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India-Bhutan Cooperation: A Case of Hydropower Sector

Sanjay Srivastava¹ and Juhi Srivastava²

Abstract—*The relationship between India and Bhutan, i.e. between the most vibrant democratic nation and the youngest democratic country, is a model of friendship in the contemporary world scenario. Despite being asymmetrical in terms of power and strength, India- Bhutan synergy has contributed to the all round growth and development of various sectors in Bhutan. In the initial years, after establishing itself as an independent state, Bhutan followed the policy of isolation and remained inactive in international politics. But several circumstances compelled it to break the shells of aloofness and thereafter interactions between India and Bhutan increased to a considerable level. Today, India is the largest trade and development partner of Bhutan. Both the countries have cooperated with each other in diverse areas as in economic, social, cultural, educational, etc., but the interaction between the two in the Hydropower sector is a unique one. It is a case of win-win cooperation for both the countries. Several projects have already been completed like Chukha, Tala, Kurichhu, etc., while some are still in operation and both the countries are availing the benefits out of various hydel power projects. So, this particular paper would highlight the bases of relationship between India and Bhutan and what is the level of economic interaction between the two. The paper would also focus upon various hydro-power projects between India and Bhutan as well as how it has helped in boosting the economies of both the countries and solidifying the relationship between the two.*

Keywords: *India, Bhutan, Economic Relations, Cooperation, Interaction, Hydropower Projects*

INTRODUCTION

The relationship between India and Bhutan sets an example for the other countries of the world as the elements of war and conflict remains more or less insignificant and the elements of trust, goodwill, and friendliness occupies prominent place in the story. The basic framework of India – Bhutan bilateral relations is the Treaty of Friendship and Cooperation of 1949 between the two countries, which has been updated in 2007. ‘The initiation of Indo-Bhutan friendship as it stands today is credited to the efforts of Indian Prime Minister Pandit Jawaharlal Nehru and His Majesty Jigme Dorji Wangchuck, the third King of Bhutan. Their meeting in the 1950s sparked the dialogue for development cooperation. Looking back over the decades since then, and under the continued guidance of the present King His Majesty Jigme Singye Wangchuck, Indian assistance has greatly expanded in every field of Bhutan’s

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development and socioeconomic growth. To this day, India continues to provide the largest and most diverse assistance to Bhutan among all other donors. Often cited as a “shining” example of friendship and cooperation between a large country and a small neighbor, relations between the two continue to grow at all levels’ (Choden 2004: 113).

The narrative of their age-old friendship is an endless one. India’s traditionally ‘warm’ and ‘cordial’ relations with Bhutan continue to be based on a policy of good neighborliness and close cooperation, largely in economic, technical and cultural areas³. The most striking feature of this relationship is the absence of pulls and pressures or strains which India has experienced or is experiencing in relationship with its other neighbors in South Asia.

ECONOMIC INTERACTIONS BETWEEN INDIA AND BHUTAN

The relationship between India and Bhutan in economic field started from British period. In the regime of Ugyen Wangchuck, an appeal was made to British India to help implement the development of plans in Bhutan and the treaties such as the Treaty of Sinchula, 1865 and the Treaty of Punakha, 1910, were signed with the British India. With the help of these treaties, Bhutan could gain some annual assistance from British India. The same economic assistance, but now increased, was continued by independent India, under the treaty of 1949. Until the 1950s Bhutan kept itself isolated from the rest of the world not only politically, but also economically. Hence, Bhutan could not establish direct economic relations with any other country. However, in the 1950s, the Chinese intrusions across the northern part of Bhutan in Tibet compelled her to come out from her self-imposed isolation and change her foreign policy. Thus, naturally Bhutan had opened a window of opportunity in her economic relations with other countries (Kharat 2005: 97).

The historic Treaty of Friendship of 1949 provided a concrete base and channelized the communication between India and Bhutan. While concluding this treaty, both India and Bhutan agreed for perpetual peace and friendship. India on its part promised Bhutan for non-interference in its internal administration and at the same time Bhutan agreed to be guided and advised by India in regard to its external relations. Among the other clauses of the treaty, Article 5 of the treaty stated that ‘there shall, as heretofore, be free trade and commerce between the territories of the Government of India and the Government of Bhutan; and the Government of India agrees to grant

³GOI, MEA: *Annual report, 1997–1998*

the Government of Bhutan every facility for the carriage, by land and water, of its produce throughout the territory of the Government of India, including the right to use such forest roads as may be specified by mutual agreement from time to time.’ This particular article itself made it very clear that the interaction between the two countries is all set to begin. Even, Article 3 of the updated version of this Treaty signed by the two in 2007 states that ‘there shall, as heretofore, be free trade and commerce between the territories of the Government of Bhutan and the Government of India. Both the Governments shall provide full cooperation and assistance to each other in the matter of trade and commerce.’

INDIA’S ASSISTANCE TOWARDS FIVE YEAR PLANS OF BHUTAN

In 1961, Bhutan launched its First Five Year Plan (FYP) which was fully financed by India. Thereafter, India has extended full assistance to Bhutan in all its FYPs. Following are the details showing India’s contribution in Bhutan’s development through assistance to FYPs:

Table 1: Financing of Development Plans of Bhutan by India

Five Year Plans of Bhutan (FYPs)	Total Outlay (In Millions of Ngultrum)	India’s Contribution/ India’s Assistance
First FYP: 1961–66	107.2	100% (107.2 million Rs.)
Second FYP: 1966–71	200.2	98.6% (200.0 million Rs.)
Third FYP: 1971–76	475.2	89.8% (426.6 million Rs.)
Fourth FYP: 1976–81	1,106.20	77.1 % (853.0 million Rs.)
Fifth FYP: 1981–87	4,684.30	43.1% (2,017. 5 million Rs.)
Sixth FYP: 1987–92	9,559.0	27.3% (2,612.70 milion Rs.)
Seventh FYP: 1993–97	15,000	Rs.729 Crores
Eighth FYP: 1997–2002	32,610	27.6% (10,500 million Rs.)
Ninth FYP: 2002–2007	70 billion Nu	29.33% (26,109.1 million Rs)
Tenth FYP: 2008–13	148.74 billion Nu	23% (34000 million Rs.)

Source: As per the data mentioned in Rajesh Kharat’s, “Foreign Policy of Bhutan, 2005, p. 99–106

It is very evident from the above that although the contribution of India has decreased in terms of percentage, it has undoubtedly increased in terms of rupees or in monetary terms (amount of funds sanctioned by the Government of India for FYPs of Bhutan has

increased year by year). With the help of continued assistance and support from India, Bhutan has been able to march confidently on the path of progress and development.

Bhutan's greater inclination towards India is shaped by two factors: one- Firstly, Bhutan's dependent upon India for socio-economic development, and, two- Secondly, India links Bhutan to the globe. India has emerged as the largest single donor ever since Bhutan launched its first two five-year plans. Apart from FYPs, India also contributed and assisted Bhutan in developing and establishing the communication network throughout the country like a wireless system and a medium wave radio service which ultimately helped Bhutan to spread and propagate information about its development and cultural activities. India has also funded the Bhutanese project on the installation of petroleum storage at Deothang and also aided Project Dantak, launched in 1961, which is a major contribution to Bhutan's socio-economic development. In the area of trade and commerce too, India has been very generous towards Bhutan and is the largest trade and development partner of Bhutan. More than 75% of Bhutanese export and import is with India. The main items of Bhutan's exports to India are electricity, mineral products of chemical industries, base metals and products, wood and wood products and, most importantly, hydropower generation which is the area of comparative advantage. Imports from India include a wide range of items mainly composed of machinery, mechanical appliances, base metals, electronic items, foodstuff and other basic necessities and consumer items.

HYDROPOWER COOPERATION/ ENERGY COOPERATION

The hydropower sector is another area of cooperation between the two and it would not be wrong to say that energy cooperation between the two is the main component of their age-old friendship. 'Indeed, hydropower is the backbone of the Bhutanese economy. The rugged terrain, compounded by the fact that the Country is landlocked does not provide much economic advantage to Bhutan. Transportation costs are high and unless Bhutan can think of certain niche products, her exports are not going to be competitive. The decision by the Royal Government to exploit its water resources for production of electricity has changed the economic scenario for Bhutan. The rapid altitudinal variations with swift flowing rivers have made Bhutan a natural haven for hydro power production. The close and friendly ties between Bhutan and India have provided the necessary political will and the market for Bhutan's power, as India has a huge power deficit (Tshering & Tamang 2004). Similarly, Dhakal (1990:291) has said that -the energy cooperation between India and Bhutan is one of the most important components of the relationship between the two. Among various energy sources, collaboration in the area of hydroelectricity dominates almost the entire cooperation. Although variety of mineral resources are available in Bhutan, these natural resources

could create their development in a resource base but not one large enough to ensure adequate momentum in economic development (Dhakal 1990:291). Bhutan boasts of a very high hydropower potential, estimated at around 30,000 MW, of which 23,760 MW has been identified as economically feasible, comprising in total 76 hydro projects of which 1,400 MW have been built and another 10,000 MW will be constructed by 2020.

The calculation here is simple; on one hand, Bhutan requires the revenue for long term, persistent, healthy and sustainable economic development and on the other hand, India needs the electricity or power supply in order to boost up the economic growth rate of the country and also to meet the rapidly mounting energy demands, particularly in energy deficit areas. However, the initial focus of hydropower cooperation between India and Bhutan was mainly to fulfill Bhutan's domestic needs through small mini projects and gradually move onto bigger projects.

HYDRO POWER PROJECTS IN BHUTAN

The first medium size hydro project was approved to be initiated in 1961, when the construction of a barrage was finished in the Bhutanese territory. Apart from getting the revenue, Bhutan also got free power for its southern region. Bhutan was also importing power from India at the time to meet its developmental needs. The first hydro plant with the energy production capacity of 360 KW in Bhutan was built under Indian assistance, in terms of grants, and was commissioned in 1967 at Joshina to supply power to the capital. In 1968, a mini-hydel plant of 400kW was built in Paro which was later decommissioned in 1986. In 1972, the 750kW Chenari plant was built along with another 300kW hydel at Hesothanka in Wangduephodrang.

- The first major cooperation between India and Bhutan was the signing of the pact between the two to harness the Jaldhaka River for hydroelectric power in September 1961. The project was completed in 1966 and the major plant was completed in 1968.
- After realizing the worth of hydropower as an important factor in boosting the economic development, a new era of energy cooperation was embarked upon with the execution of Chukha Hydro Electricity Project. Chukha Hydroelectricity is the largest and most ambitious of the projects in Bhutan. It was the development of first major hydroelectric project between India and Bhutan. The project was started in 1974 when a bilateral agreement was signed between India and Bhutan for the construction of 336 (4x84) MW Chukha hydel project (468 metres, Pelton turbine) across river Wangchu in Western Bhutan for meeting the internal power demand and export of the surplus electricity to India. The Project was commissioned in 1988. This was the first biggest investment project that Bhutan had ever seen. During that

time, export of energy from Chukha hydropower station (336 MW) constituted almost one-third of Bhutan's internal revenue (Labuatsaiha 2011:73). This project is a shining example of Indo-Bhutan Friendship and cooperation.

This is also Bhutan's oldest mega power project. Out of the country's several major river basins, the Wangchu, which uses the discharges of Thimphu, Paro and, Haa valleys, was chosen as the project site as it offered the best scope for constructing the first power project due to the existence of road links and other infrastructures. After conducting detailed studies, an agreement for the implementation of the Project was signed between the two governments of Bhutan and India. The project was fully funded by GoI with 60 percent grant and 40 percent loan at the interest rate of 5 percent payable over a period of 15 years after commissioning. The project's first 84 MW hydro-turbine unit was commissioned on September 7, 1986 and by August 22, 1988, all the other units had been commissioned. The project's completion cost is estimated at Nu. 2,465 million and generates over 1800 MU annually. Most of the generated energy is exported to India.

- **Kurichhu Hydroelectric Project:** On September 27, 1995 India and Bhutan signed a power agreement under which the Government of India agreed to fund the construction of 45 MW Kurichhu Hydropower Project. Later on the capacity of the project was increased up to 60 MW. The cost of this project in the initial agreement was estimated at Nu. 2,560 million and was later revised to 2,860 million. This project was also fully funded by the Government of India and was commissioned since 1 October 2002(Kharat 2005: 108).
- **Tangsibji or Central Hydel Project (45 MW):** was completed between 1995 to 1998. It connects Tongsa, Shemgang, Damphu and Gelephu. At Gelephu, it is connected with the Indian grid system. Surplus power is exported to India by evacuating power to western grid.
- **Sankosh Hydel Project (1525 MW):** On 4th January 1993 a Memorandum of Understanding with India was signed for Sankosh multipurpose project. Largest in South Asia, the cost of this project was Nu 25,000 million and it was to generate 1,525 MW. It irrigates around 50,000 hectares of land in West Bengal. This project also gave economic boost to both the countries (Rajput 2011: 151).
- **Tala Hydroelectric Project (1020 MW):** Following the bilateral agreement signed on March 5, 1996, this project was launched on Wangchu river. It is the biggest joint project between India and Bhutan with generation capacity of 1020 MW. Commissioning of the plant was planned for June 2005 but because of geological problems this was delayed to March 2007. The project was originally estimated to cost Rs.1468 crores but later on revised to

Rs. 2816 crores. It was decided that the surplus power would be sold to India. The plant was dedicated in May 2008, in front of the Prime Ministers of India and Bhutan.

Apart from this, some other projects like Amochu Reservoir project (620 MW), Kuri Gongri (1800 MW), Chamkarchhu (670 MW) and Khlongchu project (486 MW) have also been negotiated between India and Bhutan and all these projects have supported and satisfied the energy requirements of both the countries. Besides, in 2008, the then Indian Prime Minister Manmohan Singh also concluded an agreement with Bhutan which would help Bhutan build an additional installed capacity of 10,000 MW in hydropower by 2020 (Rajput 2011: 153).

Even during Prime Minister Narendra Modi's maiden foreign visit to Bhutan, the two countries reiterated their commitment to achieving 10,000MW target in hydropower cooperation and he also laid the foundation stone of 600MW Kholongchu Hydropower project which is a joint venture between India and Bhutan.

ENERGY COOPERATION IN THE CHANGING SCENARIO

Bhutan has benefitted by means of energy cooperation with India as electricity has provided the much needed revenue, but the Royal Government has also prioritized network expansion in Bhutan. It is expected that by 2020, the entire Bhutan will have access to electricity. Industrial activities are expected to increase with the commissioning of various projects. There is however, a need to ensure that internal electricity tariff is kept affordable so that it becomes the main source of energy in the Bhutan and also to stimulate industrial activities. (Tshering and Tamang, 2004).

India's aid and assistance in the development of the hydropower sector in Bhutan is the centerpiece of Bhutan-India economic cooperation and is one of the most important pillars of bilateral cooperation between the two. The collaboration in the hydropower sector is full of opportunities and has been recognized and cheerfully accepted by both Bhutan and India as being mutually beneficial. India finds her interests fulfilled in alleviating their power deficiency by supporting Bhutan and Bhutan in turn finds an opportunity to optimize its national income through power exports to India. This sustainable win-win situation for both sides makes the relationship between the two nations even stronger and long lasting. (Ministry of Foreign Affairs, 2016)

In the contemporary scenario India has existing power grid links with Bhutan and has helped it develop the Tala and Chukha projects. The two countries signed an agreement in July 2006 to facilitate, encourage and promote the development and construction of hydropower projects and associated transmission systems, as well as trade in electricity. India has also signed a memorandum of understanding with

Bhutan to import 5000MW of power by 2020, of which around 1400MW is already being imported. India has a domestic hydropower generation capacity of 36085MW and plans to add another 15627MW by 2012 (Lalbuatsaiha 2011:86).

The model of Hydropower cooperation between India and Bhutan is based upon the model of reciprocity or reciprocal arrangement wherein India, which is facing shortage of power required to meet its domestic needs, is purchasing electricity from Bhutan and on the other hand Bhutan, who is in need of revenues and finances for regulating its internal developments, is selling power to India. This unique cooperation between India and Bhutan is something which is based upon the model of diffused reciprocity⁴ wherein the desired benefits of cooperation can be obtained or availed over the long-term. This diffused reciprocity is visible in terms of trust held by each nation for the other and also in terms of benefits that are mutually enjoyed by both the sides (Bisht 2012:789).

BENEFITS OF ENERGY COOPERATION FOR BOTH THE COUNTRIES

Though the amount of loan which Bhutan is borrowing from India has gone up, the positive thing here is that Bhutan will be receiving heavy outputs out of the mutually agreed projects. Once completed, these projects are expected to generate up to Nu 100 billion a year in revenue and this would help Bhutan in transforming and presenting itself before the other world leaders as a self-sufficient economy. It would also enable Bhutan to attain the highest per capita income and significantly further upgrade the socio-economic status of the people. The other benefit for Bhutan is successful supply of cheap electricity to its population. One example is aggressive rural electrification works. Bhutan is also using hydropower development and its 'urbanizing effect' by distributing it evenly across the country for balanced regional development.

The projects, apart from providing reliable power to Bhutan, are also a sound economic investment for India. This has been possible because while deciding the electricity tariff rates an automatic formula of calculating the tariff rates is used which is based on the construction cost and financing costs. India's grant components while decreasing the loan burden on Bhutan also keeps the tariffs of Bhutan's projects relatively lower. Even in the case of the first mega project the 336 MW Chukha project where India provided the most favorable financial terms of 60% grant or free money,

⁴A concept coined by Robert Keohane which is more like a cultural norm within a community wherein people do things with and for others without demanding or expecting an immediate payback or return, knowing that the others will do the same later and that they will all be better off in the long run as a result. Diffuse reciprocity is an attitude, a willingness to give without demanding a precise accounting of equivalent benefits for each action, albeit because others in the community do so as well.

India made its recovery of the investment in a short time. A detailed study (Jenkins & Dhakal 2008) on the issue was conducted in 2008 by two researchers, D.N.S. Dhakal from Center for International Development, Duke University, U.S.A and Glenn P. Jenkins from Department of Economics, Queen University, Canada. The researchers in a detailed paper concluded that India completed the recovery of the investment cost with its economic opportunity cost by 1997 which is just nine years after the project started in 1988. The value of net economic gains as of 2008 evaluated in 2008 prices has been USD 2,286.51 million for Bhutan and USD 2,521.78 million for India. Taken as a ratio this means that as of 2008 the gain has been 48:52, favoring India slightly.

India's gain was calculated taking into account what it would have cost India if it used the conventional means of power production in India like Thermal power or if did not get the advantage of the lower tariff rates of Chukha. The study said that the whole project was a win-win project for both countries. The other advantage for India is that Bhutan's small population, limited red tape and very limited social and environmental impact of the projects ensure that the projects don't face the same delays that are likely in India. The key here is the location of most projects in deep and uninhabited gorges. Also given the pre-agreed formulas and time frame of tariff increases, Indian can count on assured and stable prices.

CONCLUSION

On a negative tenor, economic relations between India and Bhutan are often visualized as an example of imbalanced trade between the two. Despite the fact that Bhutan has upgraded itself on economic fronts but its huge dependence over India for fulfilling its economic requirements in the past, and to some extent, in the contemporary scenario as well cannot be denied. Although, quite often it has been incorrectly stated that India has played a game of one-upmanship with Bhutan, that later is a 'pygmy' and India being a 'giant' in South Asia has always tried to dictate its terms and decisions over Bhutan, the veracity of the matter lies in the fact that both the countries have throughout the decades of mutual association played roles that have been complementary to each other. The India-Bhutan relationship is perhaps the only bilateral engagement in South Asia yielding high dividends to both the countries. The kingdom of Bhutan has completed almost 25 years of energy cooperation with India and it has benefitted both the countries equally. Despite the change in leadership in both the countries, the basic nature of their relationship has not changed. So, it can be said that the future prospects of this age-old relationship are very bright.

However, there are certain problems or constraints in the path of power cooperation which need to be considered for sustaining the uninterrupted hydro-power cooperation,

such as environmental issues in Bhutan like- forest degradation, several disturbances to wildlife, increased incidents of soil erosion and water-related diseases, generation of solid waste from labor camps, increase in the level of pollution due to emission of dust from construction activities and discharge of waste matter from the tunnel. Such issues have created apprehensions and worry among the environmentalists and policymakers in Bhutan (Premkumar 2016:20). Apart from this, certain tension has emerged in the minds of Bhutanese stakeholders and business community that India is trying to establish its supremacy and dominance over the Bhutanese market. They have made allegations that India is trying to convert Bhutan into an auxiliary economy, i.e., a supporting market for fulfilling its own requirements. So, these are certain issues which are a matter of concern for both India and Bhutan and it should be dealt by them on an urgent basis for maintaining and continuing positive hydropower cooperation between both the countries. Although, these apprehensions are in air, the Indian Prime Minister Modi has brought new energy and goodwill in the Indo-Bhutanese relations and has shown strong will to standby Bhutan like an all season partner.

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Urban Sanitation in Uttar Pradesh: Status, Policy Perspective and Need for Faecal Sludge Management

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Abstract—Sanitation is the basis of healthy and civilized life and is one of the components of human development. It is closely associated with environment as in the absence of proper sanitation facilities, occurrence of water-borne diseases increases which leads to poor health. The coverage of urban population by sewer line is very low as sewer line is in existence mainly in larger cities. Thus, the major part of urban centres is dependent on conventional individual septic tanks. Due to low level of sanitation coverage and high dependency on conventional septic tanks, the sanitary workers are found to be engaged in cleaning and scavenging of toilets. There is no focused intervention to provide sanitary facilities to the urban poor. Thus, it is imperative to create infrastructure and improve delivery of basic urban services including water supply, access to toilets, drainage and solid waste disposal in slums. There is also a need to provide affordable and suitable sanitary facilities to the urban poor. In the absence of sewer network, poor functioning of sewerage treatment plants and poor delivery of sanitation services in urban areas, the sanitation conditions in most of the towns and cities are pathetic. Against this backdrop, the present paper highlights the status, policy perspective and imperative need of faecal sludge management in Uttar Pradesh.

Keywords: Sanitation, Urban, Health, Disease, Faecal, Sludge

INTRODUCTION

Providing environmentally safe sanitation to the people is a challenging task. However, realising the necessity of safe sanitation, governance is committed to create basic facilities. Hence, in order to minimize adverse impacts, the Government of India has undertaken several measures including increased investment in urban sanitation, policy initiatives, regulations, and public campaigns to improve sanitary conditions in the country. Ministry of Urban Development, Government of India, launched Swachh Bharat Mission in October, 2014 with a view to eliminate open defecation and improve the sanitary conditions in the urban areas. Weak sanitation has significant health costs and untreated sewage from cities is the single biggest source of water resource pollution in India. This indicates both the scale of the challenge that lies ahead for the Indian cities and the huge costs incurred from not addressing them. India's bigger cities have large, centralized sewerage systems with vast underground pipelines, pumping stations and huge treatment plants. These systems are expensive to build and even

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more expensive to operate, as they require continuous power, a large amount of water, skilled operators and extensive electro-mechanical maintenance. Currently on-site pit latrines, septic tanks and other such systems account for a substantial proportion of toilets in urban areas while the containment of human waste will be largely achieved under SBM, its treatment still poses a huge challenge. In the absence of adequate safe and sustainable sanitation, many Indian cities are already suffering the consequences, in the form of health ailments and serious pollution of water and soil resources. In contrast with the large proportion of on-site sanitation systems, limited attention has been accorded to proper construction, maintenance management and safe disposal of faecal sludge and septage from septic tanks and pit latrines.

There is a direct relationship between water, sanitation and health. Consumption of unsafe drinking water, improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in developing countries. India is no exception to this. Prevailing high infant mortality rate is also largely attributed to poor sanitation. The concept of sanitation was earlier limited to disposal of human excreta by cesspools, open ditches, pit latrines, bucket system, etc. Today, it connotes a comprehensive concept, which includes liquid and solid waste disposal, food hygiene, and personal, domestic as well as environmental hygiene. Proper sanitation is important not only from the general health point of view but it has a vital role to play in our individual and social life too. Sanitation is access to, and use of, excreta and waste water facilities and services that ensure privacy and dignity, ensuring a clean and healthy living environment for all. Facilities and services should include the collection, transport, treatment and disposal of human excreta, domestic wastewater and solid waste, and associated hygiene promotion (UN Habitat and Water Aid). Sanitation is one of the basic determinants of quality of life and human development index. Good sanitary practices prevent contamination of water and soil and thereby prevent diseases. The concept of sanitation was, therefore, expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and waste water disposal. Provision of basic services such as water supply, sewerage, sanitation, solid waste disposal and street lighting has traditionally been the responsibility of the local governments. These services are being provided through state government departments, state level boards, corporations, etc. Public Health Engineering Department, Public Works Department, Urban Development Department, Housing Boards, Department of Local Self Government, Water Supply and Sewerage Boards, etc., are some of the departments of the state government which performs municipal functions. With the passing of 74th Constitutional Amendment Act, Metropolitan Planning Committee and District Planning Committee have been formed to take up developmental activities in the concerned region in place of the

parastatals. The ULB's have also been empowered to take up development functions. States have responded in diverse manner with regard to the status of parastatal agencies in the post decentralized period. Many state governments like Kerala and Karnataka have recommended the abolition of the parastatals while some have recommended for a change in their functional role like in Tamil Nadu, Uttar Pradesh, Maharashtra, West Bengal and Andhra Pradesh. The parastatal agencies have also been merged with the Urban Development Department. The 74th Constitutional Amendment Act has also transferred administrative and financial process and created an enabling environment for the local bodies to undertake planning and development responsibility.

OBJECTIVE AND METHOD

The present paper purports to review the status of urban sanitation in Uttar Pradesh. It also highlights the policy perspective of urban sanitation and imperative need of faecal sludge management. The paper is based on secondary data and pertinent literature. The data and literature has been compiled from the published and documented sources including internet sources.

REVIEW OF LITERATURE

Environmental sanitation aims at improving the quality of life of the individuals and at contributing to social development. This includes disposal or hygienic management of liquid and solid human waste, control of disease vectors and provision of washing facilities for personal and domestic hygiene. Environmental sanitation comprises both behaviour and facilities to form a hygienic environment. Most diseases associated with water supply and sanitation, such as diarrhoea, are spread by pathogens found in the human excreta. The faecal-oral mechanism, in which some of the faeces of an infected individual are transmitted to the mouth of a new host through one of a variety of routes, is by far the most significant transmission mechanism. This mechanism works through a variety of routes. Primary interventions with the greatest impact on health often relate to the management of faeces at the household level. This is because (a) a large percentage of hygiene-related activity takes place in or close to the home and (b) first steps to improving hygienic practices is often easiest to implement at the household level. Secondary barriers are hygiene practices preventing faecal pathogens, which have entered the environment via stools or on hands, from multiplying and reaching new hosts. Secondary barriers thus include washing hands before preparing food or eating, and preparing, cooking, storing, and reheating food in such a way as to avoid pathogen survival and multiplication. The water supply and sanitation provide the necessary barrier between the pollutants,

natural-built environment and humans. Broadly, the sanitation systems in India can be divided into two types: network-based systems, which refer to piped sewerage and on-site systems which includes all other categories. It is evident that only a third of the city population is serviced by network-based systems, as apart from piped sewerage, all other categories constitute on-site systems. In a survey carried out in 300 cities, only 100 cities had sewerage systems (NIUA, 2005). The number of cities with sewerage has increased slightly, according to Census 2011. Even now, only 792 or only 10 per cent of cities have more than 50 per cent of households connected to sewerage systems, and it is in all likelihood an overestimate. The various estimates indicate that only one-third of the total wastewater generated is collected (CPCB, 2009). In the national sanitation ratings carried out for 423 cities, 274 cities (65 per cent) have unsatisfactory arrangements for safe collection of human excreta. Only about 27 per cent of cities are collecting more than 80 per cent of their waste (MoUD, 2010). The sewerage systems, where they exist, are plagued by multiple problems. The sewers in most Indian cities are badly maintained: frequent blockages, siltation, missing manhole covers, gully pits. There is hardly any preventive maintenance with repairs being made only in the case of crises (WSP-TARU, 2008). Improper disposal of solid waste also tends to block sewer lines. Sometimes, storm water enters the sewerage network, leading to inflow in excess of the capacity of the system, and hence sewer lines cannot function (Wankhade *et al.*, 2014).

According to Census 2011, nearly two-third of the households in India are dependent on onsite sanitation systems, the most common being septic tanks, followed by a different kind of pit latrines. While on-site systems are the most common systems, most of the policy focus has been on sewerage systems, to the neglect of on-site systems. The on-site sanitation systems are mostly constructed by households, who do not necessarily have the knowledge or resources to build these according to requisite standards. Often, on-site systems suffer from poor design and poor workmanship. While there are significant differences between cities and states in general, there are limited facilities for safe emptying of pits or de-sludging of septic tanks. While some urban local bodies provide these services, a majority of households enlist the services of sweepers to manually empty the pits and tanks or private mechanical emptiers (WSP, 2008). There are very few treatment facilities for faecal sludge; most of the existing treatment involves co-treatment at conventional STPs. In most cases, the collected waste is dumped in the open without any treatment (AECOM & SANDEC, 2010; WSP-TARU, 2008). In general, there is little information about the performance of on-site systems, and it is not possible to estimate the quantum of faecal sludge that is safely transported and treated. It has also been a poorly regulated area, with no monitoring of either the utilities or the private players.

The sanitation systems are often only considered partially. The on-site based sanitation solutions (latrine or septic tank-based) frequently do not include excreta and faecal sludge emptying, transport or treatment services and facilities. Additionally, local business opportunities, as well as the demand and potential use of waste resources, such as water, nitrogen or bio-solids, are given little attention. Failures or unsustainable solutions put huge financial burden on municipalities. In cities of developing countries, large amounts of excreta and faecal sludge collect in on-site sanitation facilities, such as private or public latrines, and septic tanks. As opposed to the industrialised countries, where excreta is disposed of via cistern-water flush toilets, city-wide sewerage systems and central wastewater treatment plants, all of which are widespread technologies in industrialised countries but unaffordable or inappropriate in developing countries. If faecal sludge is collected at all from on-site sanitation technologies, they are most often disposed of in an uncontrolled manner without prior treatment, thus, posing severe health risks and polluting the environment (SCBP, 2017).

