study. All the results and

discussions are based on this primary data and its explanation.

Table 1 percentage wise marital status and age

SN.	Marital status	Age	Frequency	In Percentage
1	married	30 and above	46	92%
2	unmarried	18-30	03	06%
3	Widow	55	01	02%
4	Total		50	100

Source: Field survey

Maximum respondents are married and have a statutory life, only 6% are unmarried and involve in this industry in which most of them are youth. Only a widow respondent indulged in this business with the help of other members of the family.

Table 2 Set up of the family

SN	Family type	Frequency	In percentage
1	Joint/combine	29	58%
2	Single	21	42%
3	Total	50	100

Source: Field survey

Most of the respondents live in combined families which is an essential part of this business. Only 42% are single families involved in this business, with other businesses.

Table 3 sizes of the family

SN	Size of the family	Frequency	In percentage
1	5-8	33	66%
2	8-10	13	26%
3	More than 10	04	08%
4	Total	50	100

Source: Field survey

The size of the family is big and on the one hand, it aids the misery for livelihood on the other hand it benefits the pottery-making process as a helping hand.

Table 4 Level of Education male and female wise

SN	Education	Male	Female	Frequency	In Percentage
1	Illiterate	17	06	23	46%
2	Primary	10	03	13	26%
3	High school	12	00	12	24%
4	Intermediate and above	02	00	02	04%
5	Total	41	09	50	100

Source: Field survey

Educational status is not satisfactory. only 4% respondent passed intermediate anyhow but they have no other sources of earnings. Only 24 %attain the 10<sup>th</sup> level of education.women's educational level is also very low.

Table 5 Assets/ Amenities

SL	Heads	Tricycle & bicycle	Kuccha house	Semi pucca house	House pucca	Motorcycle	Tv	Mobile
1	No of the HHs (total 50)	34	28	19	03	13	21	47
2	In percentage	68%	56%	38%	06%	26%	42%	94%

Source: Field survey

The economic status is not satisfactory for these people. only 6%having one or two rooms pucca houses.56%people live in kaccha houses or the hut side by their pottery units. However, 38 % have semi pucca houses. Only 42%family have television and 06% had not had a cell phone. And 68% of people are using bicycles or tricycles for personal convenience.

Table 6 Types of occupation

Sl.	Type of occupation	Frequency	In Percentage
1	Only pottery making	12	24%
2	Pottery making & animal husbandry	27	54%
3	Pottery making and seasonal labour	04	08%
4	Pottery making and small business	07	14%
5	Total	50	100

Source: Field survey

Pottery making is not sufficient for livelihood.54% of respondents are busy in animal husbandry, especially in cow, goat, duck, hen, etc rearing. some of them have tea stall side by the pottery unit.8%male respondents are also working as seasonal labourers. only 24% are purely involved in pottery making.

Table 7 Occupational challenges

SL	Frequency	Unavailability of market	Adequate prices	Inadequate price
1	28	58%	□	58%
2	13	26%	26%	□
3	06	□	12%	□
4	03	□	□	06%
5	Total 50	84%	38%	64%

Source: Field survey

The major challenges of this traditional industry are the unavailability of the

market. only 18% of potter has satisfied with market availability. 64% are not getting appropriate prices for their products. only 12% are accessing adequate prices in the available market which is very low.

After globalization, this industry is badly affected because of privatization. most of the private industries captured and occupied tiny products. Plastic products taken place of earthen products. Plastic and steel-made pots had been used frequently in place of earthen pots, consequently, the traditional industries had been badly affected. People frequently used electric lamp candles and plastic cups in the place of Diya and Kulhad (earthen cups). The main reason behind the degradation of this traditional industry is the lack of demand and high price comparison to plastic-made pots because plastic-made products are cheap and durable. This table shows the differences in prices between plastic-made products and earthen products.

Table 8 Market price of plastic products and earthen products

SL	Plastic product	Market Price (Rs)	Earthen products	Market Price Rs	Differences In product price 'in %
1	Cup	.50	Kulhad	1.00	50%
2	Plate	3.00	Kasora	3.00	□
3	Baguna	□	Paryi	5.00	□
4	small drum	50.00	Patki	100.00	50%
5	drum	70-150	Kuthila	250-300	35%-50%
6	Balti	100-200	Kunda	300-400	33%-50%
7	Plastic or metal-made toys or beads	10-30	Earthen toys Or beads	5-15	□50%

Source: Field survey

This is the main cause of lagging behind the pottery units and the economic crisis of the people who are involved in this sector.

Table 9. The desire of respondents to shifting from this occupation

SL	Frequency	In Percentage
1	49	98%
2	01	02%
3	50	100

Source: Field survey



Almost all the respondents wanted to leave this traditional pottery making business.

Table 10 Annual Income of pottery.

SL	Annual income	Frequency	In Percentage
1	Below 60000	36	72%
2	50 to one lakh	11	22%
3	One lakh and above	02	04%
4	N/A	01#	02%
5	Total	50	100

Source: Field survey

72% of pottery makers are only earning 5 thousand or less per month. 22% are anyhow getting up to one lakh annually. However, one respondent didn't want to tell his income. #

**Findings:** - These are the following findings current study of the traditional Kumhar community

1. Obtaining raw materials from barren land is being difficult day by day. The natural process of land, ponds, and ground are synchronized due to the increasing population. Soil is also becoming salty and polluted because of the uncontrolled use of the chemical. The 'basik' soil pottery is decaying very soon.
2. Kumhar is using very old and traditional technology. The new generation is not showing their interest in this traditional business. So, their products are not attracting the new market system.
3. Human resources are also hardly available. Single family (nuclear families) are very passive towards this traditional work. They prefer to work as labours.
4. Major challenges come from the 'unavailability of the market'. After globalization, new plastic and metallic products which were furnished and designed in technologically sound industries captured the pottery market. The demand for traditional pottery was minimized and this livelihood based industry synchronized.
5. The price of newly modified and fancy plastic and metallic products is cheaper and easily vulnerable. The prices are also very low in respect of Kumhar's products due to production costs.
6. Consumer behaviour towards earthen products changed in recent years. They are ignoring their traditional products and hardly purchasing any earthen items except for any rituals.
7. Ignorance from the government and not taking any actual steps to concern this eco friendly artisan and conservation of the market for their products also make their condition miserable.
8. These communities have very little subsidiary income and their living condition is very poor.
9. Modernization and diversification are not able to compensate for the decreasing demand for traditional pottery. Most of the potters are unaware of the potential of modernization and diversification.

#### SUGGESTION

1. The government should take initiative to conserve their arts and make an effort to create self employment vide the market for their product.
2. Organized a skill development program by which they can learn new ideas and innovative

designs and techno-friendly products to compete in the market.

- 3□ The government should provide the benefits of their social welfare scheme on a preferential based and also some financial assistance.
- 4□ The Kumhars are playing a very vital role in creating self-employment. The government is taking various steps and measures to create self-employment there; people can be helpful in this mission. Social recognition and respect are also needed in society. A small social cooperation can make alive our splendid cultural heritage and its beautiful arts.
- 5□ Mechanization should be introduced and it must be appropriate to the local methods.
- 6□ New scientific methods should be introduced to reduce pollution from the kiln.

### CONCLUSION

The Kumhars of the study area are facing various difficulties on socio-economic grounds and trying their best to continue their business with social honour and economic strength. Government initiatives can bring a smile to their face. Market creation, art conservation, financial assistance, and social respect for their arts and works are needed from the government and society. Their eco-friendly products are very good for human health and the sustainable natural development of society. If they get preservation from the government, they can attract another passive and non-interested family in this business. Which will be a big achievement for Kumhars, society, the environment, and the economy.

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## FINANCIAL DISTRESS RISK AND STOCK RETURN: A REVIEW

Ms. Pooja Singh\*

### ABSTRACT

*Financial distress is a term used to describe a situation in which a company temporarily lacks liquidity and finds it difficult to meet its financial obligations fully and on time. The relationship between distress risk and stock returns has significant ramifications for risk and return trade-offs in the financial markets. According to the assets pricing theory, investors will demand a premium to buy such stocks. Investors should demand a higher premium for holding stocks with a higher risk of financial distress in a rational market. However, there is conflicting evidence that supports the eagerness to uncover the cause of such a polarising result.*

**Keywords:** *financial distress, distress risk, anomaly.*

### INTRODUCTION

Financial distress refers to a financial situation wherein a company faces a temporary lack of liquidity and has difficulties in fulfilling financial obligations on schedule and to the full extent. In other words, it is a situation when a company fails to honour its financial obligations. Distress risk measures the probability that a firm may default in the future. Several studies show that financial distress is imminent or is ongoing as such equity returns are affected. Financial distress has become a problem to answer because there is an adverse impact on the equity position of the shareholders and lenders' claims (Kim, 2007).