Various technologies which perform the same or similar type of function are called as functional groups. When different technologies from different functional groups are clubbed together, a sanitation system is made. Careful selection of the technologies needs to be done to make the sanitation system functional. A sanitation system should consider all the products generated and all the functional groups these products are subjected to before suitably disposing them off. Domestic products mainly run through five different functional groups, which form together a system. All sanitation systems start with User Interface. From this the product either goes to collection and storage/treatment group or to conveyance. This mainly depends on whether there is adequate supply of water available for water based system. After conveyance, the products flow in the centralised treatment function group where the products are treated before moving on to use/disposal group. The product though collection and storage/treatment also ends up into use/ disposal functional group. Depending on the system, not every functional group is required. User interface describes the type of toilet, pedestal, pan or urinal the user comes in contact with. User interface also determines the final composition of the product, as it is the place where water is introduced in the system. Thus, the choice of user interface is often dependent on the availability of water. Selection of user interface depends on the following six technical and physical criteria : (1) availability of space (2) ground condition (3) groundwater level and contamination (4) water availability and (5) climate (IWA, 2014).

The technologies which are used for the collection and storage of the products are generated at the user interface. In the case of extended storage, some treatment may be provided, though it is generally minimal and dependent on storage time. All the

units have to be either connected to conveyance or use/disposal function group for liquid effluent and to conveyance to solids. All the units need to be emptied regularly (depending on the design criteria) for solids. These solids in turn need to be treated or processed before use/disposal. The technical and physical criteria for choosing the appropriate collection, storage and treatment technology are as follows: (1.) ground condition (2.) groundwater level and contamination and (3.) climate. Conveyance describes the way in which products are moved from one process to another. Although products may need to be moved in various ways to reach the required process, the longest and most important gap lies between on-site storage and (semi-) centralised treatment. For the sake of simplicity, conveyance is thus limited to moving products at this point. The technical and physical criteria for choosing the appropriate conveyance technology/system are as follows (1) water availability (2) ground condition (3) ground water level and contamination. Human-powered emptying and transport refers to the different ways in which people can manually empty and/or transport sludge and solid products generated in on-site sanitation facilities. It can be done by using buckets and shovels, or by manually operated pumps specially designed for faecal sludge. The advantages of manual emptying include the generation of income, low costs and the availability of tools, little or no requirement of electric energy. The large disadvantage that inheres manual emptying is the high health risk. Motorized emptying and transport refers to a vehicle equipped with a motorized pump and a storage tank for emptying and transporting faecal sludge septage and urine. Humans are required to operate the pump and manoeuvre the hose, but sludge is not manually lifted or transported (see also human powered and transport. Motorised emptying and transport is fast and generally efficient. Moreover, it can generate local jobs. But large streets are required for the trucks to pass, thick or dried material cannot be pumped and garbage in pits may block the hose. Moreover, capital costs are high and spare parts may not be available locally.

Sludge and septage emptied from on-site sanitation systems need to be transferred to (semi-)centralised infrastructures for further treatment. Transfer stations or underground holding tanks act as intermediate dumping points for faecal sludge and septage when it cannot be easily transported to a (Semi-) Centralized Treatment facility. A vacuum truck is required to empty transfer stations when they are full. Sewer discharge stations are similar to transfer stations, but instead of simply being a holding tank, the stations are directly connected to the sewer transporting the sludge to a (semi-) centralised treatment facility. Transfer stations reduce transport distance, may encourage more community-level emptying solutions and prevent illegal dumping. The moderate capital costs may be offset with access permits and the construction and maintenance can create local income. However, expert design

and construction supervision are necessary. The technical and physical criteria for choosing appropriate technology for treatment are as follows: (1.) climate (2.) availability of space (3.) ground condition (4.) ground water level and contamination. Use or disposal refers to the ways in which products are ultimately returned to the soil, either as harmless substances or useful resources. Furthermore, products can also be reintroduced into the system as new products. A typical example is the use of partially treated grey water used for toilet flushing. The conventional, centralised wastewater management concept, consisting of a water-borne wastewater collection system leading to a central treatment plant, has been successfully applied over many decades in densely populated areas of industrialised countries and has greatly contributed to improving the hygienic conditions in these areas. However, the appropriateness of this model in the context of cities in developing countries must be questioned, given their urgent need for affordable and sustainable infrastructure. A centralised wastewater management system reduces wastewater reuse opportunities and increases the risk to humans and the environment in the event of system failure. Centralised treatment systems are usually much more complex and require professional and skilled operators. Operation and maintenance of centralised systems must be financed by the local government, which are often unable or unwilling to guarantee regular operation, a decentralised wastewater management decreases the risk associated with system failure. The probability of simultaneous failure of many small systems is significantly lower than failure of one system serving the entire community. Decentralised treatment processes can be tailored to the quality of the wastewater stream generated by each separate subsystem and to the effluent quality required. The treatment requirements will vary considerably depending on the final destination of the treated wastewater (e.g. agricultural reuse, discharge into water bodies, infiltration). Decentralised management increases the wastewater reuse opportunities by keeping the wastewater as close as possible to the generating community. Demand for treated liquid waste in developing countries often comes from the urban centres for use in public parks and urban agriculture. Where wastewater is used for irrigation, it is pointless to collect the waste flows in one location for treatment and subsequently distribute the treated effluent where it is needed. Decentralised management may apply a combination of cost-effective solutions and technologies which are tailored to the prevailing conditions in the various sections of the community. For example, a sewerage system and treatment works can be provided to highly developed and densely populated commercial and residential centres of a community. Sparsely populated housing neighbourhoods can be served by a settled sewerage system or dry sanitation systems where soil and groundwater conditions allow such options. Decentralised management allows incremental development and investment in community wastewater systems. Settled

sewers can be used to upgrade the already existing decentralised systems such as septic tanks if necessary. New, independent and properly sized systems can be added to serve new and well defined residential, industrial or commercial developments. In contrast, investments in centralised systems have to be made within a short time, thus burdening the local economy. Centralised systems are usually sized to handle wastewater flows planned to occur in 30–50 years. Centralised systems are initially often oversized but eventually become undersized (SCBP, 2017).

About 2.7 billion people around the world use on-site sanitation technologies that need fecal sludge management services (Strande *et al.*, 2014). The greatest numbers are in Eastern Asia with 1.1 billion people, Southern Asia with 593 million people and Sub-Saharan Africa with 439 million. These are households and communities using latrines without access to or unable to afford fecal sludge management services. Ideally, on-site sanitation technologies should be emptied in a safe and hygienic manner by well-equipped and protected workers who transport the sludge for treatment, use or disposal. Faecal sludge management aims to reduce the risk of pathogen transmission and environmental contamination through using protective measures. These are actions that are often called barriers or the multi-barrier approach, to prevent or eliminate a sanitation-related risk, or reduce it to an acceptable level (WHO, 2016). If present sanitation trends continue, the number of people needing fecal sludge management services will rise to 5 billion people by 2030 (Strande *et al.*, 2014). This number could increase even faster as water scarcity becomes more severe. Sewer systems use a lot of water to flush wastewater to a treatment facility. As the availability of water becomes less, it will become more challenging to flush everything away through sewers. Households will have to use the on-site sanitation technologies instead of being linked to a sewer system. The on-site sanitation has been considered as a temporary solution until a sewer system is constructed (Strande, Ronteltap & Brdjanovic, 2014). In a sewer system, excreta and flush water from toilets, as well as other used water from laundry, kitchens and bathing is transported from the home by a direct connection to a system of pipes (sewers) buried deep underground. Ideally, the wastewater is sent to a treatment facility. Well-constructed and maintained sewer systems with wastewater treatment facilities can provide effective and efficient services. Sewer systems have been constructed in many parts of the world, particularly in high-income countries. However, for many low- and middle-income communities, particularly in the developing countries, installing a sewer system is not a feasible option due to the complexity, high cost, and need for a piped water supply. For such communities, on-site sanitation offers a hygienic and affordable solution (Franceys, Pickford & Reed, 1992). Sanitation planners have come to realize that sewer systems are an inappropriate technology to manage excreta in many parts of low- and

middle-income countries. This has led to a shift in sanitation planning. Implementers are now accepting the on-site sanitation as an appropriate, sustainable and affordable solution as long as fecal sludge emptying, transport, treatment and disposal or use services are available and managed correctly (Strande *et al.*, 2014).

On-site sanitation is often considered as a solution in only rural areas. However, on-site sanitation is also very common in urban areas. In fact, one billion people using on-site sanitation live in urban areas (Strande *et al.*, 2014). The wealthy neighborhoods are often the only parts of a city linked to a sewer system. Governments are often unwilling to invest funds to install a sewer system in lower-income neighborhoods. This can be for various reasons such as land ownership, affordability and instability. Households in these lower-income neighborhoods usually have to build their own on-site technology, like a pit latrine or septic tank. When their latrines fill up, they have to manually empty them or pay for an informal emptying service. Faecal sludge management has only recently received the attention it deserves. In terms of experience and research, faecal sludge management is at least a hundred years behind wastewater management (Strande *et al.*, 2014). There is an increasing amount of research conducted on this topic, but it is important to recognize the knowledge gap and limited experience. There are a range of service providers for faecal sludge emptying and transport, from informal and independent individuals to formal and large companies. In some areas, services are also provided by public utilities or nongovernmental organizations (Chowdhry & Kone, 2012). It is common to see a variety of service providers working in the same region. This is because of the complexity and accessibility of different on-site sanitation technologies and the customers' ability to pay for the services (Strande, Ronteltap & Brdjanovic, 2014). A recent survey of 30 cities in Africa and Asia found that about one-third of the households manually empty their on-site sanitation technologies. While family members sometimes do this job themselves, almost 90% of the time, a manual emptier is hired to do the task (Chowdhry & Kone, 2012). Manual emptying is hard and an unpleasant work, and it poses serious health and safety risks if it is not carefully managed. The tools used for manual emptying are simple, usually no more than a bucket, shovel, and rope. Workers often use minimal or no personal protection, like gloves or boots, to prevent direct contact with the faecal sludge. As a result, they report injuries, skin rashes, and other diseases (Chowdhry & Kone, 2012; Opel, 2012). Vacuum pumps are effective in emptying water-based on-site sanitation technologies, like pour flush latrines, septic tanks, and aqua privies. The pump is connected to a hose that is lowered through an access cover into the technology. The fecal sludge is then pumped into the storage tank mounted on a heavy-duty truck or trailer, on lighter carts, or even human powered carts for smaller volumes (Strande, Ronteltap & Brdjanovic, 2014). Vacuum trucks are available in a wide variety of sizes

and models to meet different needs. Most commonly they have a storage capacity of 200 to 16,000 litres. Conventional vacuum trucks can hold as much as 55,000 litres (Strande, Ronteltap & Brdjanovic, 2014). There are some technical limitations for using vacuum trucks. Conventional vacuum trucks can usually only suck down to a depth of 2 to 3 metres. They must also be parked within 25 metres of the on-site sanitation technology, depending on the strength of the pump (Strande, Ronteltap & Brdjanovic, 2014). Moreover, large vehicles are often unable to access narrow streets and poor roads, especially in unplanned and informal communities. Vacuum trucks are also designed for emptying water-based technologies, such as pour flush latrines, septic tanks, and aqua privies. Depending on the technology, the sludge can become too thick and cannot be pumped easily. In this case, it is necessary to dilute the faecal sludge with water so that it can flow more easily. However, this is inefficient and potentially costly. If water is not available, then manual emptying may be the only option to empty the technology (Tilley *et al.*, 2014).

STATUS OF SANITATION

State-wise type of drainage system in Urban India has been shown in Table 1. About 18 per cent of the urban households reported that there is no drainage system in India. This was reported significantly high in the state of Tripura (46.55 per cent) followed by Kerala (45.45 per cent), Assam (43.65 per cent), Odisha (40.95 per cent), Arunachal Pradesh (33.79 per cent) and West Bengal (33.17 per cent). About 2/5th of the urban households further reported that waste water outlet is connected to closed drainage. This was recorded high in the state of Gujarat (69.44 per cent), Himachal Pradesh (65 per cent), Maharashtra (62.70 per cent), Delhi (60.31 per cent) and Punjab (57.63 per cent). The proportion of households reporting open drainage was recorded high in the state of Nagaland (67.88 per cent), Manipur (64.36 per cent), Meghalaya (62.45 per cent), Mizoram (59.05 per cent) and Chhattisgarh (51.42 per cent).

Table 1: State-wise Type of Drainage System in Urban India

State	Total Number of Households	Waste Water Outlet Connected to		
		Closed Drainage	Open Drainage	No Drainage
India	78,865,937	35,098,705	29,388,778	14,378,454
(%)	100.00	44.50	37.26	18.23
Uttar Pradesh	7,449,195	2,397,065	4,557,591	494,539
(%)	100.00	32.18	61.18	6.64

Source: Census, 2011

State-wise access to toilets in urban India is shown in Table 2. Open defecation is still prevalent in urban areas as about 13 per cent of the urban households reported that they are defecating in open. This was recorded significantly high in Chhattisgarh (34.44 per cent) followed by Odisha (33.17 per cent), Jharkhand (30.99 per cent) and Bihar (28.88 per cent). Overall, 81.36 per cent urban households reported that they own latrine facility within their housing premises. This was found significantly high in the state of Mizoram (98.52 per cent), Tripura (97.88 per cent), Kerala (97.43 per cent), Meghalaya (95.74 per cent), Manipur (95.77 per cent), Nagaland (94.60 per cent) and Assam (93.71 per cent). Thus, about 19 per cent of the urban households do not own latrine facility within their housing premises. This was recorded significantly high in the state of Chhattisgarh (39.80 per cent), Odisha (35.22 per cent), Jharkhand (32.83 per cent) and Bihar (31.04 per cent). Overall, about 6 per cent urban households are using public latrine facility. This was recorded significantly high in the state of Maharashtra (21.04 per cent), Tamil Nadu (8.65 per cent), Delhi (7.12 per cent) and Chhattisgarh (5.36 per cent).

Table 2: State-wise Access to Toilets in Urban India

State	Total Number of Households	Number of Households Having Latrine Facility Within the Premises	Number of Households not Having Latrine Facility Within the Premises	No Latrine Within Premises	
				Alternative Source	
				Public Latrine	Open
India	78,865,937	64,162,119	14,703,818	4,743,807	9,960,011
(%)	100.00	81.36	18.64	6.01	12.63
Uttar Pradesh	7,449,195	6,190,972	1,258,223	154,061	1,104,162
(%)	100.00	83.11	16.89	2.07	14.82

Source: Census, 2011

This was recorded high in the state of Gujarat (68.84 per cent), Delhi (67.28 per cent), Punjab (68.27 per cent) and Karnataka (62.76 per cent). The existence of service latrine is still prevalent in the state of Jammu and Kashmir, Uttar Pradesh, Manipur, Odisha and Assam. State-wise type of toilets in urban India is shown in Table 3. There has been high dependency on septic tank in urban areas. About 47 per cent toilets were found connected with septic tank at the national level. This was recorded as high as 80.73 per cent in Chhattisgarh, 76.45 per cent in Bihar, 73.25 per cent in Jharkhand, 71.77 per cent in Meghalaya and 71.10 per cent in Nagaland. Flush latrine connected with piped sewer system was reported only by 2/5th of the urban households having latrine facility within their housing premises.

Table 3: State-wise Type of Toilets in Urban India

State	Total	Type of Latrine Facility within the Premises						
		Flush/ Pour Flush Latrine Connected to			Pit Latrine	Night Soil Disposed into Open Drain	Service Latrine	
		Piped Sewer System	Septic Tank	Other System			Night Soil Removed by Human	Night Soil Serviced by Animal
India	64,162,119	25,775,247	30,087,437	1,372,544	5,597,143	942,643	208,323	178,782
(%)	100.00	40.17	46.89	2.14	8.72	1.47	0.32	0.28
Uttar Pradesh	6,190,972	2,107,698	3,491,029	149,976	218,995	95,054	106,681	21,539
(%)	100.00	34.04	56.39	2.42	3.54	1.53	1.72	0.35

Source: Census, 2011

FSSM POLICY FRAMEWORK

The Centre for Science and Environment, New Delhi has prepared a set of comprehensive guidelines for managing faecal sludge and septage in cities of Uttar Pradesh. The guidelines are expected to help the ULBs in faecal sludge and septage management. As per the national policy on FSSM, issues by Ministry of Housing and Urban Affairs, the Government of India, every state has to develop guidelines and provide technical, financial and administrative support to ULBs and encourage coordination and cooperation among ULBs. States also need to regulate and help ULBs set up systems to ensure financial sustainability in provision of FSSM services and implement municipal by-laws, create enabling environment for participation of NGOs and CSOs in provision of FSSM services, and develop state-level FSSM strategy and implementation plans, research and capacity building as well as monitoring and evaluation capabilities. As per the report of the Central Pollution Control Board (2015), Uttar Pradesh has 73 Sewage Treatment Plants (STPs) with a cumulative treatment capacity of 2,646.84 million litres per day (MLD). Seven of these STPs (89.59 MLD) are non-operational, three (cumulative capacity 170 MLD) are under construction, and one STP (15 MLD) has been proposed. As per the U.P. Jal Nigam, Government of Uttar Pradesh, sewerage system prevails in 57 cities/ towns. The required capacity of sewerage treatment in these cities was reported to be 3935.12

MLD, however, treatment capacity is 2640.77 MLD (67.11 percent), thus, there is deficit of 1294.35 MLD (32.89 percent). The CSE, New Delhi reported that that 86.73 per cent of the untreated excreta in the state either enters water bodies or is disposed of in agricultural lands or the open environment. This poses a huge risk to public health and the environment at large. CSE, New Delhi has selected Bijnor and Chunar as its target model towns for project and Jhansi and Unnao were selected as model cities for FSSM by NIUA, New Delhi and CDD Society, Bangalore. The first FSTP of state has already been made functional. CSE, New Delhi has also agreed to provide technical support to the Department of Urban Development, Government of Uttar Pradesh for developing a pilot project for showcasing cost-effective co-treatment of faecal sludge and septage at existing sewage treatment plants and dedicated faecal sludge and septage treatment plants.

EXPENDITURE ON SANITATION

Proposed budget under AMRUT is shown in Table 4. Total budget under AMRUT was proposed to the tune of Rs. 11421.67 crores for 2015–16 to 2019–20. Out of the total proposed budget, sewerage accounted for slightly less than half of the expenditure while less than half of the expenditure was reported under water supply.

Table 4: Proposed Budget under AMRUT in Uttar Pradesh

Head	(Rs. In Crore)		
	2015–16	2016–17	2017–20
Water Supply	1519.19 (46.21)	2017.42 (51.79)	1996.02 (47.08)
Sewerage	1697.62 (51.64)	1795.84 (46.10)	2149.46 (47.08)
Park	70.45 (2.14)	81.90 (2.10)	93.76 (2.211)
Total	3287.27 (100.00)	3895.16 (100.00)	4239.24 (100.00)

Source: Department of Urban Development, Government of U.P., 2017–18

Expenditure on civic amenities in ULBs during 2016–17 is shown in Table 5. Slightly less than 1/4th expenditure was recorded on sanitary services during 2016–17. Expenditure on sanitation constituted higher share in Nagar Palika Parishads (25.78 per cent) followed by Nagar Panchayats (24.31 per cent) while it was recorded 20.55 percent in Nagar Nigams.

Table 5: Expenditure on Civic Amenities in ULBs (2016–17)**(Rs. in Crore)**

Head	Nagar Nigam	Nagar Palika Parishad	Nagar Panchayat	Total
Street Lighting	87.89 (3.53)	197.42 (8.53)	210.53 (14.59)	493.84 (7.90)
Roads/ Streets	1019.90 (40.92)	1140.13 (49.28)	693.68 (48.08)	2853.71 (45.67)
Building/ Drains	97.30 (3.90)	306.21 (13.24)	216.11 (14.98)	599.62 (9.59)
Water Supply	141.19 (5.67)	142.77 (6.17)	66.63 (4.62)	350.59 (5.61)
Sanitation Equipments/ Sanitation Services	240.40 (9.64)	138.78 (5.99)	67.96 (4.71)	447.14 (7.16)
Sewerage	33.39 (1.34)	8.81 (0.38)	0.11 (0.00)	42.31 (0.68)
Advertisement	6.54 (0.26)	16.70 (0.72)	17.60 (1.22)	40.84 (0.65)
Others	865.48 (34.73)	364.61 (15.76)	190.20 (13.18)	142.29 (2.28)
Total	2492.09 (100.00)	2313.43 (100.00)	1442.82 (100.00)	6248.34 (100.00)

Source: Department of Urban Development, Government of U.P., 2017–18

Construction of individual household toilets in the state of Uttar Pradesh has been found slow as compared to the target fixed in the ULBs. However, progress was found comparatively higher in Nagar Panchayats than Nagar Nigam and Nagar Palika Parishad. Construction of toilets under SBM in the state is shown in Table 6. About 4.39 lakh individual household toilets, 12762 community toilets and 13871 public toilets have been constructed under SBM. However, state is far behind the target fixed under SBM.

Table 6: Construction of Toilets under SBM in Uttar Pradesh

ULBs	Individual Household Toilets	Community Toilets	Public Toilets
Nagar Nigam	785050	8837	10802
Nagar Palika Parishad	168088	2440	2288
Nagar Panchayat	192468	1485	781
Total	439061	12762	13871

Source: Department of Urban Development, Government of U. P., March, 2018

Utilization of funds under SBM in Uttar Pradesh is shown in Table 7. Utilization of funds has been reported to be low as compared to the funds received and funds transferred to ULBs under SBM. However, about 20 per cent funds were utilized by ULBs against funds transferred to them for construction of individual household toilets. Similarly, about 5 per cent funds were utilized against funds transferred to them for construction of community toilets under the Mission.

Table 7: Utilization of Funds under SBM in Uttar Pradesh

(Rs. in Crore)

Head	Funds Received	Funds Transferred to ULBs	Funds Utilized by ULBs
Individual Household Toilets	662.84	656.10	130.6
Community Toilets	160.06	141.68	7.52
Public Toilets	31.26	26.35	0.00
Urinals	0.00	0.00	0.00
Solid Waste Management	74.49	68.12	0.00
Total	990.18	905.48	141.6

Source: Department of Urban Development, Government of U.P., March, 2018

CONCLUSION

The findings of the Census of India 2011 indicate that only 32.7 per cent of the urban households are connected to a piped sewer system whereas 38.2 per cent dispose their wastes into septic tanks and about 7 per cent into pit latrines, underlining the predominance of onsite arrangements-and it is not clear how the waste is further disposed by the majority of these installations. Presently, septic tanks and pit latrines along with open defecation are major contributors to groundwater and surface water pollution in many cities in the country. One the major challenges in urban sanitation is the collection, treatment and disposal or reuse of Faecal Sludge. Adequate facilities and services for collection, transportation, treatment and disposal of faecal sludge do not exist in most Indian cities and towns. Faecal Sludge comprises varying concentrations of settleable or settled solids as well as other non-faecal matter that is collected from on-site sanitation systems, such as latrines, non-sewered public toilets, septic tanks and aqua privies. Faecal sludge from septic tanks is specifically termed as septage. FSM should be given priority in urban sanitation programmes and there should be an increased convergence between AMRUT and SBM goals of making India ODF. Achieving ODF should not merely be restricted to the act of going for open defecation but the faecal matter should also be properly disposed to reduce its ill effects. Separate faecal sludge disposal station needs to be constructed such

as SWM plants. The need is to ensure that a reliable fee-based service for FSM is in operation at the ULB level by incorporating it as essential precondition for funding under SBM. The scheme should strongly incentivize the development of local service providers based on PPP models and encourage resource recovery. Skill development of personnel on plumbing, mechanical desludging of septic tanks/ pits, truck operation with immediate job placement is required.

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Growth and Instability in Agricultural Sector: A Study of Uttar Pradesh

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Abstract—Agriculture is the backbone of the economy of Uttar Pradesh as around 2/3rd of the population is dependent on it for their livelihood. Despite this, there are widespread fluctuations and disparities in the performance of agriculture sector in terms of area, production and productivity in the state. These disparities in agricultural productivity arise due to differential resource endowments in terms of land use pattern, soil fertility, irrigation, investment, technological innovations and climatic variability at state level. Moreover, agricultural development in Uttar Pradesh has also been faced by the condition of instability due to the continuous increase in crop risks. Hence, this paper analyses the changes witnessed in the agriculture sector in Uttar Pradesh with respect to the various agricultural variables during 1990–91 to 2015–16 by using secondary data. The Compound Annual Growth Rate (CAGR) and Risk Instability Index (RII) techniques have been used to study the trends of agricultural development and risks in agriculture sector in the state. The results show that there are extensive fluctuations in the area, production and productivity of crops in the state. Therefore, the government should emphasize on these factors like development of irrigation facilities, expansion of credit facility, agricultural diversification, investment on agricultural research, use of modern agricultural techniques, climatic resilient technologies, risk management, and agri-environmental measures to achieve the growth of agriculture in Uttar Pradesh.

Keywords: Agricultural Growth, Productivity, Risk

INTRODUCTION

Uttar Pradesh is one of the largest states of India, constituting 7.33 per cent of the total geographical area of the country. The state is divided into four economic zones and nine agro climatic zones. The state is basically known as an agrarian economy and agriculture plays a very vital role in the overall economic development of the state. Nearly, 2/3 of the population in the state is dependent on agriculture sector for livelihood. The state has made a lot of progress in agriculture sector since independence in terms of growth of area, production, productivity of many crops. But, the growth of agriculture sector is very poor and deplorable in the state. It is suffering from fragmented land holdings, low productivity, lack of irrigation facilities, lack of agricultural inputs, lack of marketing facilities, lack of investment, lack of research and development, risk and climatic variability.

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Risks in agriculture are numerous and diverse. Productivity risk, for instance, varies regionally and depends on soil type, use of irrigation facilities and climate. The nature of price risk varies significantly from commodity to commodity. In contrast, price risk for a given crop depends on the factors like stock levels, supply and export demand. The markets for agricultural inputs and outputs have a direct incidence on farming risk, particularly through prices. A diversity of hazards related to weather, pests and diseases or personal circumstances determine production in ways that are outside the control of the farmers. Unexpected changes may occur in access to credit or other sources of income that affect the financial viability of the farm. The legal framework or changes in it may lead to liability and policy risks.

The increase in instability in agricultural production is considered adverse for several reasons. It raises the risk involved in farm production and affects the farmers' income and decisions to adopt high paying technologies and make investments in farming. Instability in production affects price stability and consumer welfare, and it increases vulnerability of low income households to market. Instability in agricultural and food production is also important for food management and macro-economic stability (Chand and Raju, 2009)

Several studies have focused on the various dimensions of agriculture sector. Goyal and Kumar (2013) have revealed that growth of agriculture sector may be improved by changing the agricultural practices, technological improvement and diversification of cropping pattern in Uttar Pradesh. Agricultural diversification is instrumental for the rapid development of the economy (Joshi *et al.*, 2004). Presently, crop diversification in agricultural sector has become an important choice to attain the objectives of higher output growth, raise farm incomes, generate employment, achieve nutritional security, alleviate poverty and increase sustainability of natural resources. "The broad rationale for crop diversification emanates from the opportunities it offers to reduce production and price risks, increasing yields, natural resource sustainability, maintaining ecological balance, increasing flexibility and sustaining productivity and growth. It also creates opportunities for more employment and higher incomes through more efficient use of resources and exploitation of comparative advantage (World Bank, 1990; Mukherjee, 2012, Von Braun, 1995; Pingali and Rosegraint, 1995; Birthal and Joshi, 2005 and Mukherjee, 2012)". The reduction of domestic support in terms of subsidy and credit and drastic price fall of agricultural commodities in the international market has led to distress in the farming community in the state (Vakulabharanam, 2005). Indian farmers mostly consist of small and marginal farmers who mainly depend on agricultural price policies but economic reform leads to farmer's distress (Vyas, 2001).

Uttar Pradesh is characterized by very sharp variations of agricultural development at regional and district levels. The state is divided into four administrative regions; namely, Western, Central, Eastern, and Bundelkhand regions, respectively. The first three regions fall in the fertile Gangetic plains, while Bundelkhand lies in the dry

Vindhyan plateau. The Western region is relatively the most developed region of the state in terms of economic prosperity. Also, the agricultural productivity is higher in this region as compared to the other regions. Hence, this study is focused on the growth and instability in agriculture and its determinants in Uttar Pradesh. The main objectives of the study are to analyse systematically and these are given as follows:

- To overview the agricultural sector of Uttar Pradesh.
- To examine the growth trends of agriculture sector of Uttar Pradesh.
- To estimate the crop wise agricultural risk / instability in Uttar Pradesh and suggest effective possibilities to enhance the agricultural growth and reduce agricultural risk at the state level.

DATA SOURCE AND METHODOLOGY

This study is based on the secondary data collected from various sources like the Indian Metrological Department (IMD), National Accounts Statistics prepared by the Central Statistical Organization (CSO), the Ministry of Statistics and program Implementation, Government of India, Agricultural Statistics at a Glance prepared by the Directorate of Economics and Statistics, Ministry of Agriculture, Handbook of Statistics of Indian Economy Prepared by the Department of Agriculture and Cooperation Network (DACNET), Planning Commission, Uttar Pradesh, and Reserve Bank of India (RBI). The secondary data has been taken broadly from 1950–51 to 2015–16. The time periods are different at the different level of analysis.