In financial markets, the relationship between distress risk and stock returns has significant implications for risk and return trade-offs. Assets pricing theory stipulates that investors will require a premium for investing in such stocks. In a rational market, investors should demand a higher premium for holding stocks with higher distress risk, but there exists an inverse relationship between distress risk and return, as found high-distress risk firms earned substantially lower returns than lower distress risk firms. Thus, distress risk has become a new type of anomaly. The negative sign of the relative distress risk to equity return is crucial, as it violates the core of asset pricing theory wherein a higher expected return is the result of bearing greater risk. However, some studies inferred that there exists a positive relationship between distress risk and stock returns. Thus, this mixed evidence justifies the concern to understand the reason behind such a dichotomous result.

### MEANING

#### FINANCIAL DISTRESS

Financial distress is a financial situation wherein a company faces a temporary lack of liquidity and has difficulties in fulfilling financial obligations on schedule and to the full extent. Financial distress risk measures the probability that a firm may default in the future, hence measuring the firm's future performance. The financial distress definition can be categorized as follows:

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\* Research Scholar, Institute of Management Studies, Banaras Hindu University, Varanasi (U.P.) 221005.  
Email: poojasingh63@yahoo.co.in

Categories	Meaning of Financial distress	Author
Event oriented	On the type of event occurring Such as default on debt payments, restructuring the debt, etc.	(Beaver, 1966; Brown et al., 1994)
Process-oriented	Single state of the process, followed by failure and restructuring. A total process that combines single states of corporate decline. As a series of following stages characterized by a special event of adverse financial events.	Gordon (1971), Turetsky & Mc Ewan (2001), Purnanandam (2008)
Technical oriented	Interpretation of financial distress through the identification of the main indicators like financial ratios, continuous losses for 3 years, etc. In other words, market-based and accounting-based determinants are combined to identify financial distress.	Denis & Denis (1990), Asquith et al. (1994), Whitaker (1999), Platt & Platt (2002)

The dynamic nature of financial distress assumes that while moving in and out of financial trouble, the company passes through separate stages, each of which has specific attributes and, consequently, contributes differently to corporate failure. Financial distress is time-varying which incorporates that once entering it, the company does not stay in the same state until it is liquidated or until it recovers.

Financial distress may ultimately force the company to insolvency. Direct costs of financial distress include the cost of insolvency. The proceeding of insolvency involves a cumbersome process. Insolvency causes high legal and administrative costs. The conflicting interests of creditors and other stakeholders can delay the liquidation of the company's assets. The physical condition of assets, which are not in use once the proceedings of insolvency commence, may deteriorate over time, as a result, their realizable value will decline. Financial distress with or without insolvency also has many indirect costs. These costs relate to the action of employees, managers, customers, suppliers, and shareholders.

#### **FINANCIAL DISTRESS RISK**

Fama & French (1993) surmised distress risk as a static variable in the inter-temporal capital asset pricing model (ICAPM). Distress risk has been presumed as a static variable because it varies over the

business cycle, investors are exposed to it regardless of asset market exposure, its estimation is less error-prone as it relies on audit accounting and stock market data and can be stated as firm characteristics.

A variable can only be a state variable if it forecasts aggregate macroeconomic activity (Cochrane 2005, Maio & Santa-Clara 2012). Fama & French (1993) conjecture distress risk is a state variable and the SMB and HML factors are proxies for this state variable. Distress risk is a conceivable state variable candidate other have defined distress risk as the probability that a firm will default in the future (Kim, 2016) and therefore, determines the firm's future performance.

## LITERATURE REVIEW

### RELATIONSHIP BETWEEN FINANCIAL DISTRESS AND STOCK RETURN

Chan & Chen (1991) examined the differences in structural characteristics that lead firms of different sizes to react differently to the same economic news for the period 1956–1985. They concluded that a small firm portfolio contains a large proportion of marginal firms—firms with low production efficiency and high financial leverage. Lang & Stulz (1992) investigated the effect of bankruptcy announcements on the equity value of the bankrupt firm's competitors and found that on average, bankruptcy announcements decrease the value of a value-weighted portfolio of competitors by 1%. This negative effect is significantly larger for highly levered industries. The effect is significantly positive for highly concentrated industries with low leverage, suggesting that in such industries competitors benefit from the difficulties of the bankrupt firm. Bankruptcy announcements in concentrated industries are the most likely to raise the share prices of competitors. Fama & French (1993) evaluated the joint roles of market beta, size, E/P, leverage, and book-to-market equity in the cross-section of average returns for the period 1962–1989 and applied the cross-sectional regression approach of Fama & MacBeth (1973) in the study. They argued, analogous to Chan and Chen (1991), that high BM stock returns are associated with poor prospects for enterprises in relative distress. They also suggested that if assets are priced rationally then stock risks are multidimensional. Dichev (1998) examined the importance of distress risk factor and their relation to size effect and book-to-market equity. On analysis he concluded that bankruptcy risk is not rewarded by higher return, hence is an unsystematic risk and the size and book-to-market effects are unlikely to be due to a distress factor related to bankruptcy risk. Griffin & Lemmon (2002) examined the relationship between book-to-market equity, distress risk, and stock returns. The study period was 1965–1996. He analyzed that among firms with the highest distress risk as proxied by Ohlson's (1980)  $O$ -score, the difference in returns between high and low book-to-market securities is more than twice as large as that in other firms. Firms with high distress risk have characteristics that make them more likely to be mispriced by investors. Agarwal & Taffler (2008) tested the distress factor hypothesis and the nature of distress risk for the period 1979–2000. The distress was studied under two scenarios state of the market and the state of the economy. It was found that negative  $z$ -score stocks underperform in down-market months while negative  $z$ -score stocks do better than positive  $z$ -score in the bullish market. Furthermore, stocks of smaller firms outperform larger firms during downmarkets, and value stocks perform better during downmarkets, the difference being significant at the 10% level. Thus, it evidenced that distress risk is not related to size effect and value effect. When bankruptcy risk and the state of the economy were analyzed it was found that return differences are more for negative  $z$ -score stocks compared to positive  $z$ -score stocks having the same size and B/M portfolios. Vassalou & Xing (2004) computed default measures for individual firms and assessed the effect of default risk on equity returns. The study showed that size and BM effects are intimately related to default risk. Small firms earn higher

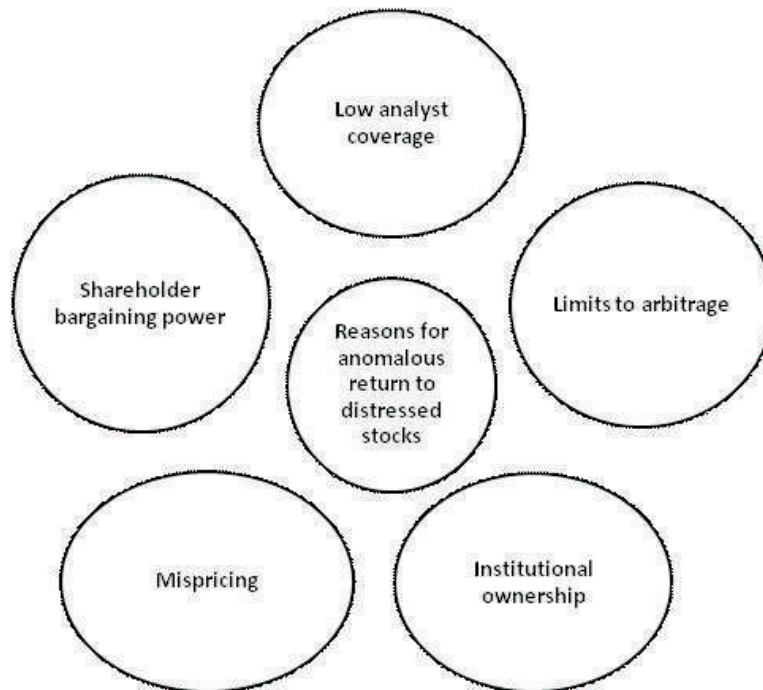
returns than big firms, only if they also have high default risk. Similarly, value stocks earn higher returns than growth stocks, if their risk of default is high. In addition, high default risk firms earn higher returns than low default risk firms, only if they are small in size and/or have high BM. In all other cases, there is no significant difference in the returns of high and low default risk stocks. He also examined whether default risk is systematic through an asset pricing test and concluded that the default risk is systematic. Zaretzky&Zumwalt (2007) studied the robustness of the result stating that the firms with high distress risk have a low book-to-market ratio and low returns during 1984-1995. Campbell et al. (2008) explored the determinants of corporate failure and the pricing of financially distressed stocks, corporate failure probability is estimated from a dynamic logit model using accounting and market variables. The study implemented a reduced form econometric model to predict corporate bankruptcies and failures at short and long horizons and showed that stocks with a high risk of failure tend to deliver anomalously low average returns and also exhibited that after controlling for firm size, the distress anomaly is stronger among stocks with low analyst coverage, institutional ownership, price per share, and turnover.