Growth Estimation: A widely accepted exponential model, $y = a b^{te}$ has been fitted to the time series data for estimating the compound annual growth rates (CAGR) of agricultural area, production, and productivity during 1990–91 to 2015–16 and its sub-periods like 1990–1991 to 1999–2000, 2000–2001 to 2009–2010, and 2010–2011 to 2015–2016 in Uttar Pradesh. The logarithmic form of this function is given by:

$$\ln(y) = \ln(a) + t \ln(b) + u$$

Where,

y → Dependent variable whose growth rate is to be estimated, i.e., agricultural related variables, climatic and non-climatic variables.

t → Independent variable (time)

u → Disturbance or error term.

' a ' and ' b ' are the parameters to be estimated from sample observations. The regression coefficient b is estimated by ordinary least squares (OLS) technique. The compound average growth rate (CAGR) in % term is estimated as:

$$\text{CAGR} = \{\text{antilog}(b) - 1\} * 100$$

Estimation of Risk Instability Index (RII) by Agriculture: This paper preferred to use the method proposed by Ray (1983), Mahendradev (1987) and Rao *et al.*, (1988) for estimating instability in area, production and productivity of agriculture sector during the study period as well as its sub periods in Uttar Pradesh.

$$RII = \text{std} [\ln(Y_{t+1}/Y_t)*100]$$

Where,

RII = Risk Instability Index

std = Standard Deviation

ln = Natural Logarithm

Y_{t+1} = Area / Production / Productivity for the current year

Y_t = Area / Production / Productivity in the previous year. This index is unit free and it measures deviations from the basic trends.

ESTIMATION OF REGRESSION RESULTS

The impact of climatic and non-climatic variables on the value of output by agriculture has been analysed by multiple regression models during 1990–91 to 2015–16. Value of output by agriculture as dependent variable is regressed with climatic and non-climatic factors by using time series data for the period of 1990–91 to 2015–16. To analyse the relationship between dependent and independent variables, we have used two regression equations. In Model (I), value of output by agriculture (VOA) along with per hectare consumption of fertilizers (FCPH), ratio of gross irrigated area to net sown area (GIA/NSA), road length per thousand population (RL), credit-deposit ratio (CD), annual rain variability (RAINV) have been taken as determinants of agricultural growth, i.e., per hectare value of output by agriculture sector. Similarly, we have also taken value of output by agriculture viz. productivity of foodgrains, per hectare consumption of fertiliser (FCPH), cropping intensity (CI), road length per thousand population (RL) and credit deposit ratio (CD) in regression Model (II) to identify the impact on value of output. The model can be written as following form;

MODEL (I)

$$VOA = \beta_0 + \beta_1 FCPH + \beta_2 GIA/NSA + \beta_3 RL + \beta_4 CD + \beta_5 RAINV + U_i \quad \dots(i)$$

MODEL (II)

$$VOA = \beta_1 + \beta_1 POF + \beta_2 FCPH + \beta_3 CI + \beta_4 RL + \beta_5 CD + U_i \quad \dots(ii)$$

Where, β_0 is constant coefficient term, β_1 to β_5 are regression coefficient for respective independent variables and U_i is stochastic error term.

EMERGING TRENDS OF AGRICULTURAL GROWTH IN UTTAR PRADESH

The growth of agriculture and allied sector during plan periods of Uttar Pradesh and India is presented in Table 1. It is found that the growth of agriculture and allied sector was 1.86 per cent during 1st plan, followed by 5.70 per cent during the XIth plan and decreased to 1.52 per cent in XIIth plan period in Uttar Pradesh. On the other hand, the growth of agriculture and allied sector was 2.71 per cent during 1st plan, followed by 3.2 per cent during the XIth plan, and became 2.21 per cent in XIIth plan period in India. Overall from the analysis, it is observed that the growth of agriculture and allied sector was above 5.0 per cent during the fifth plan, eleventh plan, and two annual plan periods. The growth rate of agriculture was highest during the eleventh plan as compared to all the other plan periods in UP. It is clear that during the eleventh plan period, the government and other agencies introduced various agricultural reforms such as efficient use of agricultural resources, conservation of soil and water and energy. However, this plan also emphasised on corporate farming, contract farming, credit, land reforms, irrigation and high value output to boost the agricultural growth and development at state level and national level.

Table 1: Growth Rate of Agriculture and Allied Sector during the Plan Period

Sr. No	Plan	Agriculture and Allied Sector (in. %)	
		UP	India
1	First Plan (1951–56)	1.86	2.71
2	Second Plan (1956–61)	1.48	3.15
3	Third Plan (1961–66)	-0.09	-0.73
4	Three Annual Plan (1966–69)	0.62	4.16
5	Fourth Plan (1969–74)	0.94	2.57
6	Fifth Plan (1974–79)	5.23	3.28
7	Sixth Plan (1981–85)	2.54	2.52
8	Seventh Plan (1985–90)	2.69	3.47
9	Two Annual Plan (1990–92)	5.42	1.01
10	Eighth Plan (1992–97)	2.70	3.90
11	Ninth Plan (1997–02)	0.80	1.90
12	Tenth Plan (2002–07)	2.10	1.10
13	Eleventh Plan(2007–12)	5.70	3.20
14	Twelfth Plan(2012–17)*	1.52	2.21

Source: Planning Commission, Uttar Pradesh

The share of the agriculture and allied sector in the overall economy of UP has seen growth intermittently. The trends of growth rate of agriculture and allied sector in Five Year Plans (FYPs) of Uttar Pradesh and India, respectively, is also presented by Figure 1.

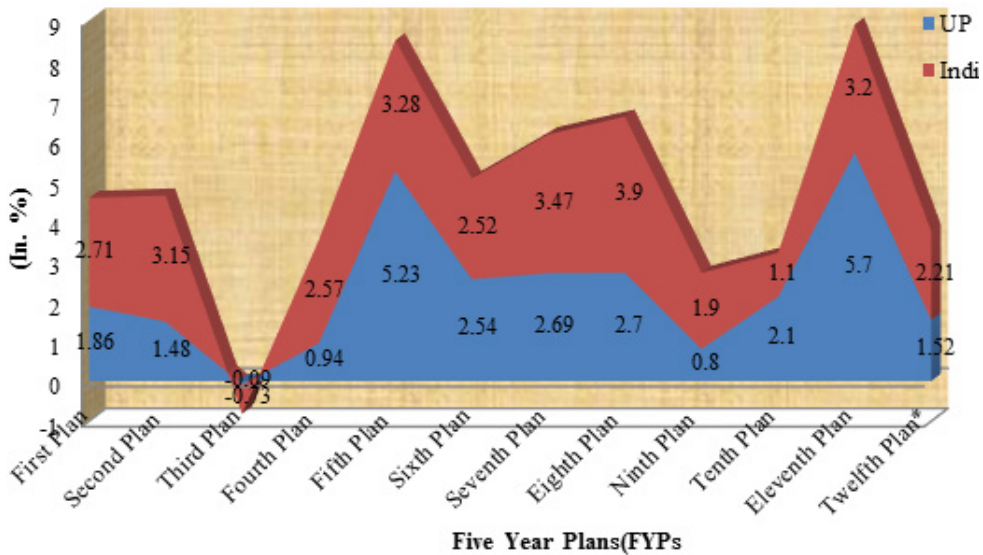


Fig. 1: Plan Wise Growth Trends of Agriculture and Allied Sector

Source: Planning Commission, Uttar Pradesh

Land is the most vital resource as well as driving force for the economic development of the state. The land use pattern of Uttar Pradesh during 1950–51 to 2010–11 is shown in Figure 2. It is found that almost 11 per cent area was under forest in 1950–51 and decreased to around 7.0 per cent in 2010–11 in the state. On the other hand, the area under non-agricultural use was 6.33 per cent in 1950–51 and increased to around 12 per cent in 2010–11 in the state. With regards to barren land, the area was around 10 per cent in 1950–51 and sharply decreased to 2.0 per cent in 2010–11 in the state. In case of pastures and the other graze land, the area was almost negligible in 1950–51 and become 0.27 per cent in 2010–11, whereas the area under misc. trees, etc., was 4.85 per cent in 1950–51 and decreased to 1.46 per cent in 2010–11 in the state. Considering the area under cultivable land, it was around 8.0 per cent in 1950–51 and sharply decreased to 1.76 per cent in 2010–11 at state level. The area under fallow land and current fallow was around 1.0 per cent and 3.68 per cent in 1950–51 and increased to 2.23 per cent and 5.03 per cent in 2010–11. The percentage of net sown area was 55.48 per cent in 1950–51 and increased to 68.65 per cent in 2010–11 in the state. Overall from the analysis, it is observed that around 69 per cent of the available land has been allocated under the area of agriculture in the state. Majority of the areas in the state falls under the categories of single cropping, current fallow and other fallow. There is a possibility of agricultural development through an increase in net area sown and multiple cropping patterns in Uttar Pradesh.

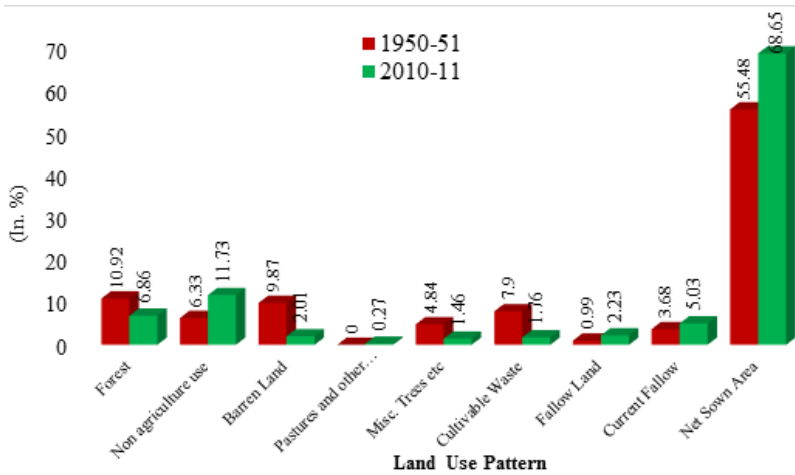


Fig. 2: Land Use Pattern in Uttar Pradesh during 1950-51 and 2010-11

Source: Directorate of Economics and Statistics, Government of Uttar Pradesh

The number and area occupied by small and marginal holders are changing in the state. The percentage of operational holdings and area by size groups in Uttar Pradesh is shown in Figure 3. It is found that more than 80 per cent of the land holdings consists of small and marginal farmers in the state. However, these small and marginal farmers have very poor socio-economic conditions. Consequently, it has an adverse effect on the growth of agriculture sector at state level. This is because the average cost of cultivating the crops on small and marginal land holdings is higher as compared to the cultivation of crops on large land holdings. However, small and marginal farmers are more efficient in producing per hectare of land due to surplus labour and quick returns. Therefore, the growth of agriculture sector can be encouraged with the active support to these small and marginal farmers in Uttar Pradesh.

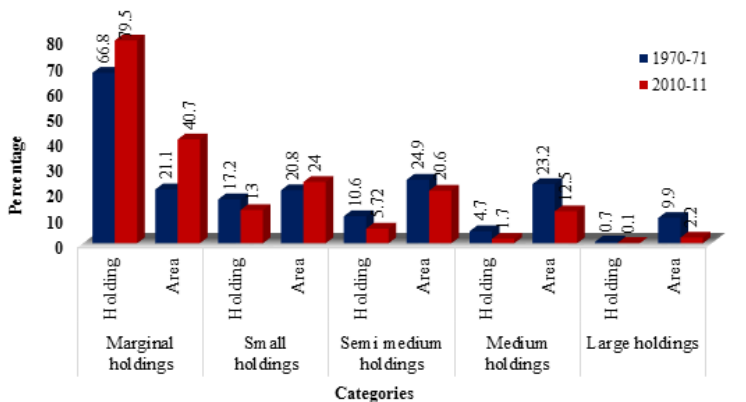


Fig. 3: Percentage of Operational Holdings and Area by Size Groups in Uttar Pradesh in the year 1970-71 and 2010-11

Source: Directorate of Economics and Statistics, U.P.

The average size of land holdings in Uttar Pradesh during 1970–71 to 2010–11 is shown in Figure 4. It is found that the average size of small and marginal holdings was 1.40 hectare and 0.50 hectare in 1970–71, respectively, and became 1.40 hectare and 0.39 hectare in 2010–11 in the state. On the other hand, the average sizes of semi-medium holdings, medium holdings, and large holdings have been decreased during the study period in the state. In case of 'All Holdings', the average size was 1.16 hectare in 1970–71 and sharply decreased to 0.76 hectares in 2010–11 in the state. Overall from the analysis, it is observed that the average size of land holdings in all categories have been decreased during 1970–71 to 2010–11 in Uttar Pradesh.

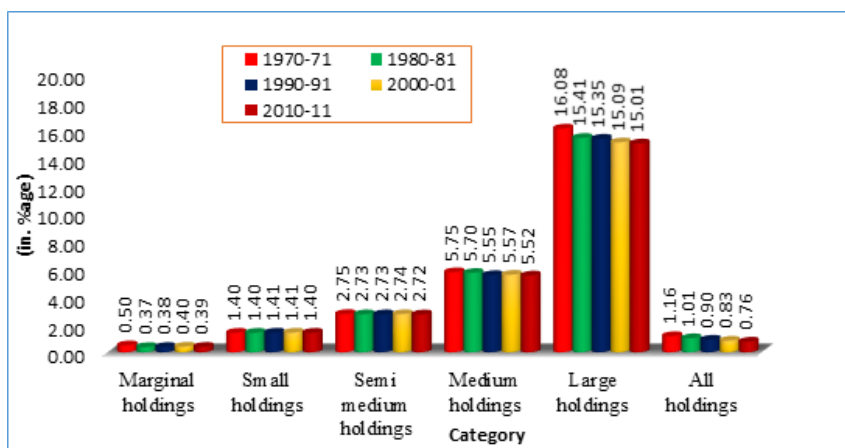


Fig. 4: Average Size of Land Holdings in Uttar Pradesh during 1970–71 to 2010–11

Source: Directorate of Economics and Statistics, Government of Uttar Pradesh

Irrigation has a very vital role in increasing the growth of agriculture sector in Uttar Pradesh. The percentage of net area irrigated by different sources in Uttar Pradesh during 1950–51 to 2010–11 is shown in Figure 5. It is found that the irrigated area by tubewells and wells have been increased in the state during the study period. The use of canals, tanks and lakes for irrigation purpose are declining during the same period in the state. Currently, it is observed that about 80 per cent of irrigation work is under the tubewells and wells and 19 per cent by canals and remaining 1.0 per cent is done by tanks, lakes and other sources in the state. On the other hand, the percentage of net area irrigated to net area sown was 29.8 per cent in 1950–51 and increased to 81 per cent in 2010–11 in U.P. Overall from the analysis, it is observed that the excessive use of tubewells and wells for irrigation purpose increased but it is decreasing the water level in several parts of the state. It is noticed that more than 50 per cent of the gross cropped area seems to be rainfed area and it depends on the gamble of monsoon which is the matter of concern before the policy maker and increase expenditure on irrigation in drought-prone area in Uttar Pradesh.

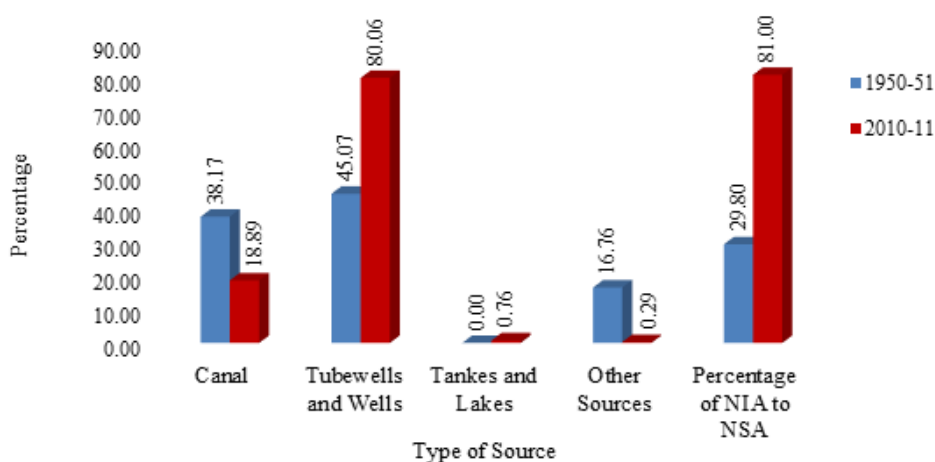


Fig. 5: Percentage of irrigated area by different sources in Uttar Pradesh during 1950-51 and 2010-11

Source: Directorate of Economics and Statistics, Government of Uttar Pradesh

GROWTH AND TRENDS OF AREA, PRODUCTION AND PRODUCTIVITY

Agriculture sector continues to predominate and is a major contributor to the state output. It is the main source of livelihood for the majority of the population of U.P. More than 70 per cent of the population is directly or indirectly dependent on agriculture sector in U.P. Table 2 reveals the pattern of CAGR across various crops grown, over the years in Uttar Pradesh based on the parameters of Area, Production and Productivity. The crops taken into account are rice, wheat, coarse cereals, pulses, foodgrains, oilseeds, potatoes and sugarcane during the study period as well as its sub periods. It is found that in the parameter of area it is seen that the situation has been a mixed bag. If on one side, the CAGR values have risen or declined simultaneously over the years, on the other hand, in some cases both; descend and ascend of statistics is witnessed along the period of study. For instance, in case of area under wheat and sugarcane, there has been a continuous decline in the area under both the crops during 1990-91 to 2015-16 with the values for wheat ranging from 0.91 per cent in 1990-91 to 1999-00, followed by 0.39 per cent in 2000-01 to 2009-10, and 0.14 per cent in 2010-11 to 2015-16, respectively, while for sugarcane it was 1.11 per cent in 1990-91 to 1999-00, followed by 0.50 per cent in 2000-01 to 2009-10 and became 0.23 per cent in 2010-11 to 2015-16, respectively. However, in case of foodgrains and oilseeds, an ascending growth trend has been witnessed in the area under these crops during the study period. As we see for foodgrains area, the CAGR rises from -0.60 per cent in 1990-91 to 1999-00, followed by -0.41 in 2000-01 to 2009-10, -0.32 in 2010-11 to 2015-16, and became -0.42 per cent in 1990-91 to 2015-16,

respectively, while in case of oilseeds area, it was -1.19 per cent in 1990–91 to 1999–00, followed by -0.50 per cent in 2000–01 to 2009–10 and became 2.13 per cent in 2010–11 to 2015–16, respectively, in Uttar Pradesh.

Table 2: Phase-wise CAGR of foodgrain and Non Foodgrain Crops in Uttar Pradesh During 1990–91 to 2015–16

Crops	APY	1990–91 to 1999–00	2000–01 to 2009–10	2010–11 to 2015–16	1990–91 to 2015–16
Rice	Area	0.95	-0.44	0.46	0.23
	Production	3.19	0.08	-0.58	1.08
	Productivity	2.22	0.53	-1.03	0.85
Wheat	Area	0.91	0.39	0.14	0.44
	Production	3.17	1.23	-4.86	1.38
	Productivity	2.24	0.84	-5.00	0.93
Coarse Cereals	Area	-1.58	-2.27	-0.75	-2.21
	Production	-0.16	-1.47	1.14	-0.63
	Productivity	1.45	0.82	1.90	1.60
Pulses	Area	-6.07	-1.75	-4.01	-2.71
	Production	-5.77	-2.80	-12.45	-3.29
	Productivity	0.33	-1.07	-8.79	-0.59
Foodgrain	Area	-0.60	-0.41	-0.32	-0.42
	Production	2.14	0.51	-3.52	0.83
	Productivity	2.76	0.93	-3.21	1.26
Oilseeds	Area	-1.19	-0.50	2.13	-2.02
	Production	-1.59	-0.28	-2.72	-1.95
	Productivity	-0.41	0.22	-4.74	0.07
Potato	Area	2.56	3.48	2.70	2.27
	Production	5.15	3.40	1.72	3.47
	Productivity	2.52	0.05	-0.95	1.17
Sugarcane	Area	1.11	0.50	0.23	0.68
	Production	1.89	0.65	3.05	0.87
	Productivity	0.77	0.15	2.81	0.18

Source: Ministry of Agriculture and Farmers Welfare, Government of India

But in case of rice, coarse cereals, pulses and potato, the situation has been a mixed bag again. For instance, in case of rice and coarse cereals particularly, there has been a decline in the CAGR during 1990–91 to 2009–10, but there has been an increase in the area under it during 2009–10 to 2015–16. The same kind of trend is also

witnessed in coarse cereals as well where the CAGR was -1.58 per cent during 1990–91 to 1999–00 and declined further to -2.27 per cent during 2000–01 to 2009–10, but during 2010–11 to 2015–16, there has been a rising growth rate of -0.75 per cent at state level. Similarly in case of pulses and potatoes, there has been a rise in the growth rate initially but then it has declined. For instance in case of pulses, the CAGR stood at -0.60 per cent during 1990–91 to 1999–00, followed by -0.41 per cent during 2000–01 to 2009–10, and became -4.01 per cent in 2010–11 to 2015–16. On the other hand, in case of potatoes, the CAGR rose from 2.56 per cent during 1990–91 to 1999–00 to 3.48 per cent during 2000–01 to 2009–10 but then it declined to 2.70 per cent during 2010–11 to 2015–16.

In terms of production of crops over the years, a similar situation is seen in Uttar Pradesh. While majority of the crops like rice, wheat, foodgrains and potato have witnessed a declining trend over the years; coarse cereals, pulses, oilseeds and sugarcane have mixed growth rates over the years. For instance, in case of pulses, the CAGR has risen from -5.77 per cent during 1990–91 to 1999–00, followed by -2.80 per cent during 2000–01 to 2009–10 and became -12.45 per cent during 2010–11 to 2015–16. Similarly for oilseeds as well, the CAGR rose to -0.28 per cent during 2000–01 to 2009–10, followed by -1.59 per cent during 1990–91 to 1999–00 and declined to -2.72 per cent during 2010–11 to 2015–16. Regarding crop productivity, it is noticed that in most of the crops like rice, wheat, pulses, foodgrains and potatoes has declined continuously over the years. However, crops like cereals, oilseeds and sugarcane reveal mixed patterns during the study period in the state. The growth of foodgrain and non-foodgrain crops in Uttar Pradesh during 1990–91 to 2015–16 is also presented in Figure 6.

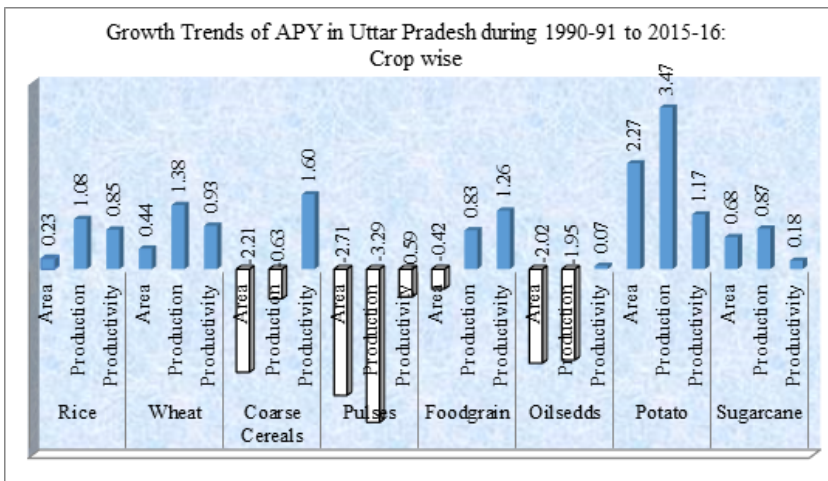


Fig. 6: CAGR of foodgrain and Non Foodgrain Crops in Uttar Pradesh During 1990–91 to 2015–16

Source: Ministry of Agriculture and Farmers Welfare, Government of India

Table 3: Instability in Area, Production and Productivity of Major Crop Groups in Different Periods (in. %)

Crops	APY	1991-92 to 1999-00	2000-01 to 2009-10	2010-11 to 2015-16	1991-92 to 2015-16
Rice	Area	2.65	9.68	4.13	6.59
	Production	7.78	20.27	11.63	14.42
	Productivity	7.64	12.10	9.14	9.64
Wheat	Area	1.17	1.93	1.14	1.52
	Production	5.94	7.34	14.51	8.94
	Productivity	6.31	6.06	14.99	8.74
Coarse Cereals	Area	3.99	6.78	3.33	5.20
	Production	16.54	10.73	6.36	12.12
	Productivity	13.78	8.48	5.95	9.90
Pulses	Area	12.71	9.14	8.65	10.30
	Production	9.75	13.94	18.21	13.33
	Productivity	10.77	12.60	17.63	12.90
Foodgrains	Area	2.74	3.98	2.19	3.09
	Production	5.09	10.29	12.01	8.96
	Productivity	6.41	7.09	12.02	8.04
Oilseeds	Area	5.59	10.32	5.68	7.93
	Production	18.36	14.28	11.71	14.94
	Productivity	19.02	10.86	9.88	13.67
Potato	Area	6.39	6.25	2.53	5.46
	Production	28.47	11.60	9.33	18.46
	Productivity	25.37	9.63	8.20	16.27
Sugarcane	Area	5.11	5.61	3.58	4.86
	Production	6.50	8.31	3.60	6.67
	Productivity	5.71	6.84	4.09	5.70

Source: Ministry of Agriculture and Farmers Welfare, Government of India

The instability in agricultural production imparts considerable risk to production and farm income and directly affects the livelihood of farmers. Table 3 reveals the patterns of risks instability index under the categories of area, production and

productivity among various crops grown in Uttar Pradesh in three time periods; 1991–92 to 1999–00, 2000–01 to 2009–10 and 2010–11 to 2015–16, respectively. It is found that the risk values have increased during the period 1991–92 to 1999–00 and 2000–01 to 2009–10, but there has been a constant decline in the area statistics during the period 2000–01 to 2009–10 and 2010–11 to 2015–16, respectively. For instance, for pulses and potato, there has been a decline in the area under these crops over the years. For risks pertaining to area under pulses, a decline trends is seen, i.e. 12.71 per cent in 1991–92 to 1999–00, followed by 9.14 per cent during 2000–01 to 2009–10 and became 8.65 per cent during 2010–11 to 2015–16, respectively. In case of potato, the risk instability values was 6.39 per cent during 1991–92 to 1999–00, followed by 6.25 per cent in 2000–01 to 2009–10 and became 2.53 per cent during 2010–11 to 2015–16, respectively. On the other hand, the instability in rice, wheat, coarse cereals, foodgrains, oilseeds and sugarcane show a mix trend during the study period where the risks in areas under these crops have increased during 1991–92 to 1999–00 and 2000–01 to 2009–10 sub periods. Further, it has declined during 2010–11 to 2015–16 respectively in the state. In terms of production, the instability of rice and sugarcane have increased initially but later declined. For instance, production risk for rice was 7.78 per cent during 1991–92 to 1999–00, rose to 20.27 per cent in 2000–01 to 2009–10 but it declined to 11.63 per cent during 2010–11 to 2015–16, respectively. For sugarcane, the value of instability was 6.50 per cent during 1991–92 to 1999–00, rose to 8.31 per cent in 2000–01 to 2009–10 and declined to 3.60 per cent during 2010–11 to 2015–16, respectively. In case of wheat, pulses and foodgrains production, the values of risk instability have increased during 1991–92 to 1999–00 and 2010–11 to 2015–16. For other crops like coarse cereals, oilseeds and potato, the production risk instability have declined over the years in Uttar Pradesh.

Considering the risk instability in productivity, it has declined for coarse cereals, oilseeds and potato respectively over the years while for crops such as foodgrains, the productivity risks have risen over the years. For instance, in case of foodgrains the productivity risk was 6.41 per cent during 1991–92 to 1999–00, rose to 7.09 per cent in 2000–01 to 2009–10 and finally increased to 12.02 per cent during 2010–11 to 2015–16. Similarly, other crops such as rice, pulses and sugarcane reveal an increasing trend in productivity risk during 1991–92 to 1999–00 and 2000–01 to 2009–10 while a falling trend during 2000–01 to 2009–10 and 2010–11 to 2015–16, whereas the crops such as wheat, show a falling trend in productivity risk during 1991–92 to 1999–00 and 2000–01 to 2009–10 while a rising trend during 2000–01 to 2009–10 and 2010–11 to 2015–16, respectively. The trends of risk instability in area, production and productivity of major crops groups during 1991–92 to 2015–16 in Uttar Pradesh is also shown in Figure 7.

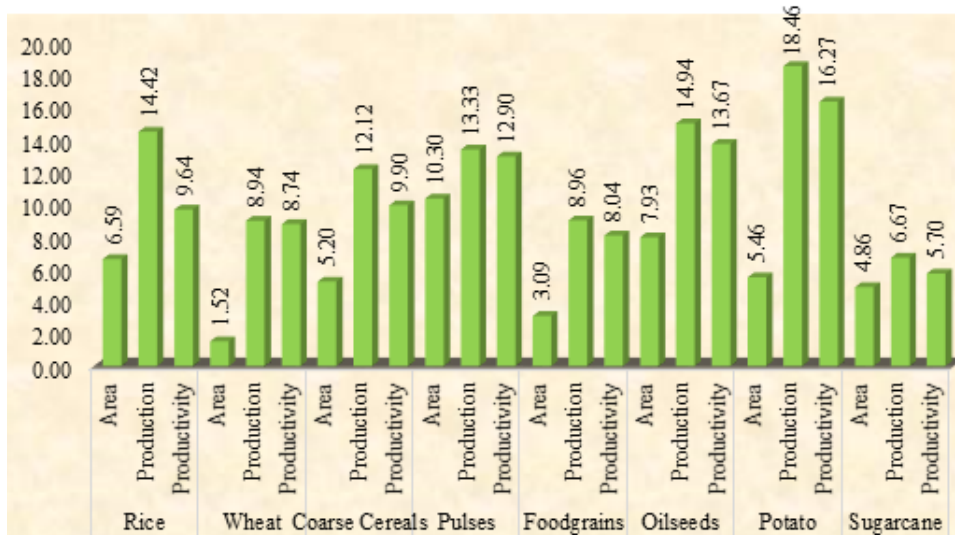


Fig. 7: Instability in Area, Production and Productivity of Major Crop Groups During 1991-92 to 2015-16 (in. %)

Source: Ministry of Agriculture and Farmers Welfare, Government of India

REGRESSION RESULTS

Agricultural growth can be viewed in terms of growth in the value of output by agriculture sector. The performance of agriculture is dependent on several factors. The regression results of value of output by agriculture and its determinants during 1990-91 to 2015-16 are presented in Table 4. It is found from the Model (I) the value of R-square is 0.9511 which implies that the regression model explains 95.11 per cent per annum of the total variations in value of output by agriculture. The magnitude of F-value is very high and it indicates that the given model is a good fit. The results highlight that per hectare consumption of fertilizers, credit-deposit ratio and gross irrigated area to net sown area have positive and significant impact on the value of output by agriculture sector during the study period. On the other hand, road length per thousand population has positive but insignificant impact while rainfall has negative but insignificant impact on the value of output by agriculture during the study period in Uttar Pradesh.