Chava&Purnanandam (2008) studied the risk-return relationship for the portfolios of high distress risk stocks. The analysis provided a positive relationship between default risk and expected returns using the implied cost of the capital measure. Campbell et al. (2010) considered the measurement of distress risk and pricing. The study was conducted on firms listed on S&P 500 in the US for the period 1981-2008. It was also asserted that distressed stocks have significantly underperformed the S&P500 and are riskier as they have high levels of volatility and high market betas. This means that after being adjusted for risk using the CAPM and Fama French 3 factor model, the apparent mispricing of distressed stocks worsens. Moreover, the underperformance of distressed stocks relative to safe stocks is present across all size and value quintiles and the low performance of distressed stocks is concentrated in stocks with lower analyst coverage and lower institutional holdings. Garlappi& Yan (2011) investigated how the possibility of shareholder recovery upon financial distress affects the relationship between a firm's expected return and its likelihood of default. They used as a measure of default probability the market-based expected default frequency (EDF). The study concluded that the presence of potential shareholder recovery upon financial distress alters the risk structure of equity and causes the equity beta and expected returns to be hump-shaped in default probability. Bauer & Agarwal (2014) studied whether distress anomaly exists and does the distress risk-return relation depending on how we measure distress. The study inferred that distress risk earns a negative return premium, the negative premium is independent of how we measure distress risk. Guo& Jiang (2015) examined the predictive power of aggregate distress risk for excess stock market returns. He concluded that aggregate distress risk correlates positively with future excess market returns, and stocks that provide a poor hedge for aggregate distress risk have a high expected return. Filipe et al. (2016) in their research work segregated the probability of default into systematic and non-systematic components to refine the relationship between distress risk and stock return. The results showed a significant difference among European countries in terms of probability of default, size, and book-to-market ratio. The study also evidenced that volatility risk captures aggregate default risk information. Moreover, it also stated that Systematic default risk betas are negatively related to the idiosyncratic component (measured by IDR), signifying that it is an idiosyncratic risk that is driving the default anomaly. Eisdorfer et al. (2018) examined whether the distress anomaly is specific to the United States or is present in other countries as well. In his study, he applied Merton's (1974) distance-to-default measure and Fama Mac Beth regression and deduced that anomaly exists in developed



countries, but not in emerging ones and suggested that various aspects of shareholders' risk play an important role in shaping distressed stock returns. Variation in the relative performance of distressed stocks is related to the variation in many country characteristics. Groot & Huij (2018) revisited the question of whether the Fama-French factors are manifestations of distress risk premium. They found that value and small-cap exposures were typically associated with distress risk and results also indicated that the distress risk is not priced and the small-cap and value premiums are priced beyond distress risk. Moreover, the distress risk exposure to common small-cap and value factors does not have explanatory power in asset pricing tests. Barinov (2019) aimed to show that distressed firms have positive abnormal returns when aggregate volatility unexpectedly increases in the US. The sample period was from 1986 to 2012. It was concluded that distressed firms tend to perform relatively well when aggregate volatility unexpectedly increases. Since distressed firms have high market betas, they still lose more than an average firm during high volatility periods, which are also periods of a declining market, but distressed firms do not lose as much as firms with similarly high market betas when aggregate volatility goes up. Chhapra et al. (2020) study investigated the relationship between default risk and the cross-section of stock returns in PSX for the period 2001-2016. The analysis inferred that firms with a higher risk of default depicted a higher beta, high book-to-market ratio, and hence greater average returns. Small companies having a high risk of default tend to give higher stock returns as compared to large firms. Shen (2021) study explored the relationship between distress risk and stock return on equity REITs from 1982 to 2017. The study concluded that distress risk is not a systematic risk or rewarded with a risk premium in the REIT market.

To sum up, there is little and weak evidence of a positive distress risk-return relation (Vassalou & Xing, 2004; Chava & Purnanandam, 2008), the majority of studies find a negative distress risk premium (e.g., Dichev, 1998; Shen, 2021). There have been varied explanation provided for anomalous returns to distressed stock,



From the above discussion, it is evident that the relationship between financial distress and stock returns remains inconclusive, and hence more empirical evidence in this context is required.

### CONCLUSION AND FUTURE SCOPE

Thus, it may be concluded that financial distress is a dynamic, complicated, and time-varying variable that significantly affects how distress risk and stock return are related to one another. One of the important factors being investigated to comprehend the nature of and impact on stock return is distress risk. It is also believed to be a factor in the relationship between corporate features and stock return. Size and distress risk are associated since it is clear that small businesses are more likely to be in distress and have higher book-to-market ratios because their liabilities are greater than their assets. The third important query is whether the integration of multifactor models with the intertemporal capital asset pricing model still leaves room for distress risk. It follows that the answer to this query will decide the direction of empirical asset pricing.

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## THE ROLE OF TELECOMMUNICATION IN INDIA

Prof. Suman Kumar\* Resham Vijay Ratne\*\*

### ABSTRACT

*India is currently the world's second-largest telecommunications market and has registered strong growth in the past decade and half. It accounted for over 10 percent of the world's online population in 2011. The Indian mobile telecommunications have seen tremendous growth in India and will contribute substantially to India's gross domestic product (GDP). This growth has been more or less inclusive with benefits accruing to the poorest household in remotest regions of the country. In today's information age, the telecommunication industry has a vital role to play. Considered as the backbone of industrial and economic development, the industry has been aiding delivery of voice and data services at rapidly increasing speeds, and thus, has been revolutionising human communication. The mobile tariffs in India have become among the lowest in the world. Despite of showing phenomenal performance in recent years this sector is not bereft challenges. The issues like rural coverage, affordability of quality services, increase in call drop rate need to be addressed soon. Also this sector has enormous job potential which needs to be harnessed.*

*So, this paper is an endeavor to discuss the role of telecommunication in India. First of all this paper gives a brief introduction of telecommunications sector in India, it's evolution phase wise- pre liberalization, post liberalisation, and era after 2000. The economic impact of this sector is immense both directly and indirectly which depends largely on its penetration which are discussed comprehensively in this paper giving some data and interesting figures. Next, we discuss about the public and private participation and role of PPP in telecommunications. We then have a glance of this sector in present and future in the light of programs like Digital india, e-governance etc. Finally we come to the challenges and problems faced by this sector and suggest some policy recommendations to tackle those. The major objective should be repositioning the mobile phone from a mere communication device to an instrument of empowerment.*

**Keywords:** *Telecommunications, economic development, coverage, PPP, challenges, policies*

### INTRODUCTION

The telecom services have been recognized the world over as an important tool for socio-economic development for a nation. It is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. India is currently the world's second largest telecommunications market and has registered strong growth in the past decade and half. The unprecedented increase in teledensity and sharp decline in tariffs in the Indian telecom sector have contributed significantly to the country's economic growth. Besides contributing to about 3% to

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\* Assistant Prof. Economics, T.N.B. College, Bhagalpur, kumarsuman2003@gmail.com

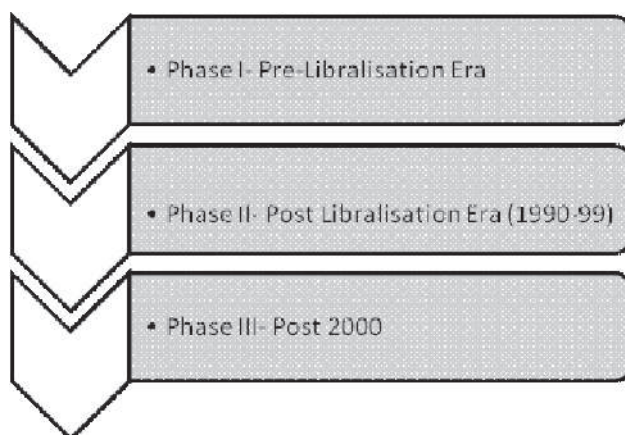
\*\* Assistant Prof. Economics, Head, Department of Economics, SM College, Bhagalpur

India's GDP, Telecommunications, along with Information Technology, has greatly accelerated the growth of the economic and social sectors. This rapid growth is possible due to various proactive and positive decisions of the Government and contribution of both by the public and the private sectors. The rapid strides in the telecom sector have been facilitated by liberal policies of the Government that provides easy market access for telecom equipment and a fair regulatory framework for offering telecom services to the Indian consumers at affordable prices.