From the Model (II), it is found that productivity of foodgrain, cropping intensity, and credit deposit ratio has a positive and significant impact on the value of output by agriculture during the study period. On the other hand, fertilizers and road length has positive but insignificant impact on value of output during the study period. Overall from the analysis, it is observed that the impact of agricultural factors and climatic variables had mixed impact on value of output of agriculture during the study period in the state of Uttar Pradesh.

Table 4: Regression Results of Value of Output by Agriculture During 1990–91 to 2015–16

Variables	Dependent Variable: Value of Output (VOA)							
	Model (I)				Model (II)			
	Coefficient	t-Statistic	P> t		Coefficient	t-Statistic	P> t	
POF	-	-	-		2347.935	3.66	0.002	
CI	-	-	-		181028.7	3.9	0.001	
FCPH	24451.64	2.46	0.023		11246.35	1.25	0.225	
RL	474142.9	0.53	0.602		670678.2	0.94	0.357	
CD	35394.46	2.29	0.033		27393.96	1.96	0.064	
GIA/NSA	58829.78	2.9	0.009		-	-	-	
RAINV	-200.4169	-0.33	0.747		-	-	-	
Constant	-1305938	-0.89	0.385		-25800000	-3.93	0.000	
	Observation = 26	R-Squared = 0.9511	F-Value = 0.000	VIF = 6.25	Observation = 26	R-Squared = 0.9676	F-Value = 0.000	VIF = 7.12

Sources: Authors calculations

CONCLUSION AND POLICY IMPLICATIONS

The performance of agriculture sector is very important for achieving sustainable economic growth in Uttar Pradesh. The present paper has revealed that there are extensive variations in the growth of agriculture sector across all Five Year Plan (FYP) period at state level. The growth of productivity of rice, wheat, pulses, foodgrains and potatoes has declined continuously over the years. However, crops like cereals, oilseeds and sugarcane reveal mixed patterns during the study period in Uttar Pradesh. The instability in area, production and productivity of major crops has shown widespread fluctuations but instability in all crops remained very high during the study period at state level. The regression result highlights that fertilizers, credit-deposit ratio and gross irrigated area have positive and significant impact on value of output by agriculture sector while road length has positive but insignificant impact and rainfall has negative and insignificant impact on value of output by agriculture during the study period. It is also found that productivity of foodgrain, cropping intensity have positive and significant impact on value of output by agriculture at state level.

The government has launched several programmes and policies to increase the agricultural growth and mitigate instability. But, these programmes and policies are unable to increase the agricultural growth and reduce the risk in the state. The fluctuations in agricultural output and instability remain high in most of the crops. Therefore, there is a need to focus on area of changing cropping pattern, better irrigation facilities, better infrastructure facilities, extension of technology and promotion

of public-private sector partnerships in Uttar Pradesh. On the other hand, it is also essential to strengthen and develop effective instruments of crop insurance to help farmers cope up with production risk. The state also needs stabilization strategy to deal with the consequences of high instability in production. The government should be focused on soil health, water conservation management and risk management. The production model should also be extended to crops, livestock, fisheries, poultry and agro forestry in the state of Uttar Pradesh.

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Digitalization of Indian Economy: Issues, Opportunities and Challenges

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Abstract—*Digital India is an initiative of the Central Government of India to transform India into a global digitized hub by improving digital connectivity and skill enhancement and various other incentives to make the country digitally empowered in the field of technology. It is the outcome of many innovations and technological advancements to bring digital revolution. The drive behind the concept is to build participative, transparent and responsive system. It is a dream project of the Indian Government to remodel India into a knowledgeable economy and digitally empowered society*

Keywords: *Digitalization, Information and Communication Technology, Digital India*

INTRODUCTION

Digitalization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized. The literal meaning of digitalization gives an apparent idea of development and technology dependent world. Digital Technologies which incorporate the concept of cloud computing and mobile applications have appeared as the catalysts for express economic growth and citizen empowerment. Digital India, a campaign launched on 1st July, 2015 by the Prime Minister Narendra Modi to ensure that all the government services are easily available to every citizen digitally or electronically with the help of improved online infrastructure facilities and by enhancing and increasing internet connectivity, thus making country digitally empowered in the field of technology. It will benefit all the other key schemes by government of India like Make in India, BharatNet, Startup India, and Standup India.

The government of India wants to make the economy totally cashless which will save people from money crunch and will also provide them digital and financial literacy. The initiative includes majorly connecting rural areas with high speed internet connectivity. It consists of three core components:

- Development of secure and stable digital infrastructure,

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- Delivering government services digitally, and
- Universal digital literacy.

There are many problems in the way of its successful implementation like digital illiteracy, poor infrastructure, low internet speed, lack of coordination among various departments, issue pertaining to taxation, etc .

REVIEW OF LITERATURE

Saima Khan & Shazia Khan (2015): The waves of adoption and usage of ICTs (Information and Communication Technologies) have revolutionized our world by introducing distinct technology– enabled services in every sphere of our lives. There are various applications of ICT, digitization is one of them. Digitization is a process of converting the diverse forms of information, such as text, sound, image or voice into digitalized format.

Gupta and Arora (2015): Many schemes have been launched in digital India to boost agriculture sector and entrepreneurship development in rural areas. Digital India programme has also set the stage for empowerment of rural Indian women.

Rani (2016): The digital India project provides a huge opportunity to use the latest technology to redefine the paradigms of service industry in India.

Midha (2016): Though digital India programme is facing number of challenges yet, if properly implemented, it can ensure best future for every citizen. So we Indians should work together to shape the knowledge economy.

Karamvir Sheokand, Neha Gupta (2017): Digitalization will lead to cost savings, increased output, better employment, enhanced productivity & literacy, etc. In the agricultural sector and in Industrial sector, digitalization will help in betterment of all the processes, be it purchasing, selling, inventory control, trade relations, employment, product innovation & development, etc. Automation of Service Sector will help in the growth of the sector by increasing the ease in access to and rendering of the services.

Dua, Seema (2017) studied various opportunities and challenges faced by Digital India initiative and gave various practical solutions for it. Their study states that through effective participation of various departments, literacy programs, improved skill in cyber security crimes and the flexibility in people’s choices, the implementation of digitalization can do wonders in Indian economy.

P. Subramanyachary (2017) cites various advantages of digitalization like transparency, employment opportunities, increase in standard of living, etc., and also points out various disadvantages like cybercrimes, hacking, etc.

Shamim (2016) states that digitalization has the potential for dramatic social, economic improvements. Various organizations like the World Economic Forum have taken several steps for this initiative.

Midha, Rahul (2016): The implementation is quite challenging as new things take time to adjust according to people's traditional perspectives. It aims for a cashless economy which has benefits of transparency and removal of various threats.

Gupta, Neeru and Arora, Kawaldeep (2015): The plan is to provide phone connectivity and access to broadband in 2.5 lakh villages by 2019 which will uplift the rural India. It will also focus on the empowerment of women in rural areas by providing security, safety, health care, employment, entrepreneurship literacy. Thus with the help of digitalization, India will be a powerful economy in terms of technology infrastructure.

Chaudhuri, Payel and Kumar, Abhishek (2015): Digitalization has played a vital role in the growth of GDP and in providing various employment opportunities in India.

Kaul, Mrinalini and Mathur, Purvi (2017) stated about the importance of digitalization and financial literacy that should be provided to the people so that they should participate in this transformation of making India digital.

Goldman Sachs Report (2015): The recent steps of the Indian government have shown positive results in the growth of the GDP. India could grow at a potential 8 per cent on average from the fiscal 2016 to 2020 powered by greater access to banking, technology adoption, urbanization and other structural reforms.

Ravi Shankar Prashad-Union Minister for Electronics & IT (2018): The Essence of Digital India is simple –to empower ordinary Indians with the power of technology that assures inclusive development at low cost.

Tarun Pathak-Senior Analyst, Mobile Devices and Ecosystems, Counterpoint Research (2018): “To make the digital revolution a success in our country, especially for millions of rural Indians, data mining is the future. I feel Jio is targeting nearly 450 million phone users who will make a shift to smartphones in the near future”.

PRESENT SCENARIO OF DIGITALIZATION IN INDIA

BACKGROUND

Long before the digital India initiative kicked off, tech-loving Indians had taken to web to meet a host of their demands including fun, work, and communication. The users also engaged with the government to avail services online depending on the mandates and availability of services over the Internet. There were several bold Internet-enabled initiatives too including the ones from the state governments which warranted sensible level of engagement from the beneficiaries with the government. Online public distribution systems, rail ticket bookings, etc., are the early success stories of how citizens can connect with the government through digital technologies.

PRESENT STATUS OF DIGITALIZATION

Given the pace of innovation in technology, India has changed drastically over the last three years in terms of access to Internet, adoption of smartphone, and the impact of technology on Indian lifestyle and culture. Recently, India has outshone the US to become the second largest market for Smartphone, after China. Internet user base is swelling and is predicted to reach 730 million by 2020. This essentially refers to the wealth of opportunities that lie ahead for the country –which is known for its tech leadership. One pointer to this is the increasing focus of top-notch tech companies like Google and Facebook who partnered with governments to flap their wings all over the country. The Internet giant Google has always been spot on with their India-first offerings and the latest being the launch of a series of products specifically crafted for India. And they have been successful so far. Google free Wi-Fi project that was launched last year is making 1.5 million people access the internet at 19 Indian railway stations. Thanks to the innovation, functionality, usability and ease of operation of their services which made them truly meaningful for the Indian users.

THE MISSION OF ‘DIGITAL INDIA’ –A JOURNEY, NOT A PROJECT

The mission of ‘Digital India’ –the comprehensive ICT initiative to digitally empower India, is a mammoth task by itself to be able to connect with the distant corners of the country and impact people’s lives. However, the intensity of the momentum seems to have ceased with much of its groundwork still in progress. Several new government services have come onto web recently under the umbrella initiative recently. But the key that will define the success will depend on enabling those services from the back-end and ensuring citizens’ continued adoption. The current pace of transformation

including mobile-enabling key services, enhancing efficiency and transparency across processes is way too sluggish. Laying fibre-optic cables is not done yet along with the streaming of relevant contents and communications, for greater and wider utilization. Many e-governance projects –one of the pillars of digital India, that have successfully piloted should have been replicated and scaled up by now. E-Kranti, the mission mode projects, under digital India is yet to make a mark on the lives of the beneficiaries. The projects that stood the test of time should be simulated to extend beyond to be able to transform education, healthcare and other domains such as farming.

THE GOVERNMENT–PUBLIC DIGITAL CONNECT (MYGOV-THE FIRST GOVERNMENT WEBSITE)

MyGov was probably the first government website that looked professional at a time when users' expectations were driven by WhatsApp and Google. But it failed to connect and gain significant traction from its netizens, as the numbers say. MyGov plans to build citizen engagement which should culminate into a mass movement towards self-governance, claims the portal. In a country with 100 million WhatsApp users –installed on 95 percent of the smartphones in India, and over 142 million monthly Facebook active users, the government's digital bond with its citizens appears way too lean. If Google can connect with 1.5 million people through Google enabled Wi-Fi railway stations by partnering with the government, then why on earth can't the government partner with its netizens to bring change in their lives? The IRCTC success story is an answer to this question, partly.

GOVERNMENT APP DOWNLOADED BY PUBLIC

There are only four apps that managed to garner an install base of a million. Interestingly, IRCTC app is the only government app that has been installed five million times by users followed by the passport app which is downloaded by hundred thousand users. The much talked about Digital India app has only hundred thousand downloads and the Ministry of Tourism's Incredible India has as low as 10 thousand downloads in over 24 months. Time is ripe for the government to take stock of the data on ground scenarios and devise digital solutions that its netizens love to use. Launching an app is just a step, just like supplying the demands of users.

NEW-AGE MOBILE GOVERNANCE

An app that allows you to book LPG gas, file ITR, pay traffic fine, book rail ticket, check updates from traffic police, buy holiday packages, and file an RTI can usher

in a revolution in the lives of Indians. The next big digital thing in the making is UMANG –the unified mobile platform that plans to integrate 200 government services including passport income tax services, land records, e-Post, and more. This seems to be most daunting digital task for the government to provide access to all government services through a master app which will be available in 12 Indian languages. This is a much needed step, however, poor connectivity and fragmented Internet access could limit its potential for people at remote corners. Convincing ministries and various government departments to join the unified platform will be tough. For the platform to enable all users to request for services easily, verify their identities, providing the service, making them pay successfully, all through a single app on their smartphone will require serious and continued partnership from stakeholders. Enabling services through mobile, delivering them at the click of a button, and ensuring seamless user experience all through would drive the success of the government’s digital plan.

VISION OF DIGITAL INDIA

The vision of Digital India is growth in areas of electronic services, digital literacy, job opportunities, etc., and to transform India into a digitally empowered society and knowledge economy. The programme is designed to ensure that the government services are accessible even to the poor and downtrodden people through electronic means, thereby, fastening the rendering of services and improving the quality of life of even the lowest stratum of society.

Initiatives are also being taken to increase the digital literacy of the population so that the majority of citizens become capable of operating digital gadgets and equipment. This will boost the generation and growth of employment opportunities in the country. To connect the whole country virtually, major innovations and advancements need to be done in technological field so that the country moves towards being a digitally empowered economy. Indian economy is growing at a fast pace. To accomplish the vision, steps are being taken to improve the digital infrastructure in the country and to increase the access to network devices through increased bandwidth and advanced digital technologies. Digital India targets to provide the much needed sense to the following nine pillars of growth areas.

NINE PILLARS OF DIGITAL INDIA

BROADBAND HIGHWAYS

The aim is to cover 250000 village Panchayats under National Optical Fibre Network (NOFN) by December 2016. Nationwide internet infrastructure (NII) would integrate

the network and cloud infrastructure in the country to provide high speed connectivity and cloud platform to various government departments up to the panchayat level.

UNIVERSAL ACCESS TO MOBILE CONNECTIVITY

The aim is to increase network penetration and to provide mobile connectivity to 44000 villages by 2018 with investment of RS 16000 crore.

PUBLIC INTERNET ACCESS PROGRAMME

One Common Service Centre (CSC) would be provided to each gram panchayat and 150,000 Post Offices are proposed to be converted into multi service centers.

EGOVERNANCE

IT would be used for the effective delivery of the government services. There would be integration of services and platform-UIDAI, Payment Gateway, Mobile Seva platform, Public redressal, etc., through IT. All information would be available in electronic form.

EKRANTI

The aim is electronic delivery of services to people be it in education, health, financial inclusion or justice.

INFORMATION

MyGov.in is a website launched by the government to facilitate a 2-way communication between all the citizens and the government. It is a medium to exchange ideas or suggestion with the government. The citizen would have open access to information through open data platform.

ELECTRONICS MANUFACTURING

The government is focusing on zero imports of electronics by 2020 through local manufacturing of items such as smart energy meters, micro ATMs, mobile, consumer and medical electronics. Government is also taking several steps to promote manufacturing and investment in electronics sector by providing clarity on taxation, incentives, skill development, etc.

IT FOR JOBS

The aim is to train 10 million people in towns and villages for IT sector jobs in five years. It also aims to provide training to three lakh service delivery agents as part of skill development to run viable businesses delivering IT services. It also focuses on training of five lakh Rural Workforce on Telecom and Telecom related services and setting up of BPOs in each North-eastern state.

EARLY HARVESTING PROGRAMMES

Government plans to install Wi-Fi facilities in all universities across the country. All books will be converted into e books. Email will be made the primary mode of communication within government. Biometric Attendance System will be installed in all the central government offices where recording of attendance will be made online.

IMPACT OF DIGITAL INDIA PROGRAMME

The Impact of Digitalization of India has manifested as:

ECONOMIC IMPACT

According to analysts, the Digital India plan could boost GDP up to \$1 trillion by 2025. It can play a key role in macro-economic factors such as GDP growth, employment generation, labor productivity, growth in number of businesses and revenue leakages for the Government. As per the World Bank report, a 10% increase in mobile and broadband penetration increases the per capita GDP by 0.81% and 1.38%, respectively, in the developing countries. India is the 2nd largest telecom market in the world with 915 million wireless subscribers and world's 3rd largest Internet market with almost 259 million broadband users. There is still a huge economic opportunity in India as the tele-density in rural India is only 45% where more than 65% of the population lives. Future growth of telecommunication industry in terms of number of subscribers is expected to come from rural areas as urban areas are saturated with a tele-density of more than 160%.

SOCIAL IMPACT

Social sectors such as education, healthcare, and banking are unable to reach out to the citizens due to obstructions and limitations such as middleman, illiteracy, ignorance, poverty, lack of funds, information and investments. These challenges have

led to an imbalanced growth in the rural and urban areas with marked differences in the economic and social status of the people in these areas. Modern Information and Communications Technology (ICT) makes it easier for people to obtain access to services and resources. The penetration of mobile devices may be highly useful as a complementary channel to public service delivery apart from the creation of entirely new services which may have an enormous impact on the quality of life of the users and lead to social modernization.

The poor literacy rate in India is due to the unavailability of physical infrastructure in rural and remote areas. This is where m-Education services can play an important role by reaching the masses in the remote zones. According to estimates, the digital literacy in India is just 6.5% and the internet penetration is 20.83 out of 100 populations. The digital India project will be helpful in providing real-time education and partly address the challenge of lack of teachers in education system through smart and virtual classrooms. Education to farmers, fishermen can be provided through mobile devices. The high speed network can provide the adequate infrastructure for online education platforms like Massive Open Online Courses (MOOCs). Mobile and internet banking can improve the financial inclusion in the country and can create win-win situation for all parties in the value chain by creating an interoperable ecosystem and revenue sharing business models. Telecom operators get additional revenue streams while the banks can reach new customer groups incurring lowest possible costs.

Factors such as a burgeoning population, poor doctor patient ratio (1:870), high infant mortality rate, increasing life expectancy, fewer quality physicians and a majority of the population living in remote villages, support and justify the need for tele medicine in the country. M-health can promote innovation and enhance the reach of healthcare services. Digital platforms can help farmers in know-how (crop choice, seed variety), context (weather, plant protection, cultivation best practices) and market information (market prices, market demand, logistics).

ENVIRONMENTAL IMPACT

The major changes in the technology space will not only bring changes in the economic system but will also contribute to the environmental changes. The next generation technologies will help in lowering the carbon footprint by reducing fuel consumption, waste management, greener workplaces and thus lead to a greener ecosystem. The ICT (Information and Communications Technology) sector helps in efficient management and usage of scarce and non-renewable resources. Cloud computing technology minimizes carbon emissions by improving mobility and flexibility. The

energy consumption can be decreased from 201.8 terawatt hour (TWH) in 2010 to 139.8 TWH in 2020 by higher adoption of cloud data centers causing a 28% reduction in carbon footprint from 2010 levels.

JIO IMPACT ON RURAL INDIA

The digital India initiative is one of the most ambitious plans of the Indian government and each and every sector should make some contribution in the process of achieving this goal. One such initiative or the opportunity seen by the Reliance Industries in this perspective is their Reliance Jio Infocom Limited (RJIL) subsidiary which has set a tough benchmark for its competitors. Experts say that Jio's move will increase data usage across the board. Reliance Jio has partnered with several smartphone brands where Jio Preview offer is available for a period of 90 days. Jio's 4G-LTE services include unlimited HD voice calls and video calls, unlimited SMS, unlimited high-speed data and a host of Jio Premium apps.

ROLE OF DIGITALIZATION IN INDIA

Through the Availability of high internet speed, the work will be done in a speedy manner in less period of time and it will also reduce the paperwork problems. It will also help in reducing corruption as everything will go digital which will help to monitor the errors in the quickest way.

Facilities will be available to the people through this initiative include the digital locker facility, e-education services, e-health services, e-commerce services for improving ease of doing business, etc.

Top CEOs of the company in India as well as abroad have committed to invest Rs.4.5 lakh crore that is equal to almost \$70 Billion dollars towards the Digital India Program. This huge investment will be utilized in ensuring the availability of Smartphones and internet services at affordable prices and this will directly help in generating more jobs in India.

The government also plans to make 'digital village' across the country by linking all the schemes with technology. The 'digital village' would be powered by LED lighting, solar energy, skill development centres and e-services like e-education and e-health.

Electronic transactions related to e-governance projects in the country have almost doubled in 2015, owing to the Digital India Programme. According to the government's website, electronic transaction aggregation and analysis layer (eTaal), 3.53 billion transactions took place in 2014 which almost doubled in 2015 to 6.95 billion.

The progressive policies and emphatic focus on 'Make in India' have played a significant role in the resurgence of the electronics manufacturing sector.

OTHER ROLES

Digitalization has played a vital role in flourishing of the Indian economy. The biggest example is the job opportunities that have been created in the country for youth. In addition to above, "make in India" drive has given an immense push to the youngsters to launch startups and think of creative ideas to contribute to digitalization of India.

The government on its end is pushing and encouraging Indian public to go cashless and reduce reliance on cash transactions. The purpose is to make us adopt digital payments.

Digital transactions make us follow a legal path which is helpful in flourishing of the economy.

Use of plastic money gives freedom as well as security to citizens of the country because it works on technical grounds.

Digital payments will be helpful to the global world. Since cash is the primary mode of transactions in money laundering and terrorism funding, a digital society would discourage such laundering and terrorism.

IMPACT OF DIGITALIZATION ON INDIAN ECONOMY

Digitisation is the multiplying force in India right now. The trio of measures to boost financial inclusion (Jan Dhan), a universal biometric identification system (Aadhaar), rising smartphone penetration (JAM, or Jan Dhan, Aadhaar, Mobile) coupled with the move in July 2017 towards a fully online goods and services tax (GST) system changes are fast-tracking India's digitisation and, in turn, bringing about rising financial access and rapid formalisation of the India economy. For years, promoting Digitalization has been a Governmental initiative to give all services to every citizen on their web portals or electronically, to make the transactions transparent and smooth. The real changes because of Digitalization are becoming visible today because of the push by govt., which is expected to usher in a new era (like how computerization did in public as well as private sector almost two decades ago). Things like paper currency notes will soon be a thing of past. Slowly we are moving towards Digitalization of the Indian Economy with new steps and initiatives.

Corruption today is the biggest problem in developing countries. In fact, corruption is a problem that we have been facing for ages. A parallel economy flourishes side by side of our main economy. This economy is run by those who avoid paying taxes to the Govt. One of the prominent reasons for the parallel economy is the dependency on cash-based businesses. The culprits running the parallel economy is that people do not feel like having bank accounts and other business books which simply means no tax payment to Govt. With Digitalization initiatives like taxations being brought online and steps like Demonetization, the Govt. is trying to weed out corruption from our system which is expected to lead to a positive impact on Indian Economy.

Digitisation will have far-reaching implications for the corporate, household and public sectors. The big upside for the economy will come from better credit delivery. Historically, banks primarily lent to large corporates or smaller amounts that were backed by collateral. This was driven by lack of data availability on the basis of which smaller loans could be properly underwritten. This will change. Digital transactions and GST leave a data footprint that lenders can use. This will allow formal lenders to assess cash flows of smaller borrowers and, hence, price loans better. Flow-based lending will, thus, pick up, with the SME (small and medium-sized enterprises) sector being the key beneficiary. One expects 300–400 basis points reduction in micro, small and medium enterprises (MSME) loan rates. Traditionally, a lack of formalization and low credit penetration has been the key impediments to growth in the MSME sector.

The implementation of GST in July 2017 has essentially provided an impetus to the formalisation process. This will principally help boost investment and support employment creation, leading to a stronger and sustained growth. Households will benefit from the improved credit access. As consumer-lending gathers pace and credit penetration among households improves, households will be better able to smooth consumption over their lifecycle, thereby providing a significant boost to discretionary spending. Government finances will also be positively impacted. Teething problems aside, GST will help increase tax compliance among corporates, leading to a boost in tax revenues, even while the tax rates are, in and of themselves, revenue neutral. On the expenditure side, digitisation efforts also enable the government to introduce a more targeted approach towards disbursing welfare spending to the country's citizens.

As a case in point, the Government of India has already implemented a direct benefit transfer (DBT) scheme — a social welfare scheme under which the subsidy benefits are directly transferred to the beneficiary's account — rather than issuing cheques, cash payments or rebates, and has already saved close to Rs 500 billion since implementation. With strong structural factors of favourable demographics and rising integration with

the global economy and the added boost from recent digitisation efforts, real GDP growth in India can average 7.1% over the next decade. In nominal terms, this means that India will become a \$6-trillion economy by 2027, the third largest.

On a per-capita income basis, the changes would be even more profound. Per-capita annual incomes will likely reach \$4,135 by 2027, lifting India into an upper-middle-income status. Such a rise of a large-sized, upper-middle-income society is likely to have profound implications on how the country interacts with the rest of the global economy and becomes an even larger market for many of the world's companies.

OPPORTUNITIES of Digital India

The opportunities of Digital India in word-form of

[D]istinguish

[I]ntegrated

[G]lobal

[I]ntegral

[T]ransparency

[A]ccessibility

[L]ucrative

[D]istinguish

Positive citizens' perceptions around access to government through both traditional and digital channels provide an excellent and distinguished starting point for governments. Governments with resources to invest can commit to improving access and engagement with digital. Those that must cut costs must do so in a way that builds in digital capacity while locking in strategic gains to date. Either way, digital has the inherent potential to create its own efficiency gains, a clear benefit in any funding environment.

[I]ntegrated

Agencies have made various inroads in breaking down organizational and process silos to better integrate citizen service, and technology has played a large role in facilitating

this. As digital programs mature, it will continue to be important to create consistent “one-stop-shopping” service experiences for citizens. Like for Smart cities – In order to be a ‘true’ smart city, cities need to have an integrated approach whereby various projects are connected and most of all the data and platforms are glued together in order to achieve all the benefits smart cities make possible.

[G]lobal

What if India had not invented the zero? Perhaps computers would not have seen the light of the day and the world would not be connected through the information technology. With the Digital India programme, India may have an opportunity to inspire and transform the world yet again. Sixty years ago, South Korea decided to change itself in a similar fashion and that was known as ‘The Miracle on the Han River’, which has helped South Korea to sustain its leadership position across the world. Digital India has the potential to unleash a similar miracle in the land of Ganga.

[I]ntegral

The concerns for end customers: people, communities, and clients must be integral part of this Digital India programme because they are setting the expectations for digitally-enabled services. The transformation required for digital service delivery at the People level is a transition from managing people to managing the things that help or hinder them.

[T]ransparency

Although transparency seems to be on the agenda of most governments, results are diffused and do not reveal a consistent implementation of this principle. Block chain is a new, powerful tool that is already shaping the future of the Internet with simple, safe and secure transactions. Adopting block chain technology, Dubai stands to unlock 5.5 billion dirham in saving annually in document processing alone –equals to the one Burj Khalifa’s worth of value every year.

[A]ccessibility

While many citizens are connected today, the digital divide is still a critical concern in countries as diverse in a country like ours. In a recent survey — 56 percent of respondents think that digitization of government will create a service gap for

those without Internet access or for citizens who have not yet embraced the digital interactions. Governments have a lot of work to do here. Digital government must be about fostering greater inclusion with programs that go beyond implementation to account for driving lasting adoption among target audiences with unique demographic profiles.

[L]ucrative

This is the opportunity for the new/lucrative approach which encourages citizens to engage in Digital initiatives. To build effective digital government services that are consistently used by citizens, governments must avoid the trap of simply replicating and digitizing old processes that are inherently ineffective. Instead, when going digital, governments must take a holistic look at the existing processes and build online services with a differentiated approach that takes into account, and full advantage of, the entire spectrum of benefits of the online channel.

SUMMARIZING THE BENEFITS OF DIGITALIZATION

A digitally knowledgeable and empowered population can transform the whole economy.

The automation of the economic sectors will lead to better performance and growth of the sectors, which in turn would impact the growth rate of the economy.

Digitalization will lead to cost savings, increased output, better employment, enhanced productivity & literacy, etc.

In the agricultural sector and in Industrial sector, digitalization will help in betterment of all the processes, be it, purchasing, selling, inventory control, trade relations, employment, product innovation & development, etc.

Automation of Service Sector will help in the growth of the sector by increasing the ease in access to and rendering of the services.

Wider customer reach and customization of services according to customer's requirements also boost the demand for services.

A digitally empowered economy develops much faster, effectively and efficiently due to better utilization of its capital as well as human resources. And India being a country with such huge manpower resources, if utilized properly, can achieve unprecedented growth rate and put the country in top position along with the developed economies.

CHALLENGES OF DIGITAL INDIA

More than three years have passed since the announcement of Digital India mission but it is facing multiple challenges in successful implementation. Few of these challenges are:

Lack of Education

Majority of the population in the country is still not qualified enough to use digital devices and technology. Most of people are not capable of using a simple mobile phone.