## EVOLUTION

Let us have a quick review on the evolution of telecom industry in India.

It all started around 165 years ago when in 1851 when the first operational land lines were laid by the



government near Kolkata (then Calcutta), although telephone services were formally introduced in India much later in 1881. Further, in 1883, telephone services were merged with the postal system. In 1947, after India attained independence, all foreign telecommunication companies were nationalised to form the Posts, Telephone and Telegraph (PTT), a body that was governed by the Ministry of Communication. The Indian telecom sector was entirely under government ownership until 1984, when the private

**Figure Evolution of Telecom Sector**

sector was allowed in telecommunication equipment manufacturing only. The government concretised its earlier efforts towards developing R&D in the sector by setting up an autonomous body – Centre for Development of Telematics (C-DOT) in 1984 to develop state-of-the-art telecommunication technology to meet the growing needs of the Indian telecommunication network. The actual evolution of the industry started after the Government separated the Department of Post and Telegraph in 1985 by setting up the Department of Posts and the Department of Telecommunications (DoT). The entire evolution of the telecom industry can be classified into three distinct phases (Figure 1). The above description is of Pre-Liberalisation Era. The process of liberalization in the country began in the right earnest with the announcement of the New Economic Policy in July 1991. Telecom equipment manufacturing was delicensed in 1991 and value added services were declared open to the private sector in 1992, following which radio paging, cellular mobile and other value added services were opened gradually to the private sector. This has resulted in large number of manufacturing units been set up in the country. As a result most of the equipment used in telecom area is being manufactured within the country. A major breakthrough was the clear enunciation of the government's intention of liberalizing the telecom sector in the **National Telecom Policy resolution 1994. In 1994, the Government announced the National Telecom Policy which defined certain important objectives, including availability of telephone on demand, provision of world class services at reasonable prices, improving India's competitiveness in global market and promoting exports, attractive FDI and stimulating domestic investment, ensuring India's emergence as major manufacturing / export base of telecom equipment and universal availability of basic telecom services to all villages. It also announced a series of specific targets**



**to be achieved by 1997.** The entry of private service providers brought with it the inevitable need for independent regulation. Thus an important step towards this direction was the **Telecom Regulatory Authority of India (TRAI)** established with effect from 20th February 1997 by an Act of Parliament, called the Telecom Regulatory Authority of India Act, 1997, to regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government. TRAI's mission is to create and nurture conditions for growth of telecommunications in the country in manner and at a pace, which will enable India to play a leading role in emerging global information society. One of the main objectives of TRAI is to provide a fair and transparent policy environment, which promotes a level playing field and facilitates fair competition. TRAI plays a vital role by its directions, orders and regulations issued which cover a wide range of subjects including tariff, interconnection and quality of service as well as governance of the Authority. The TRAI Act was amended by an ordinance, effective from 24 January 2000, establishing a Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) to take over the adjudicatory and disputes functions from TRAI. The third phase of telecom sector finds its roots in **New Telecom Policy 1999.** The most important milestone and instrument of telecom reforms in India is the New Telecom Policy 1999 (NTP 99). The New Telecom Policy, 1999 (NTP 99) was approved on 26th March 1999, to become effective from 1st April 1999. NTP 99 laid down a clear roadmap for future reforms, contemplating the opening up of all the segments of the telecom sector for private sector participation. It clearly recognized the need for strengthening the regulatory regime as well as restructuring the departmental telecom services to that of a public sector corporation so as to separate the licensing and policy functions of the Government from that of being an operator. It also recognized the need for resolving the prevailing problems faced by the operators so as to restore their confidence and improve the investment climate. All the commitments made under NTP 99 have been fulfilled; each one of them, in letter and spirit, some even ahead of schedule, and the reform process is now complete with all the sectors in telecommunications opened for

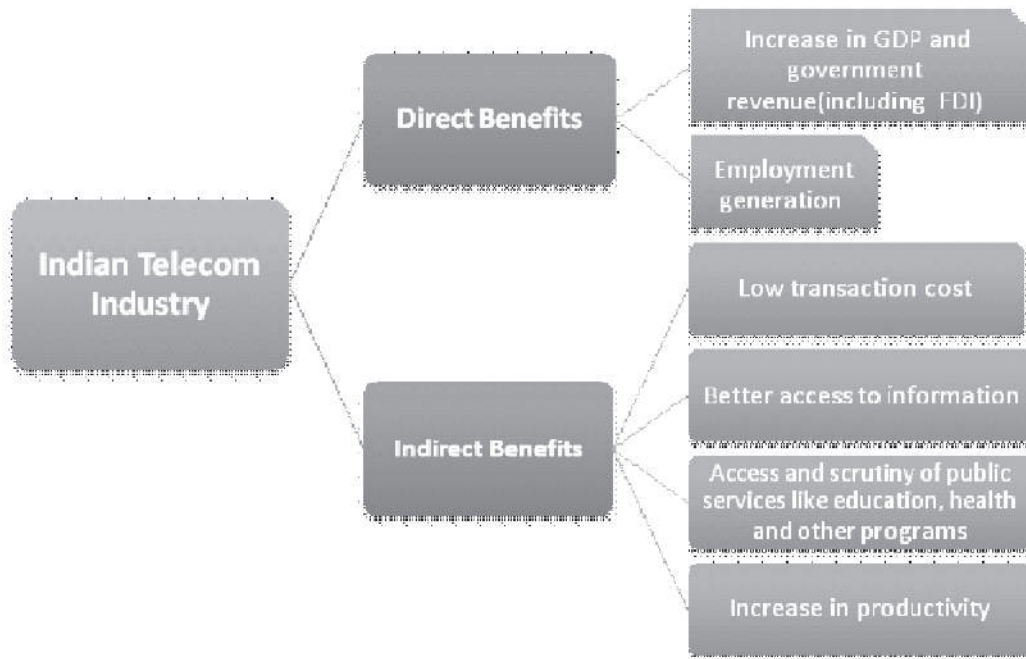
private competition. Other landmark policies that were prominent recently were, **Broadband Policy 2004** The prime consideration guiding the Policy includes affordability and reliability of Broadband services, incentives for creation of additional infrastructure, employment opportunities, induction of latest technologies, national security and brings in competitive environment so as to reduce regulatory interventions. **Mobile Number Portability (MNP)** Mobile Number Portability (MNP) allows subscribers to retain their existing telephone number when they switch from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider. The major objectives of NPT2012 are ***Increase rural teledensity from the current level of around 39 to 70 by the year 2017***

***and 100 by the year 2020 and to provide affordable and reliable broadband-on-demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand*** To give impetus to the rural telephony, the Government in June, 2002, had established Universal Service Obligation Fund (USOF) by an Act of Parliament. Subsequently, the scope of USOF was widened to provide subsidy support for enabling access to all types of telegraph services including mobile services, broadband connectivity and creation of infrastructure like optical fiber in rural and remote areas. Therefore, various schemes have been launched by USOF for provision of telecom services in rural and remote areas of the country. Telecommunications is no longer limited to voice. The evolution from analog to digital technology has facilitated the conversion



of voice, data and video to the digital form. Increasingly, these are now being rendered through single networks bringing about a convergence in networks, services and also devices. Hence, it is now imperative to move towards convergence between telecom, broadcast and IT services, networks, platforms, technologies and overcome the existing segregation of licensing, registration and regulatory mechanisms in these areas to enhance affordability, increase access, delivery of multiple services and reduce cost. It will be a key enabler of equitable and inclusive growth.

**TELECOMMUNICATION AND ECONOMIC DEVELOPMENT**



**Figure Role of Telecom Industry in Economic Development**

Figure 2 gives a schematic representation of benefits of telecom sector in India.

**DIRECT BENEFITS**

Let's first discuss the direct benefits; there have been increase in GDP by telecommunication sector over the years. It contributed both directly and attracted a huge amount of FDI in the country.

**Table Share of Telecom Sector in India's GDP**

Year	2004-05 (Rs. bn)	2005-06 (Rs. bn)	2006-07 (Rs. bn)
GDP(at factor cost) at current prices	28439	32006	37175
Total revenue from Telecom	716	867	1053
% contribution of GDP in telecom	2.52	2.71	2.83

Source: TRAI

According to the UNCTAD, there is a direct correlation between the growth in mobile teledensity and the growth in GDP per capita in developing countries, which tend to have a high percentage of rural population. The share of the telecom services industry in the total GDP has been rising over the past few years as shown in Table 1.

Foreign direct investment has been one of the major contributors in the growth of the Indian economy, and therefore, the need for higher FDI is felt across sectors in the Indian economy. The telecom sector has played a crucial role in attracting FDI in India. The share of telecom sector in the total FDI inflows in India has gone up to 10% in FY09 as compared with just 3% in FY05. The telecom sector requires huge investments for its expansion as it is capital-intensive and FDI plays a vital role in meeting the fund requirements for expansion of the telecom sector. Telecom accounts for almost 10% of the total FDI inflows in the country and has been the third-largest sector to attract FDI in India in the post-liberalisation era. In the 2004-05 Budget, the government raised the FDI limit from 49% to 74% in the telecom services segment subject to retention of local management control. According to the new norms, 26% share out of the 74% should be held by an Indian company or an Indian citizen with Indian management. Further, 100% FDI is permitted in telecom manufacturing, category I infrastructure providers, ISPs without gateway, call centres and IT-enabled services.

Further, direct or indirect FDI up to 74% is permitted subject to licensing and security requirements for ISPs with gateways, radio paging operators and category II infrastructure providers. The relaxation in FDI norms has attracted many foreign telecom majors to the sector. The presence of foreign players has not only encouraged faster infrastructure development and upgradation but also has opened up the domestic industry to foreign competition. Since 2004, there has been a large inflow of FDI in the sector. During 2004-05 and 2005-06, a period during which the FDI norms were relaxed, the FDI inflow grew by an astounding 300% to US\$ 624 mn in 2005-06 from merely US\$ 125 mn in 2004-05. The inflow of FDI has provided tremendous impetus to the sector in the past few years and the attractiveness of the sector has kept the FDI inflows growing steadily. The industry has attracted FDI worth US\$ 17.7 billion during the period April 2000 to September 2015, according to the data released by Department of Industrial Policy and Promotion (DIPP).

The sector gives employment to over 400,000 employees and a majority of them are from the government sector. India. The telecom sector has been instrumental in creating jobs for a vast pool of talented and knowledge professionals in the IT and ITeS/BPO industry, which thrives on reliable telecommunication infrastructure. India has become an important outsourcing destination for the world and the boom in this sector also has transformed India's economic dynamics. The evolution of telecom sector has brought about a revolutionary change in the way some businesses operate. According to the estimates of the consulting firm, Randstad India, the sector is going to be responsible for generation of 40 lakh direct and indirect jobs over the next 5 years. This is owing to the government's efforts to increase penetration in rural areas along with the growth in the smartphone numbers and internet usage. This is a major reason behind the positive sentiments surrounding the telecom industry.

### **INDIRECT BENEFITS**

The indirectly benefits from telecom industry can not be overlooked certainly. Liberalisation of the telecom industry has fuelled intense competition, especially in the cellular segment. The ever-increasing competition has led to high growth of subscribers and has put pressure on tariffs, which have seen a sharp drop over the years. When the cellular phones were introduced, call rates were at a peak of Rs 16 per minute and there were charges for incoming calls too. Today, however, incoming

calls are no longer charged and outgoing calls are charged at less than a rupee per minute. Thus, the tariff war has come a long way indeed. Increased competition and the subsequent tariff war has acted as a major catalyst for attracting more subscribers. Thus the low transaction cost facilitate the services in other sectors and thus helps in economic development. A consequent result of Low Transaction cost is increase in affordability and thus access to information. The last decade is characterised by significant penetration of telecommunications in India. The New Telecom Policy 1999 has been a catalyst for growth of the telecom sector. The number of telephone connections, at the end of February 2012, was 943 million, as compared to 41 million at the end of December 2001. This growth has been fuelled by the cellular segment (mobile phones) which alone accounted for 911 million connections at the end of February 2012. The composition of the telecom sector too has witnessed a structural change, with the private sector accounting for 88 % of the total connections. India's digital revolution is at the cusp of a transformation.

### **ROLE OF TELECOMMUNICATIONS IN THE LIGHT OF PRESENT PROGRAMS**

The launch of **Digital India** program — an ambitious and robust blueprint for transforming the digital identity of the country — and the thrust on smart cities would be game changers for the country. The rising digital quotient of the country has transformed the way we live and communicate. In the past year, the government has initiated measures to advance communication infrastructure, enhance connectivity and drive internet uptake. The flagship “Make in India” initiative will boost the manufacturing ecosystem. The telecom infrastructure industry has acted as a backbone for the development of telecom services. It has played a prominent role in the growth story of the Indian telecom sector. Telecom infrastructure is expected to play a vital role to help realize the Digital India vision and facilitate inclusive growth. Geographically, 15% of the country's area remains to be covered by the telecom service providers.<sup>32</sup> Furthermore, broadband coverage is still low in the country. It is estimated that more than 150,000 towers will be required on a pan-India level and a minimum of 50,000 towers in rural India to cater to these requirements. Under this an important aspect is **Mobile Governance** (m-Governance). It is a strategy and its implementation to leverage available wireless and new media technology platform, mobile phone devices and applications for delivery of public information and delivery of public information and services to citizens and business. MSDG is the core infrastructure for enabling the availability of public services through mobile devices. Recognising the the potential to reach out to people, especially those living in remote areas and adolescents GOI has recently taken steps to integrate and enhance existing Health related IT enabled Systems. A name, address and telephone based **Mother And Child Tracking System (MCTS)** is a initiative of the ministry of health and Family Welfare and is one of the excellent examples of leveraging Information Technology for ensuring delivery of full spectrum of healthcare and immunization services to pregnant women and children. These initiatives will have apposite impact on important health indicators like Infant Mortality Rate (IMR) and Maternal Mortality Rate(MMR). Another example of effective use of mobile technology is using SMS to communicate with 3.2 million Central Government Health Services (CGHS) spread across India. These beneficiaries are patients who come to CGHS wellness centres for consultation and getting medicines for treatment. Under the aegis of National Rural Health Mission, mobile telephone based systems are increasingly used for managing health information systems.

### **PUBLIC VS. PRIVATE**

Another noteworthy feature of the Indian Telecom Sector is the continuous rise in the number of telephones of the private sector operators. At the end of December, 2015, the total number of

telephone connections provided by the private sector increased to 931.63 million and number of telephone connections provided by the public sector stood at 104.94 million. The share of private sector in the total number of connections increased to 89.88% at the end of December, 2015, over public sector share of 10.12% during the same period.

**Table : Telecom development indicators**

Sl. No.	Item	At the end of					
		March'13	March'14	March'15	December'14	December'15	
1	Number of Telephones (In million)	Overall	898.02	933.02	996.13	971.01	1036.57
2		Wire line	30.21	28.50	26.59	27.00	25.52
3		Wireless	867.81	904.52	969.54	944.01	1011.05
4		Rural	349.21	377.78	416.08	398.73	434.23
5		Urban	548.80	555.23	580.05	572.27	602.34
6	Tele-density (Telephones per 100 persons)	Overall	73.32	75.23	79.36	74.03	81.85
7		Rural	41.05	44.01	48.04	42.71	49.82
8		Urban	146.64	145.46	149.04	144.63	152.57
9	%age share	Wireless	96.64	96.95	97.33	97.22	97.54
10		Public	14.49	12.87	10.07	10.85	10.12
11		Private	85.51	87.13	89.93	89.15	89.88
12	%age growth of Total Telephones – over previous year		(-)5.61	3.90	6.76	6.10	6.75

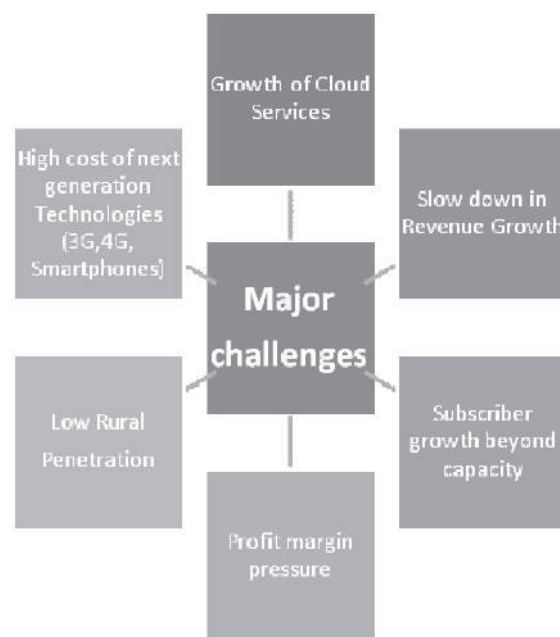
Source: Department of Telecommunications, Annual Report 2015-16