Lack of Infrastructure and Required Technology

The Digital India campaign needs high quality infrastructure to be implemented efficiently. India still lacks the basic infrastructure required to move digitally ahead. The technological infrastructure and technology required for the campaign is still not available that easily in the country. The conditions are even more inadequate in the rural areas. Further, the servers are overloaded due to pressure of work.

Financial and Technical Issues

India is still a developing country. For a plan like this, huge financial resources are required and the country somehow lacks in that area. It requires financial assistance from other sources. Technical issues like appropriate bandwidth, firewalls, filters, anti-virus software, protection from hackers, buffering are some of the technical issues the country has to face.

Attitude of Citizens as well as Government Personnel

For successful implementation of the programme, a wholesome effort is required from both the citizens and the government personnel. But the devil may care attitude is the hindrance in the path. Moreover, the older generation is set in its ways and finds the traditional methods of doing things easy and convenient. Indian political power structure and lack of inter-departmental coordination add to the problem.

Cyber-crimes and Lack of Confidence

Cyber safety is still not given as much importance as it should be given. People find it risky to make transactions online due to safety issues. Cyber laws are not paid that much heed too. Also, most of the people still do not trust machines and prefer the manual option. Inept cyber services are also one of the reasons for this.

High Costs

The electronic devices and internet services are still by and large very costly for an average Indian citizen. When a lot of people don't have enough money for the basic necessities of life, spending on electronic devices gets out of the picture.

Training Needs

The personnel who are working on this campaign, to transform various government departments from man-managed to machine-managed, require proper training to do that effectively and efficiently. It's a tedious task to train so many people of different calibres and interest into one common discipline. Most of the population lacks the basic technical qualification required for the job.

ISSUES AND PROBLEMS ASSOCIATED WITH DIGITALIZATION

Regulatory Roadblock

The issues pertaining to taxation and other regulatory guidelines have proved to be roadblocks in advancing with the programme, while contracting challenges have also played a spoilsport. Some of the common policy hurdles include lack of clarity in FDI policies, which have impacted the growth of e-commerce. Transport services like Uber have had frequent run-ins with local governments due to legacy policy frameworks which have not become attuned to the changing business landscape.

Idle Government

Many Requests for Proposals issued by the government are not being picked up by competent private sector organizations since they are not commercially viable. The biggest challenge faced by Digital India programme is the slow/delayed infrastructure development. Spectrum availability in the Indian metros is about a tenth of the same in cities in the developed countries. This has put a major roadblock in providing high speed data services.

Digital Divide

It is observed that for Digital India to have a large scale impact on citizens across the nation, the digital divide needs to be addressed through last mile connectivity in remote rural areas, as currently, over 55,000 villages remain deprived of mobile connectivity. This is largely due to the fact that providing mobile connectivity in such locations is not commercially viable for the service providers.

Poor Connectivity

India needs over 80 lakh hotspots as against the availability of about 31,000 hotspots at present to reach the global level of one Wi-Fi hotspot penetration for every 150 people. “For digital technology to be accessible to every citizen, significant efforts are needed to customize apps and services to cater to local needs. Finding vendors who can provide such applications has become a challenge. With the proliferation of cloud-based services like DigiLocker, data security has emerged as a major challenge.

Proper Policy Making

To enable development of digital infrastructure, a uniform Right of Way (RoW) policy across all states with a reasonable cost structure is required along with a single window mechanism for granting RoW permissions. PPP models must be explored for sustainable development of digital infrastructure, as has been the case for civic infrastructure projects like roads and metro. The government should try to make additional spectrum available to telecom service providers for deployment of high-speed data networks. Moreover, startups need to be incentivized for the development of the last mile infrastructure and localized services and applications.

OTHER ISSUES

Other issues related to digitalization are as follows:

- First, the use of digital technologies requires higher-order cognitive, socio-emotional, and technical skills that help respond to fast-changing technologies and their adoption at scale. As per the 2016 ‘World Development Report’, this multiplicity of skills has always been important, but it is now essential.
- Second, movement of information across borders is crucial to the operation of the digital economy, and thus to the producers of goods and services that rely on it. Any barriers to free information flow are likely to have adverse impacts. For example, recent initiatives by the government on “data localisation” are likely to inhibit digital flows in and out of India. While security and data protection are of paramount importance, merely restricting digital flow is not likely to guarantee the same. Stricter data protection laws that govern such cross border digital flows is the answer.
- Third, since the digital economy is heavily based on intellectual property, we should enforce strict protection to patents and copyrighted work, whether produced in India or elsewhere. For example, the Indian Patent Act does not allow patenting “software per se”. Though there is a heated debate even in

the US regarding software patents, merits of software patents in the digital economy needs to be reconsidered.

- Fourth, digitalization is pervading from enterprises to the common man. The cognitive skills of people, especially in India, is quite varied due to varying literacy levels, Hence there should be conscious effort by product/ service designers, developers and project managers to ensure that digitalization does not leave behind the masses, thereby creating a massive digital divide.

To some extent, the start-ups such as Paytm, Ola and Flipkart have enabled the inclusion of most sections of the society to participate in their digital products and services. However, quality of digitalization of government services is sometimes pathetic. They are difficult to navigate even for digital-savvy urban users; not to mention the semi-literate or illiterate masses for whom it is supposed to be more beneficial. It is time the governments took notice of this and improved their services and programmes for digital inclusion of the society at large.

GOVERNMENT'S INITIATIVE

Government aimed to lay the National Optical Fibre Network in all 2.5 lakh gram panchayats. Broadband for the rural areas was to be laid by December 2016 and broadband for all the urban zones was to be updated with communication infrastructure in new urban development and buildings. By March 2017, the government aimed to provide nationwide information infrastructure.

Digital infrastructure's backbone is the availability of high-speed internet. With the introduction of better and faster mobile internet connections, the services through Digitalization have been delivered in an efficient way to the citizens of the country. In addition to above, the government is taking initiatives like "Aadhaar Card" or Digital identification for every citizen. The move is expected to give unique and authentic identification to every citizen. This step will mean faster subsidy distribution, reduction of corruption and some other impacts on our economy. Digital India has made mobile banking easy.

Next important step taken by the Government is the introduction of a Common Service Centre. A secure public cloud to share information.

Digitization is helping businesses streamline their processes by slowly taking away the dependency on paperwork.

Banks are the biggest beneficiaries of digitalization. Since they now have processes where less staff can do more work.

Digital India has empowered its citizen by giving them digital power like during the journey you don't have to carry any physical documents. You can show a soft copy of the ticket and identity card which fulfills the purpose.

Government is pushing Digitalization in the country by promoting e-services to every citizen.

Digital India is all about Promoting development and creating an opportunity for new India in terms of job, technology, and transparency through Digitalization.

The idea of digitalization is one step which will gradually turn us into an economic powerhouse by cutting down paperwork and decrease our dependency on govt. employees which will help cut down corruption.

To see the immediate impact of digitization, all we must do is look at how income tax filing and income tax return processes have been streamlined.

ROLE OF DIGITALIZATION IN THE INDIAN BANKING SECTOR

With digital transactions, one needs to have a proper bank account and essential documents. Banks are the part and parcel of our day-to-day life. Banking includes ATM transactions, online payments, and transfers. Because of Digitalization of their processes, banks have saved costs and customers have been able to avail benefits such as ATMs, cashless transactions using Credit Card, Debit Cards, etc.

Today, banks are going out of the way to adopt latest technologies so as to enhance customer experience. Another marvelous example of digitalization is mobile banking where banking can be done on the mobile phones. The feature allows you to literally operate your bank account from your mobile phone. Digitalization in Banks has not only reduced the human errors and helped to save time but has led to cashless transactions which have reduced the circulation of fake currency in the market, thereby leading to a positive impact on our economy. 2016 is the year which will always be linked to demonetization for the withdrawal of high amount denomination- Rs. 500 and Rs. 1000 of India's currency in circulation on November 8. After Demonetization was announced, cashless payments in October 2016 increased by 22% as compared to October 2015, indicating that Indians have been progressively more accepting of different digital payments modes since 2015.

SUGGESTIONS

Digital India campaign can't be successful on its own. Policy changes are needed to make digital India a reality. Few of the suggestions are:

- Digital literacy is the first step in empowering citizens. People should know how to secure their online data.
- To make this programme successful, a massive awareness programme has to be conducted. There is a pressing need to educate and inform the citizens, especially in rural and remote areas, about the benefits of internet services to increase the growth of internet usage.
- Digital divide needs to be addressed.
- Manufacturing content is not government's strength. This mission needs content and service partnerships with telecom companies and other firms.
- PPP models must be explored for sustainable development of digital infrastructure.
- Private sector should be encouraged for development of last mile infrastructure in rural and remote areas. To encourage private sector, there must be favorable taxation policies and quicker clearance of projects.
- The success of digital India project depends upon maximum connectivity with minimum cyber security risks. For this we need a strong anti-cybercrime team which maintains the database and protects it round-the-clock.
- To improve skill in cyber security, we need to introduce cyber security course at graduate level and encourage international certification bodies to introduce various skill based cyber security courses.
- There is a need for effective participation of various departments and demanding commitment and efforts. Various policies in different areas should support this goal.
- For successful implementation, there must be amendments in various legislations that have for long hindered the growth of technology in India.

CONCLUSION

A digitally connected India can help in improving the social and economic condition of people through the development of non-agricultural economic activities apart from providing access to education, health and financial services. However, it is important to note that ICT alone cannot directly lead to overall development of the nation. The overall growth and development can be realized through supporting and enhancing

elements such as literacy, basic infrastructure, overall business environment, regulatory environment, etc. However, the goal is still far away since most of the nine pillars of digital India mission are facing serious challenges in implementation. It is imperative that focused persistent attention must be given to each and every pillar so that this programme does not end up in failure. In fact we all should be mentally prepared for the change and be ready to face the challenges in implementing this policy, only then it would be possible to make this vision a reality. The success of digital India project depends upon maximum connectivity with minimum cyber security risks. For this there should be a strong anti-cybercrime team.

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Grey Areas of Information Technology Act 2000: A Note

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Abstract—A paradigm shift has taken place in jurisprudence, i.e., tangible rights have given way to intangible rights. Thanks to technology, governance is now referred to as 'e-governance, commerce as 'e-commerce' and signature as 'digital signature'. A new society has emerged from nowhere and is growing exponentially. This society is in urgent need of a new set of laws of governance. With the enactment of the Information Technology Act, 2000, in India, law has taken a quantum jump to include even the intangibles under its purview. The Act is a proactive piece of legislation. It is to be read and understood from the point of view of one, facilitating international trade and two, as an alternative to paper-based methods of communication and storage of information. The Act is not only in tune with the UNCITRAL'S Model Law on ELECTRONIC Commerce but it also unfolds various aspects of information technology to promote efficient delivery of Government Services by means of reliable electronic records. The questions have been raised whether the Act has sufficient 'byte' to become an effective legislation. Then there are so called concerns over certain grey areas within the Act....lack of confidence building measures, consumer protection,....draconian power to the police,....silent on intellectual property rights, taxation.....the list is endless. In short, critics are questioning the legislative competence in framing the Act. This study is based on the literature collected from books, journals, articles and websites.

Keywords: Information technology, E-Commerce, jurisdiction, cyber-space

INTRODUCTION

Information Technology has played a very important role in the lives of people. Paper based communication has been substituted by E-communications and we also have new concepts such as E-governance, E-commerce, E-banking, E-contract and so on. We can interact with anyone, anywhere and everywhere in no time. We can find valuable information while sitting at home. We can work at any time.

In such transitional times, bad elements that exist in every society try to misuse such facilitating technologies to their advantage. Cyber space that comprises information superhighways, instantaneously connecting every nook and corner of the world, transcending traditional physical and geographical boundaries and conventionally defined legal jurisdictions, much like the real world, is also not completely safe.

To address such situations, efforts were made by the United Nations, and a Model Law on e-commerce was adopted in 1996. The world body also encouraged all countries to formulate domestic cyber laws in tune with it. Accordingly, India enacted the Information Technology Act, 2000. And further, the Information Technology

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(Amendment) Act, 2008. These enactments are in tune with the model law on e-signature, 1998, of the United Nations. Legislation has attempted to update the Indian legal system.

REASONS FOR THE ENACTMENT OF INFORMATION TECHNOLOGY ACT, 2000

National Reasons: Main reasons for the enactment of the Information Technology Act, 2000 are:

- Increasing use of ICTs in conducting business transactions and entering into contracts, because it is easier, faster and cheaper to store, transact and communicate electronic information than the traditional paper documents.
- Business people were aware of these advantages but were reluctant to interact electronically because there was no legal protection under the existing laws.

International Reasons: Main international reasons for enactment of Information Technology Act, 2000 are:

- Had switched over from traditional paper based commerce to E-commerce.
- The United Nations Commission on International Trade Law (UNCITRAL) had adopted a Model Law on Electronic Commerce in 1996, so as to bring uniformity in laws governing E-commerce across the globe.
- Further, India being a signatory to it had to revise its national laws as per the said model law. Therefore, India also enacted the Information Technology Act, 2000.
- Because the International trade through electronic means was growing tremendously and many countries as part of World Trade Organization (WTO) were also likely to conduct their transactions only in electronic medium in future.

Aim and Objectives of the Information Technology Act, 2000: Following were the main aims and objectives of the Information Technology Act, 2000

- To suitably amend existing laws in India to facilitate E-commerce.
- To provide legal recognition of Electronic Records and Electronic/Digital Signatures.
- To provide legal recognition to the transactions carried out by means of Electronic Data Interchange (EDI) and other means of electronic communication.
- To provide legal recognition to business contracts and creation of rights and obligations through electronic media.
- To establish a regulatory body to supervise the Certifying Authorities issuing Electronic/Digital Signatures Certificate.

- To create civil and criminal liabilities for contravention of the provisions of the Act and to prevent the misuse of e-business transactions.
- To facilitate E-governance and to encourage the use and acceptance of electronic records and digital signatures in Government offices and agencies. This would also make the citizen-government interaction more hassle free.
- To make consequential amendments in the Indian Penal Code, 1860 and the Indian Evidence Act, 1872 to provide necessary changes in the various provisions which deal with offences relating to documents and paper based transactions.

NEED OF AMENDMENTS IN THE FOLLOWING

- The Reserve Bank of India Act, 1934 so as to facilitate electronic fund transfers between the financial institutions; and
- The Banker's Books Evidence Act, 1891 so as to give legal sanctity for books of accounts maintained in the electronic form by the banks.
- To make law in tune with Model Law on Electronic Commerce, 1996 adopted by the United Nations Commission on International Trade Law (UNCITRAL) and further adopted by the General Assembly through a Resolution on 30 January, 1997.

A GENERAL OUTLINE OF THE ACT

PURPOSE

The purpose of this Act is to foster an environment in which laws are simple and transparent and in which the advantage of new technologies can be tapped.

THE ACT PROPOSES

- Electronic commerce transaction,
 - Electronic filing,
 - Maintenance of electronic records, and
 - Electronic governmental transactions,
- Approach

The Act provides for a legal framework so that the information is not denied legal effect, validity or enforceability solely on the ground that it is in electronic form. This is done by validating and authorizing the use of:

- Electronic Data Interchange (EDI),
- Electronic Records, and
- Electronic Signatures.

The Act adopts a 'functional equivalents' approach whereby paper-based requirements such as 'record', 'document', 'signature', etc., are replaceable with their electronic counterparts.

MISCELLANEOUS

The Act also deals with issues subsidiary to this secure electronic environment such as privacy, contraventions relating to electronic transactions and information technology offences. It also seeks to set up various authorities to help regulate an information technology regime. The Act not only lays down new substantive law but also makes incidental and consequential amendments to the Indian Penal Code, the Indian Evidence Code, 1872, the Bankers Book Evidence Act, 1891 and the Reserve Bank of India Act, 1934.

THE ACT IN SUMMARY

The Act, inter alia, deals with the following issues:

- Secure electronic transactions-these enable parties to enter into electronic contracts.
- Attribution of electronic messages, i.e., once the message leaves the information system of the originator of the messages it is attributed to him.
- Electronic signatures and electronic records are given legal status. In furtherance of this, and to maintain security of information, the Act establishes a Digital Signature Infrastructure making specific use of the Asymmetric Crypto System Technology with new authorities such as the Controller of Certifying Authorities being set up.
- 'Contraventions' regarding electronic records, viz, hacking, theft of electronic records, manipulation of records, spreading viruses, etc., have been defined. Involved in the inquiry and determination of the result of the proceeding is an adjudicating officer, appointed by the Government and possessing wide-ranging powers.
- Information Technology Offences, viz., tampering with computer source document, obscenity-A limited number of offences have been created under the Act. These will be tried as any other criminal offences are under the Criminal Procedure Code but with unique provisions for investigations, search, etc., provided in the Act.
- Right of Government bodies to decrypt information has been specifically given herein.
- Privacy and confidentiality of information submitted to statutory authorities-disseminations to third parties of such information collected in pursuance of powers under the Act is made a criminal offence.
- Facilitates e-commerce as well as electronic filing and maintenance of records as against the government.

- Setting up of new authorities/regulatory infrastructure-Cyber Regulatory Authorities and the Cyber Appellate Tribunal (CAT) have been established. The Act also seeks to set up a Cyber Regulations Advisory Committee (CRAC).
- Intermediaries shall not be liable for any third party information, data, or communication link made available or hosted by him except in cases where he has conspired or abetted or aided or induced in the commission of an unlawful act and upon receiving actual knowledge that any information data or communication link is being used to commit the unlawful act if he fails to expeditiously remove or disable access to that material without vitiating the evidence in any manner.
- Section 2 (1)(r) of the Act states that electronic form, means with reference to information, any information generated sent, received or stored in media, magnetic, optical, computer memory, microfilm, computer generated microfiche or similar device.

APPLICABILITY OF THE ACT SUBJECT MATTER JURISDICTION

The Act will apply to all circumstances and types of transactions and documents other than those specifically excepted. Clause 4 of section 1 specifically accepts the applicability of the Act to the following:

- Negotiable instruments
- Power of attorney
- Trusts
- Wills or other testamentary dispositions
- Contracts for the sale or conveyance of immovable property or any interest in such property
- Any other class of documents or transactions which the Central Government may notify in the Official Gazette.

Section 4 of the Act states that where a law provides that any information or any other matter shall be in writing or in the typewritten or printed form, then notwithstanding anything contained in such law, such requirement shall be deemed to have been satisfied if such information or matter is rendered or made available in an electronic form and accessible so as to be usable for a subsequent reference; *Orissa Consumers' Association, Cuttack v. Orissa electricity Regulatory Commission*, AIR 2005 Ori 11. Further, the Information Technology Act, 2000 has played a commendable role in creating order in E-society in India. It has helped in: (1) Facilitating E-commerce, E-governance and E-contract. (2) Establishing supervisory body (CCAs) to supervise certifying authorities. (3) Issuing licenses to CAs so that they can issue DSCs and ESCs to subscribers. (4) Making consequential amendments in other existing laws so as to facilitate E-commerce and E-governance. Despite the various advantages, Information Technology Act has certain grey areas which are as follows:

MAIN GREY AREAS OF INFORMATION TECHNOLOGY ACT, 2000

- **Jurisdiction:** Cyber jurisdiction or jurisdiction in cyberspace refers to a real world government's power and a normally existing Courts authority over Internet users and their activities in the cyber world. However, Information Technology Act does not cover the important issues of the jurisdiction which is very important legal aspect in deciding the place of filing the case.
- **E-mail authenticity or its evidentiary value:** E-record which is digitally or electronically signed could be produced as evidence. Today E-mail is a significant mode of communication. However, in E-mail which is not digitally or electronically signed, the moot question is whether it is acceptable as evidence? It is significant to note that this Act is silent about this question. It does not touch E- mail authenticity or its evidentiary value in the hands of the receiver.
- **Infringement of IPRs:** Though proviso to Section 81 which is incorporated by the Information Technology (Amendment) Act, 2008 provides that this Act shall not restrict any person from exercising any right conferred under the Copyright Act, 195 or the Patent Act, 1970, but does not contain special provisions for protection of IPRs such as copyright, trademark, or patents, etc., in digital medium. It is very easy to infringe upon the IPRs of other persons in E-MEDIA. Therefore, today, IPRs in digital medium is an important issue especially copyright issue in digital medium, trademark issues in digital medium and patent issue in the digital medium which remain untouched by Information Technology Act, 2000.
- **Domain Names Infringement:** The concept of E- commerce is mainly based upon domain name. However, this Act is silent about the Domain names infringement, cybersquatting (registering name of other person as domain name with an intention to sell it at high price to him, for example, Mr. A registered www.sony.com so that he can sell that domain name to Sony company at heavy price), typosquatting (registering a domain name which is minor variation or common typographical permutations of already registered domain names so as to divert internet users to their website by typing errors, for example, registering www.radiff.com or www.redif.com where www.rediff.com is already registered, registering www.pesi.com where www.pepsi.com is already registered) spamming and security of information at various levels.
- **Cross Border Dispute:** In the era of globalization, international trade and taxation policies are very important. Though main objective of the act is to facilitate e-commerce and it has played commendable role in this regard. However, this Act does not talk about the cross border taxation policy at the international level where the international contract is signed online.
- **Failure to surrender License - a non cognizable offence:** According to section 33 of Information Technology Act, 2000, when the licence of the certifying

authority is suspended or revoked then he must immediately surrender his licence to the controller. However, where such certifying authority fails to surrender licence then he shall be guilty of an offence and shall be punished with imprisonment which may extend up to six months or a fine which may extend to Rs 10,000 or both. Further under section 77B, incorporated by the Information Technology (Amendment) Act, 2008, any offence punishable with imprisonment of three years or above is cognizable. Therefore, failure to surrender licence under section 33 is a non-cognizable offence. However, licence is the backbone of DSC/ESC because only licenced CA can issue DSC/ESC, therefore where a CA whose licence has been revoked or suspended and if this CA fails to surrender his licence, then it should be a cognizable offence.

- Only broad kind of Cyber crimes and contraventions are covered: The Information Technology Act, 2000 covers only broad kind of Cyber crimes and contraventions. There were only 10 offences initially under IT Act 2000. However, increased use of technology by the criminals made it necessary to increase the number of cyber offences under this Act. Accordingly by the Information Technology (Amendment) Act, 2008, 13 new cyber offences were inserted whereas seven existing offences were substituted. It is important to note that various crimes like cyber stalking, violating privacy of a person, cyber terrorism are punishable by the Information Technology (Amendment) Act, 2008. Further, using communication device for committing any offence is also punishable. However, following loopholes regarding cyber offences are still there: (a) The term cyber crime and cyber offences as such are not defined under the Information Technology Act, 2000. (b) Offences mentioned under chapter 13 are not exhaustive. (c) No illustration or examples of such are given. (d) Some offences like courtroom abuses, watching porn websites are still not covered.
- Lack of International Cooperation: Due to lack of international cooperation, cyber crimes cannot be handled by isolated national efforts within the physical boundary of a country. Though the Act has extraterritorial jurisdiction under section 75, but if the foreign country in which the cyber offender is residing has no extradition treaty with India and it refuses to extradite him, then it is not possible to prosecute and punish him under the Act. Hence, there is a need for international cooperation for proper handling of cyber crimes.
- Important documents such as power of attorney, etc., not covered: Another loophole of the Act, 2000 is that it is not applicable to various documents covered under the schedule 1. However important documents such as power of attorney, will, trust, any contract for sale of immovable property and a negotiable instrument are mentioned under schedule 1, hence, not covered under IT Act, 2000. Therefore, where the E-contract relating to immovable property is formed or the will is made in electronic form, then the Information Technology Act shall not be applicable.

- Statutory bodies may not accept electronic documents: Statutory bodies are not bound to accept electronic documents under the IT Act, 2000. It is significant to note that section 9 is the biggest loophole of Information Technology Act, 2000. On one hand, the main aim and objective of Information Technology Act, 2000 was to facilitate e-governance, however, on the other hand, Section 9 provides that no one can insist any government office to interact in electronic form. Suppose Mr. A wants to receive any certificate or document from a government office in the electronic form but if that government department refuses to take or give that document in electronic form, no action can be taken by Mr. A against that government office. However, one view for introducing section 9 is that during this transitional period government offices would take some time to keep pace with technology. It is important to note that this Act was enacted in 2000 and more than one decade is over. Now is the right time to implement this Act by providing sufficient training to government and police officials and, accordingly, Section 9 should either be abolished or diluted and it should be made compulsory for the government bodies to accept electronic documents.
- No parameter for implementation: This Act does not lay down parameters for its implementation. In India, the government and police officials are not computer or technology experts. Even judges are not fully sensitized to technology. Therefore, question of implementation of Information Technology Act, 2000 does not rise. Hence, for the proper implementation of this Act there must be sensitization of judiciary, police official to the technology.

ONE ACT SYNDROME

One must admit that the Act has certain limitations but that does not mean that these are grey areas. One act cannot answer all the questions. What we need is continued legislative activities to frame similar enactments in the field of intellectual property, taxation, etc. It is time to amend other enactments, like the Indian Telegraph Act of 1885, the Indian Post Office Act of 1888 and the Indian Wireless Telegraphy Act of 1993 to bring them at par with the new technological developments. This new medium requires new laws. There could not be one Act to deal with all the questions of digital medium. We have to go beyond the 'one Act' syndrome for greater reach and effectiveness. But the question is – how far? Should we emulate the western concept of legal multiplication?

ILLUSTRATION

Legal Multiplication: Believe it or not!

The Information Technology Act and amendments is equivalent to at least 45 (and counting) U.S. Federal enactments;

The Information Technology Act and amendments is equivalent to at least 598 (and counting) U.S. State enactments; and

The Information Technology Act and amendments is equivalent to at least 16 (and counting) U K enactments.

Effectiveness of legislation also depends on the extent of preparedness. Keeping in mind this fact, instruments like the promissory note, bill of exchange, power-of-attorney, trust deed, contract for the sale of conveyance of immovable property have been excluded from the Act. That does not mean that they shall remain excluded. For example, in the beginning the 'cheques' as a negotiable instruments were excluded, but a recent amendment has not only made creation and acceptability of "a cheque in the electronic form" (e-cheque) legally valid but also initiated payment or receipt on the basis of an electronic image of a truncated cheque.

ROLE OF JUDICIARY

The application of the Information Technology Act rests with the courts. It is a settled principle that the interpretation of a provision of law relates back to the date of the law itself and cannot be prospective from the date of the judgement because concededly the court does not legislate but only gives an interpretation to an existing law.

"A statute is an edict of the legislature. The language employed in a statute is the determinative factor of legislative intent. Words and Phrases are symbols that stimulate mental references to referent. The object of interpreting a statute is to ascertain the intention of the legislature enacting it."

It is for the judiciary to ascertain the intention of the legislature behind the Act. The observation that the judges lack that 'technological temperament' to do justice with nuances and subtleties of information technology law is based on a narrow premise. It is true that the information technology law is different from other branches of law in the sense that it is 'dynamic' rather than static. For example, information technology law has been able to recognize computer as a 'weapon of offence' as well as a 'victim of crime'. This could not be said for a revolver, pistol or knife-they have always been identified as 'weapon of offence' but never as 'victim of crime'.

Further, the question is that with the easier availability and wider circulation of the US case law, would the judiciary in India also be tempted to use and apply the law principles established by the US courts. This threat is very real. However, one must understand that with the Indian case law still in infancy, the litigants would have no other option but to resort to the US case law. In such a scenario, it is for the judiciary to not get swayed by the doctrines propounded by the US courts at the cost of already established national law principles. The Act though technical in content is easily understandable, if one takes into account the accompanying Information Technology (Certifying Authority) Regulations, 2001.

ASSIMILATING TECHNOLOGY

The fact is that the judiciary has always been able to assimilate technology and as the Supreme Court has observed in **SIL Import, USA v Exim Aides Silk Importers**, the need of the judiciary is to interpret a statute by making allowances for any relevant technological change that has occurred. In fact, if some recent judgments are any indication, then one may say with certainty that the courts are exercising their 'technological temperament' and it is showing. In the **Grid Corpn. Of Orissa Ltd vs AES Corpn.** it was held by the Supreme Court that: "*when an effective consultation can be achieved by resort to electronic media and remove conferencing. It is not necessary that the two persons required to act in consultation with each other must necessarily sit together at one place unless it is the requirement of law or of the ruling contract between the parties.*"

Similarly in the **State of Maharashtra vs Dr. Praful B. Desai**, it was held that:

"Video conferencing is an advancement in science and technology which permits one to see, hear and talk with someone far away, with the same facility and ease as if he is present before you, i.e., in your presence.....In video conferencing both parties are in presence of each other.....". Thus, it is clear that so long as the accused and/ or his pleader are present when the evidence is recorded by video-conferencing that evidence is being recorded in the "presence" of the accused and would thus fully meet the requirements of section 273 of the Criminal Procedure Code. Recording of such evidence would be as per the "procedure established by law".

Thus, the Supreme Court approves of the principle of updating construction, i.e., the law must constantly be on the move to the fast changing society and not lag behind. Moreover, the Supreme Court is advocating use of external aids to gather information. **In Ponds India Ltd. vs Commissioner of Trade Tax, Lucknow**, the Court mentioned that "*Wikipedia, like all other external aid to construction, like dictionaries etc. is not an authentic source, although the same may be looked at for the purpose of gathering information.*" **In CIT vs Associated Distributors Ltd.**, the Court had taken the meaning of 'bubblegum' given in Wikipedia.

BRIDGING A DIGITAL DIVIDE

It has been argued that the Act of this nature would divide the society into digital haves and digital have-nots. This argument is based on the premise that with an extremely low PC penetration, poor internet connectivity and other poor communication infrastructure facilities, a country like India would have islands of 'digitals haves' surrounded by 'digital have-nots. Logically speaking, such an argument is untenable as the 'digital core' has been expanding horizontally and everyday communication connectivity is rising across India. The country is on its way to become a 'one-wired nation'. It is the beginning.