The country's first telecom incubator based on the public-private partnership (PPP) mode is in Kochi in 2012. Set in KINFRA Park at Kalamassery, Startup Village will focus on student initiatives from college campuses and would be modelled on technology incubators in the Silicon Valley. It aims to incubate 1,000 product startups over 10 years and launch the search for a billion dollar company from a college campus by the turn of this decade. The National Science and Technology Entrepreneurship Development Board (NSTEDB), the Department of Science and Technology (DST), Government of India, Technopark and MobME Wireless have joined hands to set up the country's first telecom business incubator called Startup Village – Indian Telecom Innovation Hub. It is supposed to create a vibrant ecosystem for startups to create breakthrough technologies for the global telecom industry, they said. It will function in association with leading companies in the telecom sector, through Telecom Innovation Zones, that bring the latest technology platforms and products to startups in the incubator before being released commercially. The Startup Village campus in the has a 4G network, advanced Telecom labs and also provide all services including Legal, Intellectual Property and Accounting. This kind of PPP would get further impetus in the wake of “Stand up India & Start up India”. The year 2015 saw multiple announcements of public Wi-Fi projects, including announcements from the Delhi government, Pune municipality and Prime Minister Narendra Modi's announcement of the Indian Railways Wi-Fi project in partnership with Google. We also saw two leading telcos coming together and forming a JV to jointly roll-out Wi-Fi hotspots. Wearables in the

healthy lifestyle space became commonplace this year with the adoption of fitness tracker bands by health-conscious executives and urban individuals. Smart watches have also started flooding the market. Smartphone security uptake has not been commensurate with increased smartphone penetration even though cyber security in a connected world was a widely discussed topic this year.

The first unconventional monetisation options appeared in the form of major Indian telcos being associated with payment bank licenses that will help leverage their existing ecosystem. We believe many more such options will appear, though they may be 'discovered' by vertical players or other savvy third-party innovators.

### CHALLENGES



**Figure : Major Challenges In Telecom**

Even though there is an increased clarity on the direction of regulation and policy, some of the policies have gone against the interests of the incumbent operators and created a major financial crisis. We have tried to discuss and bring your attention towards some key challenges faced by this industry. With a high churn rate and lowest average revenue per user (Arpu) in the world, Indian telcos are in a unique spot with a high debt burden (Rs.2.5 trillion). With the change in government, the telecom industry could be a catalyst for gross domestic product (GDP) growth and promote inclusiveness. Beginning with an almost monopolistic era until 1990, followed by frequent reforms from 1991, the fierce competition among services providers has made the Indian telecom industry the second largest network in the world with low tariffs and a saturated urban voice market. The sector today faces fierce from the likes of Google Inc., Microsoft Corp., Facebook Inc., WhatsApp, Skype and various start-ups and established companies offering so-called *cloud services*. With a high churn rate and lowest average revenue per user (Arpu) in the world, Indian telcos are in a unique spot with a high debt burden (Rs.2.5 trillion), declining voice revenues (about Rs.0.45 per minute), low spectrum per operator (quarter of global average), congested networks with high subscribers per megahertz spectrum (about

3.8 million). Further the policy changes like issue of new licences to new mobile operators led to a large number of players entering the telecom market and ending up in over capacity led hyper completion. The industry is currently facing **slow down in revenue growth** and huge pressure on profit margin. There are 15 telecom operators in the country today. In each circle there are around 9-10 operators competing for the same revenue pie which is not growing. Lower tariff and high introductory offers which the industry saw during 2009 resulted in multiple SIM ownership and reduced realization per minute of use. The new operators who entered the market during 2009 offered subscriptions at throw away prices loaded with free talk time. The incumbent operators are also forced to get into this tariff war and this converted the existing paying minutes to non paying minutes and slowed down the revenue growth of the sector. The revenue growth during the calendar year 2009 was just 12% as compared to 22% during the previous year 2008. Next big challenge is **subscriber growth**. India will continue to be the fastest growing telecom market in the world in terms of total number of new subscriber additions. However the industry's focus has now shifted from customer market share (CMS) to revenue market share (RMS). This is because the multiplicity of SIM ownership has made the subscriber numbers meaningless to gauge the strength of the business. The dual sim is contributing to 30%-35% of the new additions. There is a huge disparity between the CMS and RMS as the higher CMS has not led to higher RMS for some of the operators. This is because of the huge inactive subscriber base and the low ARPU from the newly added subscribers. While the industry will continue to achieve the subscriber growth mile stones, reaching these subscribers profitably will be a major challenge. The telecom operators are trying to overcome the **profit margin pressures** by reducing the operating costs through business process outsourcing, infrastructure sharing, IT outsourcing and revenue assurance. The urban market in India is highly saturated. **Rural coverage** will be the key to operators growth strategy. Rural tele-density is still under 25% with significant growth potential whereas the urban tele density has already crossed 100%. The government has set a target of 40% for rural tele-density by 2014. But the factors which are restricting rapid roll out in rural areas are the low ARPU customers and high cost of maintaining the network at these places. The challenge for the operators is to search for new cost effective ways to roll out network in rural areas by choosing appropriate technology and leverage on the use of available infrastructure to reduce cost and time of network roll out. The need for communication is very dire for students and youth who needs constant information to grab the best opportunity for them, but the **High cost of next-generation technologies**, smartphones and tablets is an impediment in this direction. India is lagging behind the world in rolling out new generation technologies. 3G in India has not taken off as per expectations yet, while the world has moved on to 4G. This is a classic chicken-and-egg problem. The extremely slow 3G uptake, the high-priced 4G-enabled devices, and lack of local language and regional content might be hurdles in the future growth of next-generation networks.

**Table Subscriber Base and Teledensity Rural-Urban**

Quarter Ending	Subscriber Base (million)		Tele-density	
	Rural	Urban	Rural	Urban
Mar-14	377.73	555.28	43.96	145.78
Mar-15	419.31	577.18	48.37	148.61

Source: TRAI



Network operations are usually designed to address frequent disruptions caused by equipment failures. Sometimes the telecom companies do not address the catastrophe level incident like fire, earth quake etc. This is because in telecom, the network equipments are located across the country and at multi-occupancy premises which are shared with third parties. All of these factors have an impact on fire, security and health and *safety issues* which are required to be managed to ensure that there is no interruption to the service. The network roll out is a big challenge and time consuming and involve huge capital expenditure. The telecom industry is *capital intensive* as the industry needs to continuously adapt itself to the latest technology. The recent media reports on radiation from the mobile phone towers and the municipal permission issues is creating serious disturbance to the operations and services to the customers when the sites are sealed by the authorities or by court. In India the voice contributes to 80% of the total revenue and the balance 20% is contributed by data. In matured markets like Japan the data contributes to 50% of the revenue. As the voice calling rates are falling every day due to intensive competition, focusing on *data revenue* is the only option left with the telecom companies to maintain and grow revenue. The recent problem that every user is facing today is of *Call drop*. A call drop, technically speaking, represents the service provider's inability to maintain a call, either incoming or outgoing, once it has been correctly established. In India, call drops are a performance indicator for the country's telecom networks. In many cities, mobile users have to rush from one room to another or drive around neighborhoods to find better signals (and better voice quality). India is adding millions of new mobile users each quarter and the country's active subscriber base of 869 million is fast closing in on a billion. Telecom operators, however, have been unable to adequately ramp up infrastructure and technology to keep pace. Despite the apparent ubiquity of telecom towers atop buildings in Indian cities, poor voice quality, blind spots and abrupt termination of calls have become such a bane in India's telecom industry. Call drops could indicate connectivity jeopardy in India's villages and towns where millions access internet solely through mobile phones. The phenomenon could be a setback for the Prime Minister's much-publicized Digital India program which aims to bringing connectivity – as well as financial inclusion, access to government services etc – to thousands of Indian villages.

### THE ROAD AHEAD

The telecom industry in India has experienced exponential growth over the past few years and has been an important contributor to economic growth, however, the cut-throat competition and intense tariff wars have had a negative impact on the revenue of players. Thus Some initiatives that has been taken and should be taken are discussed in this section. There is need of *Going on cloud* to realize potential of M2M (machine-to-machine) A study by industry lobby Nasscom and consultancy Deloitte estimated that the Indian cloud computing market will reach \$16 billion (around Rs.96,000 crore) by 2020. Telcos should embrace the cloud opportunity to enable mobile health, education, banking and agriculture, and realize the potential of connected devices, which is a \$4.3 trillion global opportunity. The success of globally distributed enterprises will depend on providing more flexibility to the workforce through mobility solutions such as bring your own device, telepresence, etc. IT support service budgets of companies are moving from wireline to wireless solutions for providing connectivity and flexibility. So *ensuring mobility* is an another step in taking the telecom industry further in growth path. Affordability is still a mojar problem for Indian population, the penetration of smartphones, tablets, phablets and e-readers is increasing to cater to the burgeoning data needs of consumers. Data growth is likely to be triple of voice growth. Hence, *the cost of smart devices should come down* through innovation and strong R&D (research and development). Consumers are

demanding access to media at any time, any place and across platforms. Telcos that provide 24/7 connectivity need to move up the value chain, aggressively collaborating with value-added services firms and others to dominate the screens. The latest paradigm shift was brought by social media campaigns during the last election, where 29 million people made 227 million interactions regarding the polls on Facebook and about 60 million tweets from the day the elections were announced to the day polling ended. Telecom operators need to understand the importance of social media networks and have an important strategy to leverage them keeping in mind the demographics of India. The government should realize the power of telecom as a growth enabler, which can add 15% to GDP. Efficient allocation of future spectrum bands will enable telcos to invest more in the network infrastructure. The availability of unused spectrum bands is necessary for future deployment of new technologies.

Telecom is the second largest diesel consumer in the country. The resulting energy costs erode profitability. According to the Smart 2020 report, solutions based on information and communication technologies can contribute towards the reduction of global greenhouse gas emissions by 15% by 2020 and in the process, also deliver energy savings to the tune of more than €600 billion (around Rs.50 trillion) to global business. So its time for **Go Green** for Telecom Industry too. The high costs faced by telecom operators can be minimized with a liberal regulatory policy. The government should work on a policy to provide stable permit terms, effective policies on mergers and acquisitions, spectrum sharing, trading and re-farming, suitable taxation, and a detailed implementation plan for all these. The Indian telecom industry will thrive because of the immense potential in terms of new users. India is one of the most-attractive telecom markets because it is still one of the lowest penetrated markets.

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## UNDERSTANDING CREATIVE ECONOMY FOR RESEARCH AREA

Anup Kumar Mishra\*

### **Background about creative economy**

The creative economy addresses important social and cultural needs, including cultural representation and social cohesion. This is the part of the economy that tells our stories and the creative works we leave behind as a society are likely to define how future generations understand us. The creative economy, defined by UNCTAD and UNDP as “an evolving concept based on creative assets potentially generating economic growth and development,” was one of the fastest growing sectors in every region of the world, North and South, East and West, before the COVID-19 pandemic. The creative economy is an ecosystem that comprises a wide range of occupations distinguished by the generation of wealth and jobs through individual creativity driving the generation and use of intellectual property. It includes both:

1. The creative industries, including film and TV; publishing; museums; music and the performing arts; computer programming; crafts; and architecture and design; and
2. Those working outside those creative industries, but still working in creative occupations.



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\* Professor and Head , Department of Economics, DAV PG college, BHU , Varanasi

**DIFFERENCE BETWEEN CREATIVE ECONOMY AND CREATIVE INDUSTRY**

Economic systems where value is based on imaginative qualities rather than the traditional resources of land, labour and capital. Compared to creative industries, which are limited to specific sectors, the term is used to describe creativity throughout a whole economy.

**DIFFERENCE BETWEEN CREATIVE ECONOMY AND KNOWLEDGE ECONOMY**

The knowledge economy is a system of consumption and production that is based on intellectual capital. In particular, it refers to the ability to capitalize on scientific discoveries and applied research. The knowledge economy represents a large share of the activity in most highly developed economies. The knowledge economy is an economic system in which the production of goods and services is based principally on knowledge-intensive activities that contribute to advancement in technical and scientific innovation.

**PILLARS' OF KNOWLEDGE ECONOMY**

The following pillars are four critical requisites for a country to be able to fully participate in the knowledge economy:

***Education & Training***

An educated and skilled population is needed to create, share and use knowledge.

***Information Infrastructure***

A dynamic information infrastructure ranging from radio to the internet is required to facilitate the effective communication, dissemination and processing of information.

***Economic Incentive & Institutional Regime***

A regulatory and economic environment that enables the free flow of knowledge, supports investment in Information and Communications Technology (ICT), and encourages entrepreneurship is central to the knowledge economy.

***Innovation Systems***

A network of research centers, universities, think tanks, private enterprises and community groups is necessary to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new knowledge.

**DIFFERENCE BETWEEN SERVICE SECTORS OF AN ECONOMY**

The service sector, also known as the tertiary sector, is the third tier in the three-sector economy. Instead of product production, this sector produces services maintenance and repairs, training, or consulting. Examples of service sector jobs include housekeeping, tours, nursing, and teaching.

**DIFFERENCE BETWEEN SERVICE SECTOR AND CREATIVE ECONOMY**

The service sector, also known as the tertiary sector, is the third tier in the three-sector economy. Instead of product production, this sector produces services maintenance and repairs, training, or consulting. Examples of service sector jobs include housekeeping, tours, nursing, and teaching. On the other side a creative economy is when its workforce primarily works in fine and performing arts. Theater, painting, sculpting, photography, illustration, advertisements, graphic design, etc. A creative industry encompasses the professions above, but is only one of many sectors that a city has to employ its population.

**IMPORTANCE OF CREATIVE ECONOMY**

In today's knowledge economy creativity plays one of the most important roles. Ideas generated

through the creative process are subsequently turned into innovation, which lies in the heart of the endogenous growth theory. ***Thus, creativity contributes to the wealth of nations as well as to their cultural and social development.***

Creativity as a broad phenomenon is being explained by a large number of definitions and concepts. It is also a basis for such terms as 'creative economy', 'creative industries', 'creative class' that have already become widespread. The evolving concept of 'creative economy' is important for policy makers and researchers. The number of states prioritizing creative industries in their national strategies is increasing, as well as that of people representing creative class (working in science and engineering, architecture and design, education, arts, music and entertainment). The ability to generate valuable ideas is often seen as a key competitive advantage for both companies and individuals.

The creative economy is recognized as a significant sector and a meaningful contributor to national gross domestic product. It has spurred innovation and knowledge transfer across all sectors of the economy and is a critical sector to foster inclusive development. ***The creative economy has both commercial and cultural value.***

Acknowledgement of this dual worth has led governments worldwide to expand and develop their creative economies as part of economic diversification strategies and efforts to stimulate economic growth, prosperity and well-being.

Creative work promotes fundamental rights, such as respect for human dignity, equality and democracy, all of which are essential for humans to live together in peace. Its potential to make a significant contribution to the achievement of the sustainable development goals continues to gain international recognition and support. Whether it be arts and crafts, books, films, paintings, ***festivals***, songs, designs, digital animation or video games, the creative industries are more than just sectors with good economic growth performance and potential. ***They are expressions of the human imagination spreading important social and cultural values.***

#### **IMPORTANCE OF HEALTHY CREATIVE ECONOMY**

The creative economy is a means of addressing important social and cultural needs. It can provide cultural representation by presenting a diverse range of human experiences. It can aid social cohesion, among the population at large or particular communities, by enabling the sharing of common narratives about the contemporary, historical or mythical world in which we live. The creative economy is the part of the economy that tells our stories and the creative works we leave behind as a society are likely to define how future generations understand us.

The creative economy is also valuable to the extent that its association with individual creativity implies that it often involves the creation of new knowledge, which will create wider benefits through spillovers to other sectors. Creative industries often create technical innovations, most notably in the IT sector. The creative industries also support the diffusion of knowledge, for example through publishing. The news media in particular, but other parts of the creative economy as well, can also support democratic accountability through sharing information about current events, investigating institutions, and challenging decision-making.

Consumers also value the outputs of the creative economy like other goods and services, as a source of entertainment. This value is likely to increase over time in part because the consumer goods and services associated with the creative economy are often associated with how people spend their leisure time: listening to music, reading books, watching TV or films.

The creative economy can also support output in other sectors. Creative economy intellectual

property can make output in other sectors more distinctive and valuable to consumers. This kind of effect exists within the creative economy, e.g. consumers learning about music through hearing about it in a video-on-demand show, but also through enriching the consumer experience in the wider economy, where customers buy consumer goods from t-shirts to alarm clocks to breakfast cereal which feature IP from favourite TV shows and movies. It can also more directly enhance productivity in other sectors through creating new software tools in the IT industry or connecting new and innovative goods and services with customers through sales and marketing. In all these ways, the creative economy might increase overall prosperity.