CONCLUSION AND SUGGESTIONS

Though the Act came into being in 2000, only few applications of complaint were received from metropolitan cities during the first decade. However, the crime graph has picked pace after that. According to National Crime Record Bureau reports, there has been an increase of 60.06% in the cases registered and 64.15% in the arrests made under IT Act since 2012 and the number continues to rise. Similarly, there has been an increase of 73.54% in cases registered and 55.14% in the arrests made under IPC since 2012. The first adjudication obtained under this provision was in Chennai, Tamil Nadu in a case involving ICICI Bank in which the bank was told to compensate the applicant with the amount wrongfully debited in Internet Banking, along with the cost and damages.

The IT Act 2000 did not encapsulate all the areas of cyber law. The act was not technologically neutral. Hence, it underwent major amendments in 2008 which introduced the concept of “electronic signature” which had a much broader meaning than that of “digital signature” as it also covers the other means of biometrics. However IT Act has never been self sufficient. IPC and Indian Evidence Act was amended to “all documents and electronic records”. Terms such as ‘digital signature’, ‘electronic form’, ‘secure electronic record’, ‘information as used in the ITA, were also inserted to make them part of evidentiary importance under the Act. The important amendment was seen by recognition of admissibility of electronic records as evidence as enshrined in section 65B of the Indian Evidence Act, 1872. Similarly one of the major changes in IPC was the inclusion of the sections 354A to D which recognized women centric crimes such as stalking, voyeurism, sexual harassment, etc. Despite the constant evaluation process over all these years, the IT Act still fails to be enough. The virtual world of crime has always led to issues of territorial jurisdiction. Pertaining to this, as a result the investigators often try to not accept complaints.

The preservation of evidence is another hurdle. There are chances of destroying the evidence as it may lie in some system like the intermediaries computer or sometimes in the opponent’s computer system too. Crimes like gambling and trafficking over the internet are not recognized despite several complaints from the public. Privacy continues to stay a myth in the cyberspace. Voices have been repeatedly raised to recognize the privacy rights of individual however till what level the investigation procedures and privacy can harmonise is hard to say. The recent issue of making it mandatory to save Whatsapp chat is a perfect example of privacy violation.

The gender issue is another thing which is not left behind here as well. The Indian laws are clearly biased towards females. What we fail to understand is that males are equally or in many cases more prone to being the victims of cyber crimes. According to a survey, more men than women are victims of cyber crime. Isn’t gender neutrality as important as technological neutrality? Revenge porn is another grey area of cyber laws.

Today, as we adorn our profile pics with tri-colours supporting PM Modi’s dream of digital India, we can be assured that all this is just the beginning. With internet

of things, there is no scope of reduced rate of cyber crimes but being smart digital citizens is what we can ensure. I can sum up the 18 years of IT Act in simple words: "*Begun, but not well done*". We still have a long way to go and need to improvise the legislation greatly but the question is law the only thing we can depend on? Another 30 years to the IT Act and yet it will never be enough. It's time that we as individuals stop acting and raising voices on social media platforms and take some real time action. You and I need to face the reality, make security a priority and be responsible citizens. If such a change is brought, the development in next 5 years would be way more than where we have reached in the past 18 years, and yes the dream of digital India would be half accomplished. Following are the suggestions to remove the grey areas in IT Act 2000:

- Proper implementation of the IT Act.
- Amendment in the IT Act to cover all the issues.
- Important documents like power of attorney should also be covered under IT Act.
- For the proper implementation of the Act there must be sensitization of judiciary, police official to the technology.
- Need of international co-operation to tackle the cyber crimes.

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Black Males, Society and Myth in Toni Morrison's Selected Fiction

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Abstract—*Myths are ubiquitous and are an integral part of every social fabric. Mircea Eliade suggests that "myth is sacred history, the breakthrough of the super-natural, a divine into the human to explain the origins, destiny and cultural concerns of a people." These are like a frame of reference for a piece of literature and acts as a continuum to be applied in future. Myths relating to black males are numerous and these African American women writers of the 60s and 70s especially are busy uprooting those myths from the African American society. As a matter of fact contemporary African American women writers deal with contemporary topics in their fiction but there was the time when issues were different. There are various sociological and psychological reasons which is why these myths were propagated in the past.*

One of the widely prevalent myths was that African American males were violent, sordid, aggressive yet timid, hypersexual beings. There are many episodes in history, predominantly those pertaining to slavery and racism, which 'compartmentalized' people into superior and inferior races. The present article is an endeavour to look into these myths of Black males from a different perspective. It is an attempt to talk about mythical images and racial stereotypes of African American males perpetuated by the white society-its inception, growth and implications. Several black male novelists have portrayed black women sometimes with understanding and sympathy and at other times with callousness and indifference. Thus, the time is now ripe to retrospect and see how the characterization of black males in the novels of Toni Morrison has been done. She considers fiction as an indispensable medium through which people structure knowledge based on different myths. She, as a writer, has portrayed both male and female characters honestly and with understanding.

Keywords: *Myths, Morrison, African American Women Writers, Black Males, Stereotypes'*

INTRODUCTION

African American culture is a repertoire of Myths which play an active role in the creation of a national character. But apart from being tales, particularly from religion, to explain beliefs and culture, there are myths which deconstruct and sometimes destroy the identity of a race or a nation. The 'Myth' is a term that can be used in a broad manner. There are various kinds of ubiquitous myths. They are drawn from all walks of life like religion, science and society pertaining to a particular race or region. The reinforcement of societal myths, as in the case of African American males, has led to the creation of racial stereotypes resulting in the destruction of their image. These kinds of myths are created to subjugate one or the other group. There are many episodes in history, predominantly those pertaining to slavery and racism, which 'compartmentalized' people into superior and inferior races. In case of African

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American males, myths and racial stereotypes were created by the dominant white society and were perpetuated in the course of history and it bears its marks even today. These myths had severe implications on the psychological and socio-economic levels and were perpetuated by both white and black writers. A difficult task to accomplish, none achieved this with as much realism and honesty as the African American women writers have been able to do.

Working towards this "new utopia", to borrow from Jerry H. Bryant, Toni Morrison is one among those who have rejected the myth of the inferior and stereotypical black male. She, in her endeavour, has portrayed male characters that have succeeded in exploding the myth of a Negro man and there were others who remained locked in those myths. The myths were exploded by evoking tales and the history of an African past. Male characters like Milkman (*Song of Solomon*), Son (*Tar Baby*), Paul D and Stamp Paid (*Beloved*) have been portrayed in different shades to break through the myth of a Negro man while the character of Cholly Breedlove (*The Bluest Eye*) draws sympathy as he tries to overcome the situation but fails in his attempt.

Toni Morrison considers fiction as an indispensable medium through which people structure knowledge based on different myths. From the myth of flying Africans in the *Song of Solomon* to the Brer' Rabbit's tale in *Tar Baby*, Morrison endeavors to "explain why things are the way they are, why the world is as it is and why things happen the way they do" (230). She draws on the repertoire of myths from different walks of life like Classical, Christian and African traditions to illustrate the reality of African American experience, but most importantly, she draws on myths generated by white society to subjugate blacks. Being a woman and an African American helps her to understand the predicament of black males in a white dominant society.

The novel, *The Bluest Eye*, explodes two kinds of myths with the help of Cholly's character. Firstly, there is the explosion of the myth of the middle-class American Dream which is the basis of every American family. The second is the myth of the "big and strong" father-figure of the Dick-and-Jane primer. Cholly Breedlove, father of Sammy and Pecola, is a contrast to the "big and strong" father of the Dick-and-Jane text. Unlike the father in the Dick-and-Jane primer, Cholly is "poor and black... whose ugliness (the result of despair, dissipation, and violence directed toward petty things and weak people) was behavior" (34). Instead of bearing the responsibility of his family, Cholly is an extra burden on his family. He is the inverse of the father-figure of the Dick-and-Jane primer. Cholly's life is a testament filled with alienation, humiliation and oppression. He internalizes the oppression and develops a feeling of distaste for his black self and "hatred" for black women due to a childhood incident where he was compelled to continue his first sexual rite by two white intruders. The incident mocked his masculinity for the rest of his life. However, despite the trauma of the childhood love-making incident, he married Pauline in a "God-like state" (126) in an effort to reconstruct his notion of black masculinity. He finds himself frustrated and embittered by the socio-economic forces of the society in Ohio again. He neither proved to be the dependable romantic hero to Pauline, his wife, nor a "big and strong"

father to his children. To cope with his frustration, he took refuge in drinking. The socio-economic forces of a dominant society created a vacuum in their psyche which is why they were not able connect their thoughts with their feelings. In the case of Cholly it was expressed in the moment of utter confusion between “tenderness and violence” when he raped his own daughter. In a “confused mixture” (127) of tenderness and hatred Cholly embraces and rejects Pecola at the same time. “*The confused mixture of his memories of Pauline and the doing of a wild and forbidden thing excited him...Surrounding all of this lust was a border of politeness*” (128).

David Ron, a famous writer and critic, suggested that critics have treated the rape of Pecola by her own father as “an oversized event” (56). He said that “the rape diverted attention away from the gruesome truth at the center of *The Bluest Eye*: white society’s campaign to impose its one standard of beauty on everyone, including people of color, carried to its logical conclusion, ends up as Pecola’s self-hate. That self-hate doesn’t need an “extra” event like rape; it comes to fruition all by its ugly self” (56). But Morrison refutes this criticism by saying that “...bestial treatment of human beings never produces a race of beasts” (48). Although Cholly Breedlove, father of Pecola and her child, acted inversely against the myth of “big and strong” father of Dick-and-Jane primer, Morrison explains the predicament of black men with deep sympathy and understanding. Morrison calls the rape an act of violence on the “border of politeness” (128).

Song of Solomon, Morrison’s second novel, is also based on myths. Apart from being “*the archetypal search for self and transcendence*” of its male protagonist, the novel is supposed to be drawn on the African myth about men who could fly. Morrison’s flying characters were not associated with the classical Greek figures Daedalus and Icarus who attempted to free themselves with wings and candle wax, respectively. She said in one of her interviews that *Song of Solomon* was solely based on the story of flying Africans. The novel is based on the African American Gullah’s myth of flying Africans. According to the myth, Milkman Dead’s great grandfather, Solomon, was a part of a flying African tribe. In a forceful rejection of oppressive slavery, he rose one day from a field he was working in and flew back to Africa, their homeland. Morrison explains this particular myth in the novel, proclaiming that the ability to fly to freedom was a gift which manifested itself in the dive which Milkman Dead takes into his past. She was keen to underpin the idea of her novel on the specific myth of flying Africans with the help of a four-lined groit sung in the memory of Solomon. Thus, the Gullah Tale becomes a metaphor for the protagonist’s quest for identity as opposed to the myth of a Negro in America.

The male protagonist, Milkman Dead, enchanted with the stories of his own great grandfather, plunges deep into the history of his past to attain maturity and a sense of identity and results in a radical metamorphosis towards his self-discovery. Here Morrison underpins the traditional heroic quest of Milkman to promote communal responsibility and respect for one’s cultural heritage within the social milieu. He learns the meaning and significance of flying by the end of the novel and emerges as a hero by the end of the novel, exploding the image of mythologized black men. Morrison portrays Milkman to explode the myth of the “angry, violent, and impotent”

black man and his final attainment of spiritual transcendence is what W.E.B. Du Bois calls "self-conscious manhood: [the merging of] his double self into a better and truer self". Here this double self is the presence of "two warring ideals" of past and present "in one dark body", which is representative of Milkman's knowledge of his past history and the "total commitment of his moral resurrection.

The story can be read in two parts. The first part of the novel is set in the North when Milkman's life was moved indifferently, committed to nothing in his life. He worked for his landlord father, Macon Dead IV, during the day and partied every night, with almost no enthusiasm. But the second half of the novel takes us back to the South where Milkman's journey into the past makes him conscious of his culture and his family. Morrison explodes the myth of 'The American Dream' which is like an arch of knowledge for an average black male whose horizon keeps receding when the hero reaches close to it. Ulysses in the legend is analogous to Milkman in *Song of Solomon* and like a mythical hero, Milkman attains spiritual transcendence by the end of his journey. Apart from Milkman, Macon Dead II (Milkman's father), Guitar Bains and even his great grandfather (Solomon) are representations of black male characters who lacked comprehensibility of their roles in the family.

In *Tar Baby*, Morrison shows the predicament of a black male in a contemporary context. This fourth novel is based on the popular stories about Briar Rabbit and Briar Bear which originated in West Africa and were written by Joel Chandler Harris. The novel has a tar baby called Jadine Childs, who is used by a white man to catch a briar rabbit called Son. The protagonist, Son alias William Green, is a fugitive and was hidden in Margret's wardrobe located on the mythic island, Isle Des Chevaliers. Son is portrayed as the mythical free-riding horse-men of the island. Son met Jadine Childs alias Jade, "an educated nitwit" (267) and fell in love with her. The ill-fated love story of Son and Jadine met a trajectory end due to the socio-economic forces of the racist society. He admitted to Jade, "*the whole business of being black and men at the same time too difficult*" (127). Enamored by Jade, Son is neither able to accept New York nor is he able to disown his culture and his village, Eloë. Jade's cultural resistance of African heritage and willingness for the "other" culture in a post-modern world is a representation of the displacement which occurred to the people of an oppressive community. Nevertheless Son's identification with the blind horsemen on the island in the end merges with Brer' Rabbit's escape from Brer Fox's trap. In the concluding scene, Son's choice against "becoming a tool of the ruling class" leads to the explosion of the myth of white supremacy. Morrison attempts to impart a meaning to Son's cultural resistance by the use of myths and fables. Like an evolutionary movement, Son "*walked steadier, now steadier. The mist lifted and the trees stepped back a bit as if to make a way easier for a certain kind of man*" (306). It is notable that if the novel's beginning suggested escape of a fugitive by jumping on a ship, the ending clearly identified him as a mythical horseman on the island. The novel portrayed a white man's relationship with his black servants, which is analogous to the relationship between the master and his slave during slavery. But the arrival of a new member in the L'Arbe de La Croix mansion changes the dynamics of the prevalent master-

servant relationships in the house. The myth of white superiority is exploded when Son arrives and enters into the house and things start falling apart.

Morrison had used the metaphor of flight in this novel also as it was used in *Song of Solomon*. Both Milkman of the previous novel and Son are involved in the same kind of self-discovery and self-knowledge. But only one point of difference exists, that Milkman attains spiritual transcendence by the end of his journey while Son was rendered confused standing at “*the cross-road of culture*”, to use the words of Ngugi Wa Thiong’o. The phrase states the cultural resistance which the people of an oppressed community faced when they were transported to a place where they were not accepted and were themselves uncomfortable for leaving behind their culture. Son’s journey into the jungle in the end can be interpreted as a step towards African culture and history. It sounds similar to an often used phrase, “*in the end lies the beginning*” because the end is the beginning of a journey into the past and signifies the return to roots. However this is just one side of the picture because the other side portrayed Son as a mythical man who moved into the darkness of his past. According to Gurleen Grewal “*Just as Milkman Dead’s flying leap is a metaphor for his emergent consciousness, Son’s running lickety-split on the terrain of the blind horsemen may be read as a metaphor of pre-emergence, of a nascent form of cultural resistance*” (94). The maturity with which Morrison portrayed the character of the black male in the novel is interesting. It works as an eye opener for many critics who judge black males otherwise. From Cholly Breedlove (*The Bluest Eye*), Milkman (*Song of Solomon*) to Son (*Tar Baby*), Morrison had talked about the predicament of black men in a racist world. *Song of Solomon* and *Tar baby* are important novels because they have black male characters as the centre of their narratives. Morrison had ripped open her heart to explain the predicament of black men in America to the readers.

Morrison’s fifth novel, *Beloved*, explored the survival of African American people during slavery. The story is based on a real life experience of a black woman which Morrison and her co-writer, Spike Harris, came across while gathering material for *The Black Book* in an article ‘*A visit to the Slave Mother who killed her child*’. The story was drawn from the real life experience of a black slave mother, Margaret Garner, who escaped from a plantation of Kentucky to a town of Cincinnati, Ohio with her four children.

Beloved does not use myths as a “*replication of ancient patterns to become the reconstruction of collective history*” (126) but introduces a fresh perspective in understanding different myths. Thus “History as lived” becomes a re-memory for African American women writers as a “lived memory” of the fateful ordeal of black people. It becomes a social stigma which they have shared with male counterparts and becomes a source of “inspiration and reconciliation” for them (126). Morrison uses two ambassadors of slavery to represent the pain and horrors of slavery—Paul D and Sethe. Paul D’s suffering were enclosed in a “tobacco tin” while Sethe’s sufferings were inscribed on her back. It became a cryptic text for everyone to interpret. Paul D emerges as a “collector and synthesizer” of past memories as opposed to the myth of the violent, angry and aggressive black man. He possessed the image of Uncle Tom with whom every woman shared her pain and shame. Morrison portrayed an animal, a rooster named Mister, as the symbol of freedom and as the metaphor of black masculinity.

Morrison explained that even an animal like the rooster in slavery has freedom to move around and control his life unlike a black male. The image of a free rooster persisted in the psyche of Paul D to torture him for the rest of his life. Morrison compares the identity of a human being and an animal to bring out the contrast between the two. The rooster was able to exercise full expression of his manhood within the limit of his animal nature while Paul D and his slave brothers were not granted freedom in slavery. In a poignant scene, Mister looked at Paul D who wore iron-bit in his mouth and this portrayed the measure to which the black men were devalued in slavery. Paul D wondered, "Mister, he looked so ...Free. Better than me. Stronger, tougher. Son of a bitch couldn't even get out the shell by himself but he was still king and I was... something else and that something was less than a chicken sitting in the sun on a tub" (72).

Thus these novels are an attempt towards the conception of a new image of black males by hatching the stereotype with the help of myths. This process of writing is called journeying towards their own ancestral nest, an abode of African culture and heritage. Morrison stands in the forefront of contemporary African American women writers who are consciously creating new myths and treating old ones to portray black males beyond stereotypical images created by both white and black social scientists. Male characters like Cholly Breedlove, Milkman, Guitar Bains, Son, Paul D remain jeopardized in a white-dominant world. They try to carve a niche for themselves within the African American morass but only a few among them succeed.

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The Evolution of Anti-Corruption Discourse and Neo-Liberal Concept of Corruption in India

Prem Chandra¹

Abstract—*There are number of propositions about corruption in India. It seemed that anti-corruption discourse is in fact inextricably mired in the murky world of political struggle. There should be multi-dimensional effort in the better form to eradicate the very dangerous cancer of corruption. The embezzlement of public property by public authorities is a very common corrupt practice in the system of governance in India. Corruption is generally understood as anti social, illegal or dishonest behavior by an individual or social group who are in authority. It confers unjust or fraudulent benefits on its perpetrators. It is inconsistent with the established legal norms and prescribed moral values of the land and is likely to subvert or diminish the capacity of the legitimate authorities for providing full material and spiritual well being to all members of society in a just and equitable manner.*

Keywords: *Corruption, Exploitation, Humanity, Agitation, Liberalization.*

INTRODUCTION

The public perception about corruption in independent India starts with the J.P. Narayan's movement in Bihar. Initially, it was a student agitation or movement against alleged misrule and corruption in the state of Bihar. Soon it was developed into a movement under J.P. Narayan's leadership against then Indira Gandhi's government at the centre. In the 1950's J.P.Narayan was more impressed and attracted with the teachings of Vinoba Bhave's and his Sarvodaya Movement. Vinoba Bhave has advocated the Gandhian vision of rural-based small society, self-sufficient, village republics where political power was to be decentralized (Matthew Jenkins 2014: 43). J P Narayan termed it as 'total revolution' in the economic, social and political spheres of the country and ultimately it will lead for withering away of the state mechanism (Vasant Nargolkar 1975: 59). Pertinent to corruption, J.P. Narayan viewed it as an abhorrent moral evil which with all its greed and selfishness, only sustains the unjust and unequal social order and necessarily works as denial of humanity (J.P.Narayan1957: 31). Further, corruption in governance is a major cause for promoting injustice, exploitation and inequality in the society. Therefore, a moral battle is required against corruption for the meaningful revival and regeneration of Indian society from this abhorrent social evil. Indeed, he viewed the capitalist system

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itself as corrupt and argued that wealth cannot be amassed except by exploitation. By the 1970's he was convinced that capitalist mechanisms has already infected to those who are at the top lair of bureaucracy and politics of the country and the roots of corruption have gripped to post independent Indian society like hydra. He viewed that the inevitable consequence of motives of profit and personal success was that relief funds and foods are misused, controls fails, black market flourishes, black money economy prospers without any check, legislators defect and change their parties for a price. He expressed the view that if village committees would have assumed the power, the evil of corruption amongst the traders, merchants, government officers and the rest could have been tackled effectively. Hoarding, profiteering and smuggling would have become almost impossible for anyone in India.

Thus, he advanced a view for an incorruptible and pure Gandhian order among the Indian elite. According to him only total revolution can reverse the corrupting influence of a small class that played at politics. As early as 1956 at a public rally in Puri, Narayan called on every listener to leave every other activity and function and jump into this great task of bringing about a non-violent revolution in the society. We have to cause everyone for realizing that an economic revolution is going to take place. Despites his great efforts in this regard, his failure to muster the requisite number of Sarvodayans, he had turned his hand to other tasks such as peace missions in Nagaland, drought relief work and touring foreign countries but he never gave up his hope for his total revolution. In 1974, when an opportunity come itself before J P Narayan in the form of mass anti-corruption movement and agitation from the state of Gujarat and Bihar, he taken the chance without any hesitation and leapt into agitation without any hiccup. He told supporters that the people had waited for radical social transformation for 27 long years. This agitation from Bihar and Gujrat against corruption and misrule was a beginning only ((Matthew Jenkins 2014: 43). As early as September 1973, Narayan had begun to ignite the restless student for testing their readiness for radical political change and action (John R wood 1975). In April 1974, it resulted for getting fruits when students asked Narayan to lead their movement. Now, he had gotten a cadre of devoted followers to implement his concept of total revolution. In anticipation of broader political action, students were required to do Sarvodayans work and educate the wider public about Narayan's aims and objects. His anti-corruption credentials nevertheless remained the most successful means for persuading people to join his movement and recognizing it, he was careful to stress that his movement was a peaceful struggle for ending corruption in high places. In depicting capitalists as hoarder and the state as corrupt, Narayan had found a populist vocabulary which suited well for his purpose. On 21 March, 1974, in a speech, he demanded that the government remove corrupt ministers and

officers, improve the administration, deal firmly with the black marketers, hoarders and profiteers and take immediate steps to give relief to the hungry. The support that Narayan was able to mobilize in the 1970's was probably more to do with the political and economic concept than Narayan demagoguery. By the 1970's, some of the failings of Nehruvian development model, which still was continued by his daughter in the guise for removing poverty campaign was apparent. On top of the costly war with Pakistan and succession of droughts and shortage of goods, the government failed to reduce the impact of rising prices and unemployment (John R wood 1975). By 1974, the situation in Bihar was explosive. Social and economic underdevelopment, population pressures and underemployment in the state led for growing hostility towards politicians generally for their self-serving and mismanagement. A typical contemporary view was that the inefficient, inept and corrupt Bihar administration failed to give any relief to the poverty stricken mass or unable to control the rein of unscrupulous industrialists, traders and merchants for profiteering. At time of scarcity, due to enlarged public perception and suspicion about corruption in high places, Narayan was able to garner the huge mass of supporters for his own agenda. Shortly before the declaration of the emergency, Narayan announced that people wanted a clean and good administration while since 1971, our country has been witnessing only for galloping corruption. The primary aim of the movement was to usher a total change in the cultural, political, educational, economic and ethical spheres of life. Narayan's allegation of rampant corruption at the top was viewed in the light of his desire to win support for his project of total revolution.

RAJIV GANDHI AND ERA OF LIBERALIZATION

In the history of independent India, after J.P. Narayan's revolutionary thoughts and movements against Corruption as discussed above, it seems that the ex Prime Minister Mr. Rajiv Gandhi was supporter of the liberal school of thought against corruption. Former Prime Minister Rajiv Gandhi recognized the discursive power of corruption. He himself embodied the liberal school of thought which was to pinch into the problem of corruption and to make India strong against corruption. He was pro-western in manner and technocratic in style (David B.H. Denoon 1998). In 1985, he openly declared his intention to introduce new liberalized economic policies for getting and strengthening the role of private sector and by liberalization of economy he wanted to reduce the import quotas, tariffs and corporate taxes (Chanchal Kumar Sharma 2011). Thus, under his prime minister ship he began to circulate the arguments for launching market friendly policies and scheme in mainstream of the country, but soon it caught up stiff opposition (Sudipta Kaviraj 2010). Both, J.P. Narayan and Mr. Rajiv Gandhi had used a particular narrative about corruption to advance their political

objectives. J.P. Narayan had tried to use allegations of corruption to derecognize both the existence of state and capitalism, while Mr. Gandhi was trying to justify his agenda for liberalizing Indian economy. In order to gain credibility for himself and his liberalization programme, he had tried to overcome the problem of corruption which was perceived as pervasive at the highest levels of government. He, therefore, worked hard in the first few months of his prime minister ship to construct an image of himself as a model of probity and tried for sidelining former minister like Antulay who was widely suspected to be involved in corrupt practices. Thus, he was able to use his initial reputation as Mr. Clean to great effect, depicting himself as a new leader who was uncorrupted by the system and would able to bring a new era of prosperity in India. He also made an attempt to shift the blame of corruption away from politician to other groups of system. To win support for deregulation, Mr. Rajeev Gandhi pointed out the finger for the problem of corruption squarely at the bureaucracy of India and argued that the massive corruption at bottom is the real problem of India. It was argued that corruption in permit-license-quota raj was an inevitable consequence of over regulated economy of India. It was not due to individual's lack of morality and greed. This was also represented by a growing consensus of elites by which it was concluded that the state-centered development paradigm is highly responsible for inefficiency, waste and corruption. The elites of India were increasingly looking toward the fast developing countries and they were comparing to them favorably with the slow growth of India (Arvind Panagariya 2008). As a nation India was being criticised for its dull and slower Hindu growth rate. Mr. Rajeev Gandhi had begun to make efforts for winning the support of small scale businessmen, who complained most bitterly for leading extortionate practices and corruption within the country. Once in power, he was quick to assure the business community that he would help them grow faster by scrapping what he called for irritating inspector raj and annoying the small-scale sector. After that within two years, Mr. Gandhi's liberalization programme was hit very badly by political allegation of corruption which damaged his personal credibility and his programme and policies for liberalizing Indian economy also. In 1987 it was came into light that Congress party officials, including Mr. Gandhi himself had received kick backs for awarding arms contracts to the Swedish firm bofors. This was hitting very badly upon positive public image of Mr. Gandhi. By 1998 three out of five Indians were convinced that Gandhi was personally corrupt. The delighted Bharatiya Janata Party claimed Gandhi's assiduous attempt to construct a clean image had been shattered. The scandals have shaken the confidence of the people in Mr. Gandhi's integrity and his government. As one journalist noted, the liberalization project had gone into a coma ever since Mr. Rajiv Gandhi got into political troubles. It made the situations very worse because these allegations of corruption at the

highest level coincided with a period of high inflation which was affecting the poor very badly. Gandhi's liberalization programme came to be seen as placing profits above social obligations and neglecting traditional emphasis on alleviating poverty (Rajani Kothari 1986). The media noted that disillusionment is growing as it became apparent that the new policy has reinforced dualism in the industry, promoting goods of elite consumption at the expense of mass consumption products (Praful Bidwai 1988: 8). During the 1989 general elections, the new coalition of National Front and main political opposition of the Congress party was able to represent before people of India that the Congress government under the leadership of Mr. Rajeev Gandhi had been acted as self-serving, corrupt and neglectful toward poorest people of the country (Akhil Gupta 2012:94). Even V. P. Singh was agreeing with deregulation but as the convener of the National Front coalition government, he stepped down from liberalization of economy. The election of 1989 proved that support for socialism and the accompanying distrust of crony capitalism has not yet been discursively defeated.

LIBERALIZATION OF ECONOMY AND CORRUPTION

In spite of temporary hiccups, the full blooded liberalization began in India within the space of two years. Though, it was the results of external global events such as the end of cold war and the financial crisis in India. Some scholar had argued that these events alone were not sufficient to create the political support for continued the liberalization. They contend that the new middle classes were instrumental in creating a vocal lobby in favour of market oriented economic reforms. A group of leading Indian industrialists was proponents of full liberalization of economy. The educated middle class also recognized very quickly and played very critical role to influence the opinion of full liberalization in the country (Hannan Ezekiel 1994: 14). Under Gandhi's limited programme of liberalization these groups had started to demand access the luxurious international goods which only deregulation could have provide (Prabhat Patnaik 1985). Moreover, in 1989 the Mandal Commission Report was implemented which provided reservation in public office for the lower castes and thereby increased competition for the higher caste and urban middle classes who were traditionally dominating the bureaucracy. Consequently, middle classes became more amenable to liberalization as they expected new opportunities for wealth creation in an enlarged private sector. Exposure amongst the educated Indians helped to propagate that corruption can be overcome by privatization in economy. Thus, the middle classes had higher expectations from liberalization. It was seen as a panacea for increasing their income and reducing corruption. These expectations were reinforced by assurance given from top. The then Finance Minister Manmohan Singh argued that

liberalization by its nature works against corruption (Narendar Pani 1996:16). He assured that liberalization will boost the moral revival of Indian society. Deregulation and liberalization, if pursued diligently and honestly, will remove all distortions and corrupt activities from society (Sanjaya Baru 1995: 14). The World Bank's World Development Report, 1997 asserted that the policies that lower controls on foreign trade, remove entry barriers to private industry, and privatize state firms in a way that ensures competition will all support the fight against corruption. If the state has no authority to restrict exports or to license businesses, there will be no opportunities to pay bribes in those areas. If price controls are lifted, market prices will reflect scarcity values, not the payment of bribes (World Bank 1997: 105). If subsidy program is eliminated any bribes that accompanied it will disappear but unfortunately it did not happen. Despite of minimizing the problem of corruption, deregulation liberalization of economy has provided the fertile ground for mega scandal in India.

DEVELOPMENT POLICIES AND CORRUPTION

It was argued that liberalization would finally fulfill the Nehruvian vision of eradicating poverty. Industrialists were of the view that the removal of the restrictions and controls, reduction of the role of the public sector and the opening of the economy will eliminate poverty. All of these will produce a rapid growth of employment and income. Subsidies and subsidized employment will not be necessary to eliminate poverty. Academicians began to write about citizens as customers and the state as merely one of the service provider (Samuel Paul & Manubhai Shah 1997: 144). They were arguing that *laissez-faire*, liberalism and privatization meant that the government is not needed for focusing for the welfare of poor. Thus, the traditional developmental duties of the government were hit by those arguing for the sanctity of the markets. It created an environment which sidelined to the concerns of poor. In 1995, a scholar had commented that despite of skyrocketing prices of essential commodities the successive government has turned a blinded eye to public welfare (R.C. Gupta 1995: 14). It is undisputed that in the democratic systems of India, the poor have a very significant proportion of voters and their concerns cannot be completely ignored. Growing out of a concern about why western development efforts had failed? Corruption provides a clear answer to understand the complex problem of the developments failings (James C. Scott 1988). It was started to explain by someone that why the development policies in the free market era were going to be failed. N. Vittal, head of the Central Vigilance Commission in the late 1990 had argued that corruption among lower public officials was the road block to national prosperity. He claimed that corruption restricts access to government

services and thus literally snatches food away from the mouths of the poor (N.Vittal 2003). In 1997, then Prime Minister I. K. Gujral himself claimed that corruption was the primary obstacle to development. These arguments were largely accepted by the educated elite. An intellectual Mohit Sen agreed with the reasoning that if funds allocated for poverty alleviation do not reach the poor as intended, the fault lies not in the strategy of poverty alleviation but the shortcomings have to be traced back to corruption (Mohit Sen 1999:12). The main essence of that reasoning was that the basic policies of the state were correct, but literally corrupted at the stage of implementation. The endorsement of this thinking negated the need for a fundamental interrogation of the appropriateness of neo-liberal policies. Thus, it is clear from above discussion that the liberalization of economy is not a right and only one answer of corruption.

FAILURE OF NEO-LIBERAL DEVELOPMENTAL POLICIES

The neo-liberal narrative of corruption provided a strategic discourse in India. The failure of neo-liberal developmental policies as result of corruption has been used to delegitimize the whole developmental enterprise. It happened due to faithless and corrupt elite class of the country. N. Vittal wrote that corruption makes implementation of the so called pro-poor or pro-tribal programmes totally meaningless if not counter-productive. The urban middle classes, as the primary speakers against corruption were increasingly irritated against what they were witnessing as the greedy politicians were trying to win support from poor and lower caste voters through wasteful and corrupt populist expenditure on development (Partha Chatterjee 2011: 17). The educated Indian elite have also started to criticize the appeasement regime and alleged that it produces inefficiencies in the long run and eventually depletes whatever financial resources are at the disposal of the Central Government. Politicians were held responsible for betrayal to the middle classes as they had been promised that liberalization would end the corruption and license raj (Krishna Kumar 2011: 14). The market economy had failed to get rid of government corruption. This failure was perceived as having little to do with the market and a lot to do with the government. A Times of India survey found that a staggering 98% of people were convinced that all politicians were corrupt, but two-third believed that further economic liberalization will ultimately reduce corruption (K. Balakrishnan and Gouri Chatterjee 1995). The Indian politicians have distorted liberalization to form a plunder raj (C.Rammanohar Reddy 2001). It became a means to express an inchoate rage by the public at the political class, who are believed to have cheated the common man out of full benefits of liberalization.

ANNA HAZARE MOVEMENT AGAINST CORRUPTION

In April, 2011 Anna Hazare launched a fast into death movement against political corruption. It gained more popularity at national and international level too. It was very surprising. Hazare himself had not expected such well ground level support which was emerged in New Delhi. Form a handful of people, the crowd of campaigners became a few thousand within two days of the fast and just a couple of days it became a movement which had been developed in urban centers across the country (V. Krishna Ananth 2011: 22). Suddenly this obscure civil society leader previously considered as inconsequential by the media and political elite was being widely proclaimed as messiah in the making (James Lamont 2011). A highly successful media campaign carefully constructed the image of Anna Hazare as the 21st century Mahatma Gandhi of India (Jaimon Joseph 2011). Hazare claimed that development today is an illusion created by the government and the people are being cheated for believing that development in a real sense is being carried out. More ever, by his anger at the political class, Hazare was also taping the middle class perception that the corrupt political elite had cheated them and plundered the nation by liberalization of Indian economy. Since era of liberalization, the narrative of corruption in India has fundamentally changed. J.P Narayan used the anti-corruption discourse to justify Gandhian socialist vision and called for total revolution. This movement was based around the belief that corruption stemmed from personal greed and it is the root cause of all conflict in the world. Western academicians and policy makers had been arguing for years that corruption in India is an agenda for searching of a movement (Barbara HarrissWhite 1998). In January, 2013 Ashish Nandy made allegations that the most corrupt people come from other backward classes, scheduled caste and scheduled tribes. Another narrative of corruption is that subsidies and reservation are main causes to roadblock the national prosperity of India. Thus, the anti-corruption discourse in India inextricably has been mired in the murky world of political struggle.

MODI MAGIC AGAINST CORRUPTION

Three are, broadly speaking two views on overwhelming victory of Narendra Modi led BJP in general elections of India held in My, 2014. *Firstly*, It was the view of some BJP and Sangh Parivar members (Vir Singhvi 2015:6). According to this view, Mr. Modi led BJP won in general because Hindu majority of India decided and wanted a leader who is proudly and aggressively a Hindu. His victory was the victory of the Hindutva agenda and a manifestation of the desire of India's Hindus to reclaim their country. The second view was that his victory had relatively little to do with aggressive Hindutva. He won a platform of clean and good governance and because he was able

to point out and circulate his vision of development and his development record of Gujarat also. India had tired from the corruption scandals and indecisions marked in the government of UPA II. After having watched to weak-kneed Manmohan Singh throughout in the last three years of his prime minister ship, the electorates of India were shocked and wanted a strong leader, a man who did not fear any one, who did not take orders from party high command and whose words are final.

DEMONETIZATION AND CORRUPTION

On 16 November, 2016 Prime Minister Narendra Modi announced that the notes of Rs 500 and Rs 1000 “will not be legal tender from midnight tonight” and these will be just worthless pieces of paper. Demonetisation was sold as an anti-corruption measure (Mehta, Pratap Bhanu 2019). It was said that it will set India on the path of regeneration. But again, it did not happen. Instead, it produced only a lot of pain to the public. It was more about throwing dust in people’s eyes, while the essential structure of plutocracy remained intact. There is no single focal point action that can alone tackle the problem of corruption. Building anti-corruption institutions that are sensible and fair is a long process. But it is really very difficult to politically mobilise the arduous task of institution building.

FATE OF ANTI-CORRUPTION POLITICS

The anti-corruption discourse and inability of UPA-2 to respond against corruption defeated to UPA-2 in general election of 2014. But unfortunately, the climax of public energy of 2014 has not led to any institutional betterment. The credibility of all institutions like CVC, CBI, judiciary and police became in very worse shape than five years ago of UPA-2. In short, the instruments of anti-corruption politics do not exist. Now the fear to misuse of anti corruptions institutions became high. They are not perceived the institutions of accountability.

CONCLUSION

Since independence from Britain in 1947, India has a comparatively greater degree of state regulation of industrial activities than the western norm. This has involved a combination of direct state ownership of key or strategic industries and legal powers to control and regulates those areas coded to private entrepreneurship. This tightly regulated system inevitably gave rise to a phenomenon known as the *licence permit raj*. This resulted in a triadic relationship of politicians, bureaucrats and big business houses. For decades, the prospects of Indian big business have depended on their

degree of nexus with the politicians and bureaucrats. This nexus between public governance and corporate governance started in major scandals in India. Over the period of time, especially after 1990, the corruption has become more dangerous in India. The most significant factor for promoting corruption is discerning erosion of morals and ethical values in public life. In wake of westernization, industrialization and urbanization the materialism and consumerism has grown at the highest level in India. Obviously, the forces of morality including the Gandhian principles of ethical life have become more superficial. These principles are not able to penetrate into the psyche of Indian and influence their conduct in personal and occupational life. Lust for wealth and power has become instrumental in corrupting public life.

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Impact of Technology Transfer by Krishi Vigyan Kendras (KVKs): A Farmer's Perspective

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Abstract—Availability of sustainable technology and its adoption assumes a core place in agriculture development across the globe. Hence, access to new and improved technology becomes essential. According to the situation assessment survey of farmers conducted by the National Sample Survey Organization in 2005, sixty percent of the farmers did not access any information on modern technology during that year. In dissemination of new and available technology agriculture extension assumes a critical place. KVKs are an integral part of public extension system and provide farmers with the access to information that is relevant to their enterprise. KVKs are such institutions of the extension network of the country who reach the farmers with location-specific technology. With this view, the paper attempts to analyze the impact of knowledge disseminated by KVKs from the beneficiary's perspective.

Keywords: Agriculture, Technology Transfer, Impact, KVKs, Farmers

INTRODUCTION

Agriculture is the largest sector as a source of livelihood in the Indian economy. Almost half of the workforce of the country is dependent on agriculture, however, the earning and returns for the farmers are lower than their counterparts working in the other sectors. Raising agricultural production will help in raising the earning standards of this poorer section of the population. Growth of agriculture sector has been slow. The 11th Five Year Plan (2007–12) witnessed an average annual growth of 3.6 per cent in the gross domestic product (GDP) from agriculture and the allied sector. The shifting emphasis of agriculture towards diversification, commercialization, sustainability and efficiency has made it necessary to be competitive. To make agriculture sector competitive, role of technology in developing the agricultural in India cannot be denied.

At present, there are several challenges in front of the India economy such as technology fatigue, shrinking land base, dwindling water resources, the adverse impact of climate change, emergence of new generation pests, low investment in agricultural research and development, less reach of agriculture technology to farmers, shortage of farm labor, increasing costs and uncertainties associated with volatility in international markets.

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In order to boost the agricultural productivity there is a need to increase financial allocation for this sector where new techniques of farming suitable to the regional requirements may be developed. Plan Allocation for agriculture and allied sectors is very low at present. In the total allocation, share of agriculture sector was 4.4% during 1997–2002; reduced to 3.9% and further to 3.7% during the periods 2002–07 and 2007–2012, respectively. However, it increased to 4.7% during the XII Five Year Plan period. Expenditure incurred on Research and Development (R&D) in agriculture sector is low which is critical to agricultural development and for making the country food and nutritionally secure.

In view of the fast growing population on the one hand and the shrinking agricultural land on the other hand, agricultural technology assumes the paramount significance in agriculture sector in the country. Not only the availability but also knowledge of the farmers about the available technology is a prerequisite for adoption of new technology. Agriculture extension attempts to provide farmers with access to information that is relevant to the enterprise. KVKs are integral institutions of the extension network of the country.

An attempt has been made in this paper to examine the impact and variation in impact of technology transfer by KVKs based on the study conducted during 2015 (NILERD, 2015) in five zones of the country.

The study was conducted in 5 states selected on random basis from 5 regions of the country, viz. North, South, Central, West, East/North East. From each state a sample of 10 KVKs was drawn. From Madhya Pradesh, 12 KVKs and from Arunachal Pradesh only 6 KVKs were selected (No. of KVKs was less in the state). KVKs are managed by various types of managements such as the Indian Council of Agriculture Research, State and Central Universities and also by NGOs. Due care was taken to cover KVKs falling under various types of managements. To assess the impact of KVKs' technology transfer; farmers from each selected KVKs district were surveyed. In all, 1,870 farmers from 48 KVK districts consisting of treatment group as well as comparison group were contacted.

REVIEW OF LITERATURE

Technology innovation is a process in which the problems are identified and the solutions are found and tested, thus the target group adopts a technology (Nina *et al.*, 2004). Innovation is increasingly recognized as a process by which new knowledge is generated, diffused, adapted and used to result in the social and economic change. This process requires interaction and knowledge flows among multiple actors within the Innovation System (Hall *et al.*, 2004; Hall, 2009). An innovation system represents a network of organizations focused on bringing new products, new processes and new forms of organizations into social and economic use, together with institutions and policies that affect their behavior and performance. Communication can play a

major role in supporting the three essential processes relevant to innovation: network building, supporting social learning and dealing with dynamics of power and conflict (Klerkx and Leeuwis, 2008).

When we refer to Agricultural Technology, it includes development and use of nutrients, pest control measures, farm implements and equipment, etc. Technology also includes use of farm management techniques that focus on whole-farm productivity over time.

Agriculture extension can play a major role in this direction. India's five year planning emphasized the role of agricultural extension services in increasing agricultural growth and emphasized the need for strengthening the agricultural extension in the country to reach out to the farming community.

There is a need to also emphasize upon the notion that responsibility of agricultural research organizations does not end with the production of new technology or knowledge only. Success can only be claimed when inventions are being disseminated, adopted, and used (Chema, Gilbert, and Roseboom 2001).

Gain Threshold, Stone and Pedigo have argued that the concept of Best Management Practices will continue to be a key focus, regardless of the current state of technological offerings. Strategies, such as Integrated Pest Management (IPM) consider the site-specific circumstances, but also the values and business considerations of the agricultural producers. IPM has been essential in describing the role and rationale for responsibly managing pests, pointing scientists and practitioners alike to identify future needs in biological information, and placing pest control in perspective with production goals. (Gain Threshold, Stone and Pedigo, 1972).

Capacity of the agricultural sector to meet demand partially depends on the availability and adoption of new technology. A large number of institutions in the field of agriculture and allied sectors are contributing to research for developing high yielding crops, technological innovations and various other initiatives to boost production. The available technology has to suit the regional requirements such as nature of its soil, climate, culture and needs and resources available with the farmers, available human resources, etc. Variations in knowledge and technological percolation have been observed.

The situation assessment survey of farmers conducted during the 59th round of the National Sample Survey (NSSO, 2005) provided valuable insights into the reach of extension services across India. The data revealed that 60 percent of farmer households did not access any information on modern technology during that year. The farmers who could access the information, the source of information were progressive farmers and the input dealers. Broadcast media also played an important role in disseminating the information. Broadcast media included radio, television and newspapers. The public sector extension worker was a source of information for only 5.7% of the farmers and the Krishi Vigyan Kendra (KVK) accounted as an extension

source for only 0.7% of the sample farmers. Private and NGO extension services were accessed by only 0.6%.

The literature argues that technology is critical for agriculture development but access to technology is low amongst the farmers in the country.

With agriculture becoming more and more knowledge driven, it is necessary to reach the farmers with technologies which are location-specific, easy to adopt, socially compatible, and economically viable. The dissemination of agricultural information improves the farm income. Therefore, it is only through a well structured science based institution that the country can look forward to achieving food and nutritional security.

Agricultural extension in the post-Independence era was largely the function of State Departments of Agriculture. Some voluntary organizations were also involved with limited outreach. The Indian Council of Agricultural Research (ICAR) began its participation in agricultural extension through National Demonstrations in 1964.

Considering many of the challenges in improving extension in India, the Working Group on Agricultural Extension constituted by the Planning Commission for the XIIth Plan (2012–17) has overwhelmingly supported the idea of a National Mission on Agricultural Extension, with substantial increase in resources.

KRISHI VIGYAN KENDRAS AND THEIR ROLE

In 1974, a major change in public sector extension was witnessed with the implementation of the World Bank sponsored Training and Visit System (T&V). The emphasis was on the role of extension in technology transfer to encourage utilization of research results. Seventies also witnessed the launch of Krishi Vigyan Kendras (KVKs) or Farm Science Centres, Lab-to-Land programmes, and Operational Research Programmes by the Indian Council of Agricultural Research (ICAR). KVKs were established with the aim to provide need-based and skill-oriented vocational training to farmers, field-level extension workers and other self-employed persons. KVKs were meant to bridge the gap between technology developed at research institutions and its adoption at the field level. Their role was to feed proven technologies to the main extension system. KVKs have played vibrant role in implementing the Central Government's newer initiatives like soil-health card, block demonstration for pulses and oilseeds, Sankalp se Siddhi, etc.

In effective dissemination of new agricultural technology among the farmers, KVKs play a crucial role. These Institutes perform diverse activities such as (i) On-farm Trials (OFT), (ii) Front-line Demonstrations (FLD), (iii) Vocational training of farmers including women farmers and rural youth and (iv) In-service training of Agriculture personnel of State Departments in cutting edge technology and extension models, etc.

Table 1: State-wise Distribution of KVKs in India

Sl. No.	States	Total KVKs	ATARI/ ZONE
1.	Himachal Pradesh	13	Zone I Ludhiana Total KVK 69
2.	Jammu Kashmir	21	
3.	Punjab	22	
4.	Uttarakhand	13	
5.	Delhi	01	Zone II Jodhpur Total KVKs 63
6.	Haryana	18	
7.	Rajasthan	44	Zone III Kanpur KVK- 75
8.	Uttar Pradesh	75	Zone IV-Patna Total KVKs - 63
9.	Bihar	39	
10.	Jharkhand	24	Zone II Kolkata Total KVKs 59
11.	Andaman N. Islands	03	
12.	Odisha	33	
13.	West Bengal	23	Zone VI Guwahati Total KVKs 46
14.	Assam	26	
15.	Arunachal Pradesh	16	
16.	Sikkim	04	
17.	Manipur	10	Zone VII Barapani Total KVKs 43
18.	Meghalaya	07	
19.	Mizoram	08	
20.	Nagaland	11	
21.	Tripura	07	Zone VIII Pune Total KVKs 79
22.	Goa	02	
23.	Gujarat	30	
24.	Maharashtra	47	Zone IX - Jabalpur Total KVKs 77
25.	Chhattisgarh	25	
26.	Madhya Pradesh	52	Zone X Hyderabad Total KVKs 73
27.	Andhra Pradesh	24	
28.	Puducherry	03	
29.	Tamil Nadu	30	
30.	Telangana	16	Zone XI Bengaluru Total KVKs 48
31.	Karnataka	33	
32.	Kerala	14	
33.	Lakshadweep	01	
National Level		695	11 Zones

Source: Agricultural Extension Division, ICAR, New Delhi

KVKs are pioneers in transferring the new technology of farming to the farmers. The system has been created by the Indian Council of Agriculture Research (ICAR) in all the rural districts of the country. KVKs demonstrate the latest agricultural technologies to the farmers as well as extension workers of the State Departments of Agriculture/ Horticulture/ Fishery/ Animal Science/NGOs with a view to reduce the time lag between the technology generation and its adoption. These Institutes test and verify the technologies under the socio-economic conditions of the farmers keeping in view the production constraints, and to modify the technologies to make them suitable. KVKs also impart training to the practicing farmers/farm women, rural youth and field level extension functionaries. These institutes also provide back up with training and communication supports to the district level development departments, viz. Agriculture/Horticulture/Fisheries/Animal science and NGOs in their extension programmes. KVKs are managed by 11 Agriculture Technology Application Institutes (ATARIs) located in various parts of the country. Table 1 below provides the State and ATARI wise details of the number of KVKs in the country at present. At the time of the study there were 642 KVKs across the country, the number has increased to 695 at present.

EMPIRICAL ASSESSMENT OF KVKs ROLES IN DISSEMINATION OF TECHNOLOGY FARMERS COVERED

The table 2 below provides the detail of coverage of farmers in five states. Except in Arunachal Pradesh, in other states coverage of farmers in the study was almost balanced.

Table 2: Percentage Distributions of Farmers by State and Gender

States	Male	Female	Total
Madhya Pradesh	487 (90.52)	51 (09.48)	538
Maharashtra	364 (90.32)	39 (09.68)	403
Rajasthan	367 (89.08)	45 (10.92)	412
Tamil Nadu	426 (89.59)	66 (13.41)	495
Arunachal Pradesh	11 (44.00)	15 (56.00)	26

Source: KVKs' Impact on Dissemination of Improved Practices and Technologies, NILERD Report, December (2015)

The Indian agriculture is essentially based on the small farm agriculture with the majority of farmers owning less than 1 ha of land. Small and marginal farmers now constitute over 80 percent of farming households in India. The average farm size has been declining. *“The slow growth of opportunities in the non-farm employment sector has led to the proliferation of tiny and economically non-viable holdings” (NCF, 2006)*. Table 3 depicts the distribution of Farmers by size of land holdings covered in the study as well as according to the Agriculture Census 2010–11. The maximum proportion of

surveyed farmers fell into the category of land holding size of 1–3 hectares. Almost three-fourths of the farmers covered were small and marginal farmers, which more or less is in line with the pattern revealed in the last Agricultural Census (2010–11)

Table 3: State Wise Distribution of farmers by Land Holding Size

Size of Holdings in hectare	Arunachal Pradesh (% of Farmers)		Madhya Pradesh (% of Farmers)		Maharashtra (% of Farmers)		Rajasthan (% of Farmers)		Tamil Nadu (% of Farmers)	
	Survey data	Agri Census (2010–11)	Survey data	Agri Census (2010–11)	Survey data	Agri Census (2010–11)	Survey data	Agri Census (2010–11)	Survey data	Agri Census (2010–11)
1–3	28.00	67.31	71.38	43.86	64.52	48.97	46.12	36.46	52.44	77.19
4–5	20.00	18.25	16.36	27.60	20.60	29.58	18.69	21.94	17.07	14.44
5–8	32.00	11.16	8.18	18.65	7.44	15.76	15.78	19.38	7.52	6.19
9–10	4.00	3.12	0.93	8.89	1.74	5.19	3.64	16.36	4.67	1.86
More than 10	12.00	0.15	2.23	1.0	0.74	0.50	9.22	5.86	10.77	2.21

Source: NILERD Report, December (2015)

To understand the impact of services of KVKs on farmers and the farming practices, it was felt essential to know first how many of these farmers are aware about KVKs as an institution providing services to KVKs. A state-wise distribution of farmers' knowledge about KVKs is presented in Table 4. In all, 79 percent of the farmers knew about the existence of KVKs. There was not much interstate variation in the knowledge about KVKs except in Madhya Pradesh where only 72 percent of the farmers surveyed informed that they know about these Institutes.

Table 4: State-wise Distribution of Farmers' knowledge about Activities of KVKs

State	% of Farmers with knowledge	%farmers with no Knowledge
Arunachal Pradesh	84	16
Madhya Pradesh	72	28
Maharashtra	85	15
Rajasthan	81	19
Tamil Nadu	82	18
Total	79	21

Source: NILERD Report, December (2015)

As knowledge dissemination by KVKs is done in various ways, an enquiry was also made to know how the farmers got information about new technology transfer by KVKs. Training and demonstration by the KVKs was the main source of this knowledge.

However, it is interesting that about 18 per cent of the farmers had acquired this knowledge from fellow farmers. This knowledge spin-off seems to be stronger in Maharashtra and Tamil Nadu in comparison to the other three States. Barring these rare and interesting deviations, the patterns of acquisition of knowledge about KVK technologies remained fairly uniform across the five States surveyed (Table 5).

Through a study by Rao and Sridhar regarding the Knowledge level of Demo & Non-demo farmers of KVK on Paddy cultivation, it was observed that 97.33% of KVK demo-farmers are having good knowledge of paddy cultivation as compared to the 87% among the non-demo farmers (Rao and Sridhar, 2014).

Table 5: Knowledge about Technology Dissemination by KVKs

State	Percentage Distribution of Farmers with knowledge about KVKs by source of knowledge				
	Training by KVK	Demonstration by KVKs	Fellow farmers Trained at KVK	Other sources	Total
Arunachal Pradesh	47.0	40.0	10.0	3.0	100.0
Madhya Pradesh	48.0	36.0	12.0	4.0	100.0
Maharashtra	48.0	35.0	15.0	2.0	100.0
Rajasthan	39.0	34.0	22.0	5.0	100.0
Tamil Nadu	42.0	34.0	21.0	3.0	100.0
Total	44.0	35.0	18.0	3.0	100.0

Source: NILERD Report, December (2015)

As the basic aim of technology dissemination is its adoption by the farmers, the study also tried to know whether there had been any change in the farming practices during the last five years after the intervention of KVKs. It was found that 87 per cent of the farmers made some changes such as diversification of crops, cropping pattern, and use of fertilizers and pesticides. Some farmers reported changes in machinery use and in water use pattern (Figure 1).

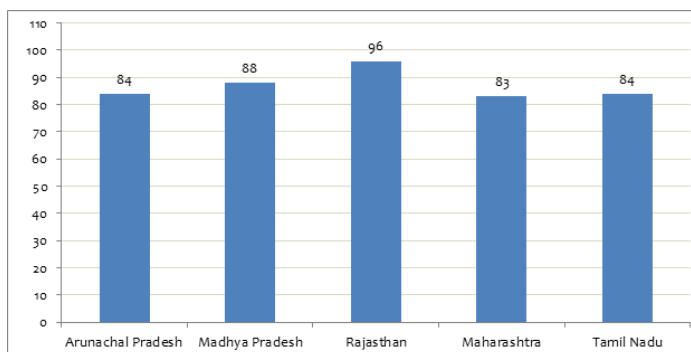


Fig. 1: Percentage of Farmers who made changes in Farming Practices

Source: NILERD Report, December (2015)

When farmers were enquired about the time gap in adoption of new practices after KVKs interventions, it was found that in the state of Arunachal Pradesh 60 percent of the farmers adopted new practices immediately followed by Madhya Pradesh and Tamil Nadu. Percentage of farmers who did not adopt the new knowledge provided by KVKs was highest in Rajasthan (23%). The state-wise responses are presented in Table 6 below. It has been observed that majority of the farmers did not adopt new practices immediately after the intervention in the four states which is in line with the fact that farmers are not willing to take risks. The new practices included diversification of crops, changes in cropping pattern, use of fertilizers and pesticides, etc.

Table 6: State-wise Distribution of Farmers by Adoption of new Technology and Time Gap

Time gap	States				
	Arunachal Pradesh	Madhya Pradesh	Maharashtra	Rajasthan	Tamil Nadu
Immediately	60.0	49.0	32.0	33.0	41.0
In Next Season	16.0	18.0	36.0	26.0	17.0
After seeing impact of others	16.0	6.0	17.0	8.0	22.0
After one Year	4.0	5.0	5.0	6.0	3.0
After long time	0.0	1.0	0.74	4.0	2.0
Did not adopt	4.0	21.0	9.0	23.0	15.0
Total	100.0	100.0	100.0	100.0	100.0

Source: NILERD Report, December (2015)

IMPACT OF KVKs

To know the impact from farmers' perspective, questions such as whether the farmers felt that the services rendered by the KVKs were useful for them, if the services were useful then what types of benefits they derived from the KVKs, etc., were probed in. It was further ascertained whether the contact with KVKs had led to enhanced income and productivity.

Farmers' Satisfaction with KVKs

KVKs are playing a major role in the rural development of India through transfer of technology. There are several categories in the field of agriculture and the allied areas like- Agronomy, Horticulture, Plant Protection, Soil Science, Home Science, Agriculture Engineering, Seed Production, Veterinary and Animal Husbandry, Fisheries, Aquaculture, etc., which the rural people need to be aware of and uplift their skills and generate their livelihood. KVKs are looking into all these domains. The satisfaction of farmers over the service delivery by these institutions is presented in figure 2 below. In all, about 74 per cent of the farmers who were contacted felt that they were satisfied with the services rendered by the KVKs. About 11 per cent

were not satisfied with the services. The remaining farmers did not indicate their perceptions.

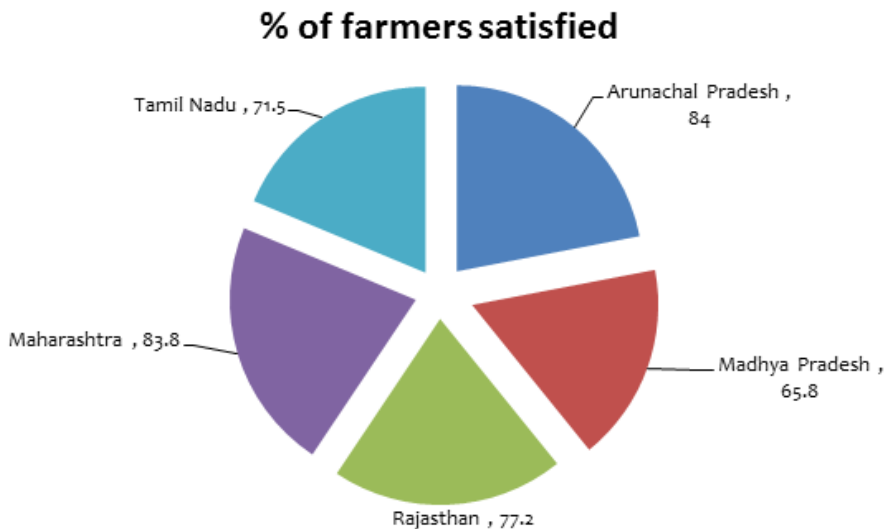


Fig. 2: Percentage of Farmers Satisfied with the Services of KVKs

Source: NILERD Report, December (2015)

During the discussion, the farmers informed that KVKs are informing farmers about IPM which is helping them in raising production. Performance of KVKs varies widely. The effective reach of KVKs in most cases is marginal mainly due to its inadequate staff.

Information need of farmers varies. Technology transfer should be in a complete package that must include soil testing, focus upon new emerging areas like climate change, post-harvest management, marketing, integrated cropping, IPM and non-farm activities, etc., to let farmers have maximum benefit in terms of increased productivity and income.

The study found that out of the 1870 farmers covered by the survey, 1383 reported beneficial impact of interventions by KVKs. The distribution of type of benefits by state is given in figure 3. The type of benefits included increase in production and incomes, better quality of produce, reduction in costs of inputs and other costs, access to self-employment and others. It was observed that amongst all the aspects, the reduction in cost of production was the prominent benefit due to the intervention of KVKs. The table reveals that the technologies adopted have indeed resulted in higher productivity, enhanced income and reduction of drudgery.