### **SCOPE OF CREATIVE ECONOMY IN INDIA**

The socioeconomic contributions of the creative economy are increasingly recognized as an important engine of growth worldwide. Beyond improving the livelihoods of people, the sector provides creative and curative wherewithal to uplift the social wellbeing of individuals, communities, and societies.

The core culture sector that drives the creative economy has long been regarded as a key ingredient in the quality of life for individuals and communities. More recently, and in light of the growing creative economy, studies are linking the arts, culture and the creative sectors to positive impacts in the areas of employment growth, social inclusion, youth retention, diversity, education, and the environment. These benefits – along with the positive economic impacts identified above – are shaping the policy directions of regions and jurisdictions across the globe committed to fostering the creative economy. A significant social impact of the creative economy is its contribution to employment with the creative industries generally accounting for around 2 to 8 per cent of the workforce in the economy (UN, 2010). The creative industries are both knowledge intensive, requiring specific skills and high level qualifications, and labour intensive (such as the theatre or film industry) where high creative output occurs. According to Florida, the quality of these kinds of jobs may provide greater work satisfaction because of the creative skills required – therefore driving innovation in the wider economy (2002).

With rapid digital transformation, the creative economy has presented new and innovative prospects, where we are witnessing the dynamic growth of creative startups that opens up rewarding and cutting edge job opportunities for many creative and cultural workers.

### **SOCIAL ASPECTS OF THE CREATIVE ECONOMY**

Another important social aspect of the creative economy, particularly the cultural industries, is its role in fostering social inclusion. Throsby proposes that culture plays a pervasive, socially integrating role in fostering community identity, creativity, cohesion and vitality (2001). Furthering this line of inquiry, Janet Ruiz of the Scottish Executive Education Department (2004) undertook an extensive literature review of the social benefits of culture and the arts to support policy development, finding that:

Participation in cultural activities instills self-confidence, pride and personal wellbeing.

Arts and culture promote personal, community and national identity.

Social networks generated through arts and cultural activities provide a sense of belonging.

Arts and culture help promote social cohesion and reduce isolation.

Arts and culture provide creative mechanisms for individuals to express their individuality engage with others and celebrate diversity.

The creative economy has a cultural and social impact that is likely to grow manifold soon. In India,



the focus is on livelihoods, employment and social context co-existing within a creative occupation. This is accompanied by the second largest urbanization in human history, with the urban population growing from 375 million to about 800 million in the next few decades. "Rural" and "urban" in India are not just locations; they also embody complex histories and traditions. Spaces within and between rural and urban locations are evolving and mutating as ideal locations for disruptive innovation for an early 21st-century creative economy. Such opportunities could also embed and situate themselves in places that build from ecological and cultural landscapes, propelled more by socio-cultural factors than material transformation alone. The possibilities and implications of these developments in creating economic and non-material value are yet unexplored.

Communities in India have long been at the forefront of creative industries – the handicrafts, tourism, architecture, food and food processing, music and dance, and rich literature has a lasting legacy across centuries in India – and across the regions in the country. Some of the oldest surviving dance and music forms – Odissi, Kuchipudi, Kathakali, Dhrupad, Jatra etc; Oldest literature and planned urban settlements of the Indus valley civilisation – highlight the presence of the creative economy in India since time immemorial. In today's age of data-driven economies – the size of creative goods and services exports from India has grown from USD 7.5 bn in 2005 to USD 20 bn in 2015 and is expected to grow to USD 35 bn by 2020 – making India one of the largest players in the trade of creative industries. The size of the domestic creative economy is expected to be over 5 times this value in the same period. Design goods accounted for the largest share of creative goods exports with a value of \$17.9 bn in 2014. Jewellery was a key export at \$13.2 bn followed by fashion accessories at \$3.2 bn. The fashion industry in India is likely to continue its growth as the country has a large young population. Art crafts (carpet and yarn products) was another dynamic sector with exports at \$1.5 bn in 2014. India had a positive trade balance in creative goods trade, which stood at \$15.4 bn in 2014.

The creative economy can be leveraged to revive economic growth in India. A large entertainment sector and diverse cultural traditions form a strong backbone of creative capital. The commercialization and monetization of creative works generate a chain of economic activity, and drive the production and consumption of goods and services. Intellectual property rights, such as copyright, are at the heart of this process. Copyright provides incentives and protections for the production of new creative works. Despite this potential for generating growth and employment, the contribution of India's creative economy was never measured using a verifiable methodology and data from the public domain, until now.

The first step to realize the economic potential of any sector or industry is to measure its existing value. The World Intellectual Property Organisation (WIPO) provides a standard methodology to evaluate the economic contribution of copyright-relevant industries in terms of value addition, employment and trade. I follow the WIPO methodology for India, using data from the Annual Survey of Industries, CMIE Prowess, and various industry reports, to estimate the value of India's creative economy.

First, consider value addition. Globally, the creative sector has a share of 5.5% of total output, in terms of value added. In India, gross value addition (GVA) from copyright-relevant industries was ₹89,000 crore in 2016-17, and at 0.58% share of total value added, it is a tenth of the global average. Part of this asymmetry stems from the lack of data in the services sector. While the Annual Survey of Industries spans manufacturing activity, the data on services at the narrow industry level required to identify and estimate the value of copyright-relevant services remains unavailable. The Central Statistical Office releases GVA figures under a 2-digit industry classification. The availability of GVA figures under a 4-

digit classification will give a much more realistic picture of the value contribution of copyright-related industries, especially as most creative activities are classified under services.

However, a low share of value added to India's gross domestic product (GDP) by copyright-relevant activity cannot be attributed solely to the lack of data on services. For instance, in manufacturing, where formal sector plants data is captured, the contribution of copyright-relevant work (including the contribution of design of apparel, toys, games and furniture, for example), is about 2.8%. This is still lower than the global average of 5.5%.

The composition of value addition across copyright-relevant industries follows the patterns of other countries, with the highest value addition from core copyright industries. These are industries which are wholly involved in copyright-relevant activities, including press, literature, dramatic arts, music and film. They contribute 45% of total value added in the creative economy. The second highest contribution is from interdependent industries, at 40%, which include distribution of creative works through radio and television. The rest of the contribution is made up of non-dedicated or partial copyright industries, which range from design to information and communication technologies.

Now, let's look at employment and trade. The measurement exercise also reveals that copyright-relevant industries employ around 1.1 million workers in India. With the right growth impetus through policy and markets, the creative economy can create a large share of jobs in the future. This is because employment elasticity is high, with 10% growth in value added stimulating an 8.7% increase in employment. Radio and Television account for a large share of existing employment (38.3%), closely followed by motion pictures and video (32%). Press and literature covers another 26.5%. Shares of other industries are relatively low.

The trade deficit of copyright-relevant industries totalled ₹1.10 trillion in 2016-17. The Directorate General of Excise and Customs reports India's trade in goods, but not our trade in services. Service imports and exports data can help improve the valuation for the creative economy.

How could policy action help? India can support value generation in the creative economy by modernizing the legal framework governing it. The Copyright Act was last amended in 2012, when the digital creative economy had limited presence. In 2012, less than 13% of Indians were connected to the internet, and most still had feature phones. Today, more than half the country is connected to higher quality internet. India sees over 400 million unique site/app visits every month, 97% of which are directed at entertainment content such as audio and video streaming. Consequently, the legal framework must be revisited and rebuilt, to support a fast-paced creative environment, with more freedom to contract, dynamic forums for dispute resolution and greater capacity for enforcement.

#### **ISSUES AND PROBLEMS**

Lack of detailed data for the services sector as well as the informal sector remains the biggest barrier in accurate evaluations of the true value of India's creative economy. The WIPO methodology helps estimate the value of copyright-relevant works in developed countries more readily than in developing nations, where large segments of the economy remain informal. Qualitative aspects of copyright can further help us build understanding in this relatively understudied segment. Surveys, interviews, and community-sourced data are key resources in this regard. This includes understanding the economies of small artists and musicians, and the millions of informal workers across all creative industries. Measuring their contribution would be the logical next step.

#### **Way Forward to Promote Creative Economy in India**

- Creative economy in India must be promoted by:
- Defining and mapping the creative industries in India.

- Funding to finance creative industries.
- Focusing on joint programmes.
- Addressing the issue of copyrights.
- Promoting Micro, Small, and Medium Enterprises (MSMEs) and local artisans. Establishing creative districts and hubs.
- Forming a specialised institution for creative industries.

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