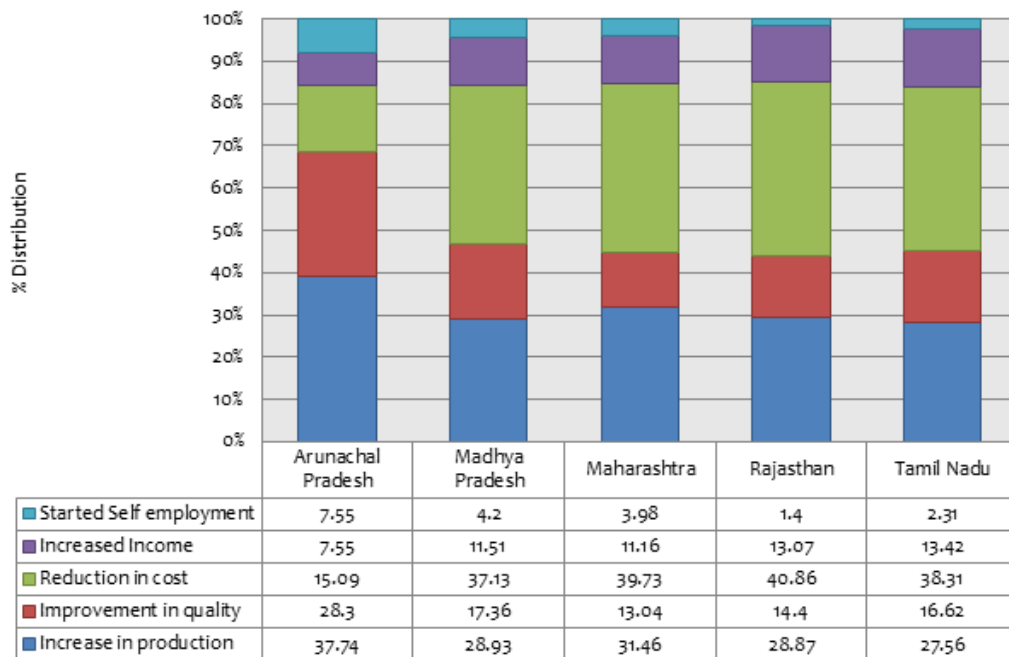


Fig. 3: Distribution of Farmers who have Impact and type of Impact After the Intervention of KVK

Source: IAMR Report, December (2015)

A COMPARISON OF BENEFICIARY AND CONTROL GROUP

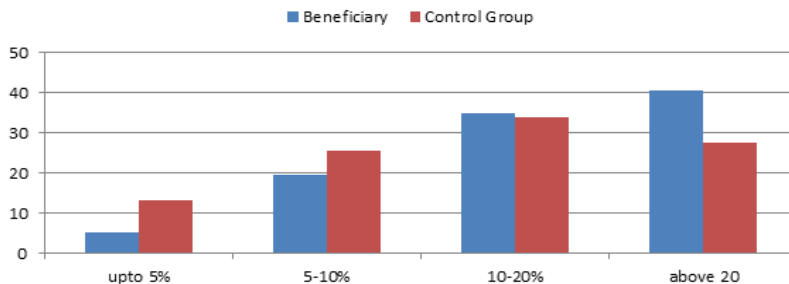
It has been observed that over the time farmers adopted improved practices in the farming to enhance the productivity. Also besides KVKs, there are other agencies including NGOs through which the farmers get to know about new technology. Hence to understand the role of KVKs in adoption of new and improved practices, the study inquired from both comparisons as well as control group of farmers. Table 7 below provides the details of surveyed farmers who changed their farming practices. It was observed that 94 percent of the farmers in the intervention /beneficiary group changed farming practices during the last five years while 63 percent of farmers in the control group changed the farming practices. A state-wise analysis shows that more than 95 percent of the farmers in Arunachal Pradesh made changes in the beneficiary group as against only 25 percent in the control group indicating positive role of KVKs in farming sector in the state. This shows that outreach of KVKs is limited. During the discussion it emerged that poor socio-economic status of farmers and small holdings, non-availability of low cost technologies, lack of forward and backward linkages especially post harvesting management, marketing and value addition, etc., are the factors that hamper technology adoption on the part of the farmers.

Table 7: Percentage of who Changed Farming Practices During the Last Five Years

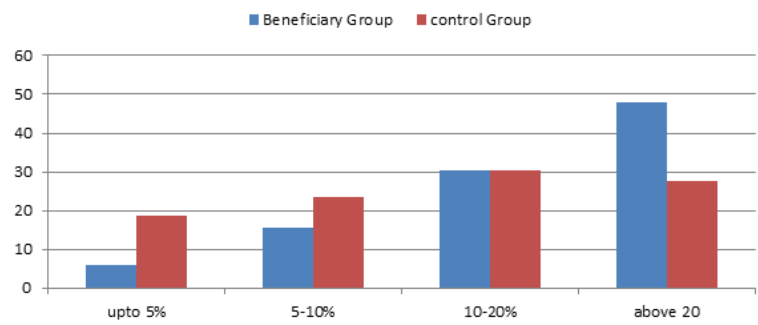
States	% of Beneficiary Group Farmers who Made Changes	% of Control Group Farmers who Made Changes
Arunachal Pradesh	90.5	25.0
Madhya Pradesh	93.2	58.8
Rajasthan	93.0	79.0
Maharashtra	94.0	55.8
Tamil Nadu	94.5	65.6
Total farmers	93.7	62.7

Source: NILERD Report, December (2015)

Out of the 1100 farmers of beneficiary group and 386 farmers of the control group, the study revealed that both production and income have been increased with the technology disseminated by KVKs and its adoption in case of the beneficiary group. Comparison group of farmers lagged behind beneficiary group. Only 27 per cent of the comparison group reported increases of over 20 per cent in both production and income as against the 40 per cent of the beneficiary group (Figures 4 and 5).

**Fig. 4: Changes in Production Beneficiary and Control Groups**

Source: NILERD Report, December (2015)

**Fig. 5: Changes in the Income of Beneficiary and Control Groups**

Source: NILERD Report, December (2015)

When farmers of the non-beneficiary group were asked about the reasons for not contacting KVKs, the majority of the farmers informed that the inconvenient location of the KVKs is one of the main reasons for not accessing their services. Due to lack of transportation facilities and high cost of transportation they are unable to visit KVKs. KVK officials also do not cover all. During the discussion with the farmers it was found that increased income was further invested in gaining better education and securing health for family and procuring better inputs for agriculture; for construction of house, etc. This reflects that KVKs are playing an important role in improving the quality of life of farmers' households.

CONCLUSION

The capacity of the agricultural sector to meet the demands may be enhanced through availability and adoption of new technology. There are several impediments to availability of sustainable technologies. Success of technology may vary with farm structure; regional conditions, willingness to adopt the new practices by farmers and many more. Availability of sustainable technologies may encourage its adoption by farmers.

Rural people need to learn and uplift their skills and generate their livelihood in the areas of Agronomy, Horticulture, Plant Protection, Soil Science, Home Science, Agriculture Engineering, Seed Production, Veterinary and Animal Husbandry, Fisheries, Aquaculture, etc. KVKs are the institutions which are involved in refining and disseminating location specific technologies.

Although farmers require information for the whole food and agriculture value chain, the public extension system largely concentrates on on-farm activities (Glendenning *et al.*, 2010). The study found that about 74 per cent of the farmers who had been contacted were satisfied with the services of the KVKs.

The study found that majority of the farmers adopted new practices after the intervention in the one year except in Arunachal Pradesh.

Several researches have proved that KVKs are the knowledge hubs for farming community in the country, through training programmes, On Farm Trials (OFT), Frontline Demonstrations (FLDs) and extension activities as a mandate are benefiting farmers in improving their knowledge. Performance of KVKs varies widely. The effective reach of KVKs in most cases is marginal mainly due to its inadequate linkages with the other development agencies. Staff shortage, limited operational funding and a narrow mandate has also led to sub-optimal utilization of KVKs hence affecting their outreach.

The paper concludes by underlining that KVKs are playing a crucial role in knowledge dissemination to the farmers as is evident from the fact that larger proportion of farmers in beneficiary group changed their farming practices than the comparison group, showing the influence of KVKs in the farm sector. Not only this, the farmers also attributed 20% or more increase in their income and production to KVKs'

technology transfer. The intervention of KVKs has led to better quality of life for the farming community as most of the increased income was utilized for education, health and housing.

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Goods and Services Tax (GST): Impact on the Indian Economy and How it Differs from other Countries

Jaya Shahi¹

Abstract—*The Introduction of Goods and Services Tax (GST) will be a very noteworthy step in the field of indirect tax reforms in India. Goods and Service Tax is a comprehensive value added tax on goods and service. It is collected on value added at each state of sale and purchase in the supply chain without state boundaries. By merging a large number of Central and State taxes into a single tax, Goods and Service Tax significantly ease double taxation and make taxation overall easy for the industries. For the end customers, it will be most beneficial in the terms of reduction in the overall tax burden for goods and services. Introduction of Goods and Service Tax also makes the Indian products competitive in the domestic and international markets. Because of its transparent character, the Goods and Service Tax will be easier to administer. The proposed taxation system holds great promise in terms of sustaining growth for the Indian Economy. An attempt is made in this paper to study the concept of Goods and Service Tax and its positive and negative impact on Indian industries and Indian economy. The study also aims to compare Goods and Service Tax in India and Goods and Service Tax in other Countries.*

Keywords: *Goods and Service Tax, Economy, Tax, Industries, VAT*

INTRODUCTION

The Indian indirect tax regime is characterized by multiple levies, such as excise duty, custom duty, VAT, Central sales tax, service tax, and including local levies, such as octroi and entry tax. Historically, none of these taxes were credible against one another, barring a part of the Customs duty and excise; over the last few years, service tax has also been brought into the creditable basket. The excise duties, Custom duties and service tax belong to one basket of creditable taxes. VAT, Central sales tax and octroi belong to another basket of entirely non-creditable taxes. For the Central Government to levy certain taxes, and the State Government to levy certain other taxes—this distribution of power was clear and unequivocal. As a result, over the last six decades, both the Central and State Governments have steadfastly worked at refining and expanding their respective tax regimes, but as the saying goes, the twain never met. In fact, until the introduction of VAT recently, even a single regime such as sales tax often entailed multiple levies, since sales tax levied across different states was largely non-creditable.

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By the turn of the century, it was largely recognized that the existing regime of multiple (and largely non-creditable taxes) needed to go. Hence, the Central and State Governments worked at arriving by evolving a new regime; while there were considerable hiccups in the process, States eventually agreed to a gradual overhaul of the indirect tax regime in two significant phases:

- The first being the replacement of the erstwhile sales tax regime with a relatively more uniform VAT regime across many States coupled with the gradual elimination of the Central Sales Tax.
- The second being the eventual merger of all these into an integrated system of Goods and Services Tax (GST). Goods and Services Tax (GST) is the brainchild of Ex-Finance Minister Mr. P. Chidambaram. It is a multi-stage consumption tax imposed on wide range of goods and services.

The Introduction of GST results in the abolition of multiple types of taxes on goods and services. GST will remove cascading effect of taxation and thereby remove distortion in the economy, it enhances manufacturing and distribution efficiency, reduces cost of production of goods and services, increases demand and production of goods and services. As it is neutral to business processes, business models, organization structure, geographic location and product substitutes, it will promote economic efficiency and sustainable long-term economic growth. GST will result in widening the tax base and lead to increased revenue for the Central and State, as it will reduce the administrative cost for the Government. ^[1]

IMPACT OF GOODS AND SERVICES TAX (GST)

GST has simplified the taxation structure in India. However, in addition to this, the new taxation regime also has several other impacts on the economy which will help the ease of business.

Positive Impact

Following are some impacts of the implementation of the GST that will benefit the Indian economy:

- **Removal of Cascading Effect of Taxes/ Tax on Tax/ Double Taxation:** This is the effect of taxes stacking upon one another for services providers. This had been a major issue for all businesses as they were aggrieved with paying taxes twice. Under the previous tax regime, the transfer of goods came under

the service contract. This means that every invoice had the value of goods as well as services. Both of these attracted a rate of 70% each giving a total rate of 140%. Under GST, the taxes are unified under the supply of services and the taxation system in unified.

- **Increase in Competitiveness:** Under the old taxation system, taxes used to constitute about 25–30% of the retail price of the goods and services. With the implementation of GST, prices have gone down since the burden of paying tax has fallen onto the end consumer of the goods and services. Therefore, there is a scope for businesses to produce more at less cost, leading to a rise in competition.
- **Simplification of Tax Structure:** The tax calculation under the system of GST has become much more simplified. This replaces the multiple stages of taxation under the old tax regime. This saves a lot of resources for calculation of taxes. It has also united the taxation laws under various state governments.
- **Economic Union:** The GST impact on the transportation of goods and services from state to another has been a very welcoming change. Goods can be easily transported from one place to another under the new regime. This movement of goods across the state borders can be done easily via the procedure of generation of the e-way bill.
- **Increase in Exports:** The cost of production in the domestic markets has dropped due to the implementation of the Goods and Services Tax, this leads to a positive influence in increasing competitiveness in the international markets leading to excessive exports.
- **Reduction of Input Costs:** Since the abolishing of the multiple levels of taxation and the introduction of a single tax on value addition, the cost of inputs will decrease. The taxation on inputs such as VAT, Excise duty is no longer valid and no longer a headache for services providers.

Negative Impact

- **Lack of Centralized Registration:** The previous taxation system allowed the tax payers to register from all over the country via a Central authority. However, with the implementation of GST, taxpayers have to register GST from their State and pay the Central Tax.
- **Taxation for Free Services:** Even if a particular individual/organisation provides any services for free, they are still eligible to be taxed for it.

- **Service Costs to Consumer:** The rates of taxation for the end consumer will increase. The GST is destination based tax which means that the burden of the tax falls on the end consumers.
- **Lack of Centralized System of Accounting:** Businesses in every state have to maintain their personalized accounting records since there is no centralized registration of business. Every state is financially accountable to that state for taxation. Accounts will be separate for central and state taxation for each business.
- **Return Filing:** As a business owner, you have to file GST returns detailing all the business transactions such as purchases sales, etc., periodically. A business owner has to file close to 37 returns in a financial year. This procedure could be very burdensome.
- **Public Education:** As the new taxation system is put in place, taxpayers and businesses have to be educated about the inner working of the taxation system. The GST tax regime has changed the system completely and hence taxpayers and the general public have to be informed on how this will impact the day-to-day business activities. This will take up a lot of resources and money.

Industry-Wise GST Impact

Following are the impact of GST on the industry as per sector-wise and the consequent effect on economy:-

- **Consumer Goods and Services:** The GST rates for the products by the FMCG industry has been set at 18–20%.
- **Transportation Industry:** The tax rates for cabs as well as air travel have been reduced to 5%.
- **E-Commerce Industry:** Since the inception of GST, e-commerce operators collect 1% of the net value of taxable supplies. This tax is also called the Tax Collected at Source (TCS).
- **Entertainment and Hospitality Sector:** This is one sector which was affected heavily with the tax rates increasing to 28%. As a result of this, movie tickets, hotel rates, etc., will be much costlier than before.
- **Financial Products and Services:** Financial Products and Services have been affected the most such as funds and insurances and loans from NBFCs, etc., have seen drastic taxation changes under GST.

- **Start-Ups and MSMEs:** GST has become very friendly for the start-ups, as well as, companies with MSME/SSI Registration. Schemes and provisions for empowering these sectors of the economy have been put in by the government to enable ease of doing business in India. One of these provisions is One-Day Company Registration.
- **Inflation and Economic Activity:** This rise in tax rates under GST is said to raise inflation.
- **Exports of Goods and Services:** Exports have been exempted under the provisions of GST. In addition, the availability of the input tax credit is now welcomed by the government. All an exporter has to do is to register IEC (Import Export Code).
- **Gold and Gold Jewellery Prices:** The tax rate for Gold and Gold Jewellery has been brought down to 5%.
- **SEZ:** The GST taxation regime has exempted SEZs completely from any kind of taxes. 0% tax rate.
- **Affordable Housing:** The purchase of housing is not at all taxable, an under construction houses carry a GST tax rate. GST rates for houses bought under CLSS, EWS, LIG, MIG1/11, will be 8%, after the deduction of the cost of the land. Houses out of these categories will be levied 12% tax.
- **Real Estate Sector:** The real estate sector is benefitting from this taxation system because it has introduced transparency in the system with the agents as now the builders also have to do RERA registration.
- **Logistics:** The pre-GST tax rates for logistics were a gigantic 26% which has been reduced to a moderate 18–21% and brings a huge relief to the logistics sector.
- **Automobile Industry:** The introduction of GST means the absorption of many indirect taxes and duties which were levied on the sale of vehicles. These have been done away with.
- **Power Sector:** The electric and lighting sector are benefitting nicely from the implementation of the new tax regime as the rate of taxation has now become 18%.
- **Indian Railway:** The railways have been affected very little by the implementation of GST as the tax rates have been kept at a lowest of 5% in order to benefit the passengers.^[2]

Impact on Indian Economy

GST has pushed the economy one step closer to a common market, i.e. free movement of capital and services. The impact of GST on macroeconomic indicators is likely to be very positive in the medium-term. Following are some of the important GST impacts on the Indian economy:

- Reduces tax burden on producers and fosters growth through more production. The current taxation structure, pumped with myriad tax clauses, prevents manufacturers from producing to their optimum capacity and retards growth. GST will take care of this problem by providing tax credit to the manufacturers.
- Different tax barriers, such as check posts and toll plazas, lead to wastage of unpreserved items being transported. This penalty transforms into major costs due to higher needs of buffer stock and warehousing costs. A single taxation system will eliminate this roadblock.
- There will be more transparency in the system as the customers will know exactly how much taxes they are being charged and on what base.
- GST will add to the government revenues by extending the tax base.
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- GST will add to the government revenues by extending the tax base.
- GST will provide credit for the taxes paid by producers in the goods or services chain. This is expected to encourage producers to buy raw material from different registered dealers and is hoped to bring in more vendors and suppliers under the purview of taxation.
- GST will remove the custom duties applicable on exports. The nation's competitiveness in foreign markets will increase on account of lower costs of transaction.
- As observed, there has been a fall in the cost of production after the GST got imposed. This in return has brought competitiveness towards the international market resulting in rise in exports.
- GST is a game-changing reform for the Indian economy as it brings about net appropriate price for the goods and services considered under single taxation system.^[3]

GST INDIA VS GST IN OTHER COUNTRIES

The GST also known as the National VAT (Value Added Tax) has been introduced in more than 160 countries. Most of the countries have a unified GST system. Presently countries like Australia, Canada, Singapore, New Zealand (UK), Malaysia, Indonesia and Pakistan have a GST system while remaining follow a VAT system. Brazil and Canada follow a dual system where GST is levied by both the Union and State governments. India has chosen the Canadian model of dual GST. France was the first country to introduce GST system in 1954. The standard GST rate in most countries ranges between 15–20%. Most of the sectors are taxed except for few exemptions. The United States of America does not have a national level VAT.

In comparison with the Emerging Market Economies (EMEs), India has the highest rate of GST at 18%– with major commodities falling under this rate. EMEs like China and Brazil have most of their commodities falling under the tax rate of 17%, 10%, respectively. However, some of the developed countries like France, Germany and United Kingdom have higher GST rates set between 19–20%. Average VAT/GST rate in major OECD countries is between 20–22% which is higher than the rate proposed for India.^[4]

The Indian government has structured GST for efficient tax collection, reduction in corruption, easy interstate movement of goods, etc., India does not follow an ideal VAT. Central Sales tax which the central imposed on the sale of goods from one state to another will continue in the different form called integrated GST.

One big differentiation between GST in India and GST in other countries is that, in India two types of GST are charged – hence, it is called the dual GST. Explaining the impact of GST, analysts at Care Ratings cited few reasons. Firstly, the impact of GST on price levels is difficult to ascertain as there are various factors other than tax rates that drive price levels.

Main issue in GST is tax evasion arising out of small businesses not registering, traders: traders collecting tax but not remitting to the governments; and traders making false claims for refunds. Unlike India, other countries have a much higher threshold for GST applicability thus reducing the burden for small businesses. This will bring in challenges for Indian SMEs. ^{[5] [6]}

Following table compares India's GST with other countries' GST:

Table 1: Indian GST Model Compares with GST in other Countries

Particulars	India (Proposed)	Canada	U.K.	Singapore	Malaysia
Name of GST in the Country	Goods and Services Tax	Federal Goods and Service Tax & Harmonized Sales Tax	Value Added Tax	Goods and Services Tax	Goods and Services Tax
Standard Rate	0% (for food staples), 5%, 12%, 18%, 28% (+ Cess for Luxury items)	GST 5% and HST Varies from 0% to 15%.	20% Reduces rates – 5%, exempt, zero rated	7% Reduced rates- Zero rated, exempt	6%
Threshold Exemption Limit	20 Lakhs (10 Lakhs for NE States)	Canadian \$ 30,000 (Approx. INR. 15.6 Lakhs)	EURO 73,000 (approx. INR. 61.32 Lakhs)	Singapore \$1 million (Approx. INR. 4.8 Crore)	MYR 500,000 (Approx. INR. 75 Lakhs)
Liability Arises On	Accrual Basis : Issue of invoice OR Receipt of Payment – earlier	Accrual Basis: The date of issue of invoice OR the date of receipt of payment – earlier.	Accrual Basis: Invoice OR Payment OR Supply – earliest cash basis (T/O up to 1.35 mn) Payment	Accrual Basis: Issue of Invoice OR Receipt of Payment OR Supply – earliest cash basis: (T/O up to SGD \$ 1 mn): Payment	Accrual Basis: Delivery of goods OR Issue of Invoice OR Receipt of Payment.
Returns and Payments	Monthly and 1 annual return	Monthly, Quarterly or annually based on turnover.	Usually Quarterly: Small Business Option – Annual	Usually quarterly business option- Monthly Returns.	Large Organizations – Monthly
Reverse Charge Mechanism	Apply on goods(new) as well as Services (currently under Service Tax)	Reverse Charge applies to importation of services and intangible properties.	Applicable	Reverse Charge applies to supply of services	Reverse charge applies to imported Services.
Exempt Services	Manufacture of exempted goods or Provision of exempted services (to be notifies)	Real Estate, Financial Services, Rent (Residence), Charities, Health, Education	Medical, Education, Finance, Insurance, Postal Services	Real estate, Financial services, Residential rental	Basic food, Health, Transportation, Residential Property, Agricultural Land.

Source: <https://cleartax.in/s/gst-india-and-other-countries-comparison>

** USA does not have GST as it ensured high autonomy for the States**

So from the above Table we can find that GST model across the commonwealth countries are similar with some variations. Unlike India, other countries have a much higher threshold for GST applicability thus reducing the burden for small businesses. This will bring in challenges for our SMEs.

CONCLUSION

GST has been a breath of fresh air to the taxation system in India. This simplifies a lot of the taxation problems with value addition for the delivery of Goods and Services in the country. In addition, even though it will take a lot of time to educate businesses and make them compliant with the new taxation system in India, it is a step in the right direction for businesses in the long run.

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Effectiveness of Tribunal of War Crimes for Rape Victims: A Comparative Study of Bangladesh and Cambodia

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Abstract—*One common characteristic of any war and bloody conflict throughout the human history and all over the world is 'Rape'. It has been used as a weapon of war and so the women's body becomes a battleground. Whether it is Rwanda, Mozambique, India, Sri-Lanka, Nepal, Cambodia, Bosnia, Sudan or any other conflict zone, women have been raped to take revenge from the enemy party or to keep the morale of the enemy low. What lies after this for these rape victims is much to worry about because these victims are ostracised by their own societies and bringing them into the mainstream becomes an impossible job. Till late, those accused of rape during such massacre and mass violence have been ignored but the demand of women groups to highlight the issue and to punish those involved in such heinous crimes has been recognized. The war tribunal has started to take these accusations with much seriousness and treat them as war criminals. Bangladesh is one such example where the war tribunal has booked the charges of rape and sexual violence as war crimes. Cambodia is another example of post-conflict society where, during the civil conflict, rape against women has been registered on a very large scale. Women, a symbol of goddesses in the traditional Cambodian societies have diminished. Though, war tribunal has been taking the issue of rape as war crime. Both the cases are different in nature and so the nature of war tribunals in both states differs. However, the problem of 'Rape' of women remains a constant factor in both the conflicts. The proposed study will look into the two cases to examine the changes in the nature of war tribunals that affect the cases related to rape of women during the conflict. The central hypothesis of this study is that the involvement of international agencies in the war tribunals helps the victims of sexual violence getting justice in much faster and effective way. On the basis of these two cases, the study will test the proposed hypothesis.*

Keywords: *War crimes, War tribunals, Sexual violence, Women, Conflict, Bangladesh, Cambodia*

INTRODUCTION

War and violent conflicts are marked with deaths, killings and destruction of men and material. Nonetheless, one universal character of all the wars throughout the human history has been the 'rape' of women. Since long, the rape of women during war and conflict was considered as inevitable collateral damage. In Japan, over two hundred thousand women of non-Japanese origin were abducted from Japanese territories, raped, and often held against their will at the so-called "comfort stations" or rape

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camps. In Rwanda, between 100,000 and 250,000 women were raped during the three months of genocide in 1994 (Prins, 2017). UN agencies estimated that more than 60,000 women were raped during the civil war in Sierra Leone (1991-2002), more than 40,000 in Liberia (1989-2003), up to 60,000 in the former Yugoslavia (1992-1995), and at least 200,000 in the Democratic Republic of the Congo since 1998. In Bangladesh, according to the estimates, around 300,000 people were killed and 200,000 to 400,000 women were raped in the nine months of conflict (Bose, 2007). Even though rape was not a policy by Khmer Rouge regime, hundreds of thousands of women were raped by the Khmer Rouge soldiers. Rape in prison and re-education centres, rape among the KR soldiers, mutilation and forced nudity was rampant (Kasumi 2008).

However, the sexual atrocities committed during the armed conflict in Yugoslavia in 1992 proved to be a tipping point. Rape and sexual atrocities was used as a deliberate and systematic war strategy by the Serbs. In the former Yugoslavia, several reports have cited an approximation of 20,000 Bosnian women as victims of rape during the war. In a report by Tresnjevka, a Croatian nationalist women's group, more than 35,000 women and children were allegedly held in Serb-run "rape/death camps" (Park, 2007). The International Criminal Tribunal for the former Yugoslavia, following the discovery of the rape camps used by Serb soldiers during the Bosnian war, termed rape as a crime against humanity. The International Criminal Tribunal for the former Yugoslavia (ICTY) has recognized and tried sexual violence for the first time as a distinct war crime (human rights violations committed in the course of conflict, not necessarily systematic or widespread) and as a crime against humanity.

In the Rwandan genocide of 1994, Rwandan officials were also charged with rape as a war crime during that country's 1994 genocidal conflict. The gravity of these cases and media coverage of both trials drew international attention and condemnation. As a result of the rising criticism and opposition of rape culture as a mechanism of war, ultimately, it has been included in the list of grave human rights violation and war crime. Thereafter, the incidents of rape and sexual violence were enlisted in the list of cases to provide justice to rape victims by the tribunal of war crimes.

Nevertheless, the effectiveness of war tribunals to do justice to rape cases can be understood by the fact that as per the statistics of the war tribunals, the number of cases that has been adjudicated in the war zones is too few to be justified.

Country	Time Period	No. of cases indicted	No. of people sentenced	No. of people Acquitted	No. of cases withdrawn	No. of ongoing cases
Yugoslavia	1996-2017	161	90	18	37	3
Rwanda	1994-2015	93	61	14	-	2
Sierra-Leone	2002-2013	13	9	-	-	-
Bangladesh	2008-till now	83	52	-	-	30
Cambodia	2006-till now	4	3	-	-	1

Source: *Crime Tribunal of the respective country*

The above statistics shows the cases related to war crimes that includes not only rape but other war crimes such as killings, loot and instigating violence. Henceforth, it can be stated that the war tribunals has proved ineffective to address the issue of violence against women. According to Hogan (2013), “Experts estimate the victims of sexualized crimes during the Balkan conflict at around 35,000, while Margot Wallström, the former UN Special Representative on Sexual Violence in Conflict, has said the totals are between 50,000 to 60,000. Yet the ICTY has only 28 convictions for these crimes under its belt, as well as about 20 ongoing cases”. In Rwanda, 93 individuals so far has been tried in 55 cases out of which, only 61 has been convicted, 14 has been acquitted and 12 are awaiting judgment. Furthermore, since 2011, ICTR has transferred several cases to the Rwandan courts (ICTR).

In Sierra-Leone, between 2002-2013, out of 13 indictments 10 people has been tries out of which 9 has been convicted, 2 had died during the trial and 1 has fled (Human Rights Watch). In Bangladesh, till now 83 war criminals have been identified, 34 cases delivered, 52 have been sentenced, 24 are in hiding and in 30 cases the tribunal is holding trials (Dhaka Tribune, 2019). The most interesting condition is of Cambodia where since 2006, only 3 convictions have taken place and one case is pending (New York Times, 2017).

The presence of international bodies in the war tribunals is advocated to do justice for the victims on the ground that it helps in efficacy of these tribunals by expertise, un-biasness and expediency. The proposed paper will look into these claims by taking the case of Bangladesh and Cambodia to analyze the presence of international agents in war tribunals and its impact on justice for women.

WOMEN AND WAR IN BANGLADESH

The liberation war of Bangladesh of 1971 that resulted into the birth of the nation had at the same time resulted into the birth of thousands of 'war babies' as a result of 200,000 to 400,00 women raped during the conflict. In March 1971 when the issue of cultural and linguistic identity in East Pakistan had come to a boil, president Yahya Khan gave out public orders for the Bengalis to be made into "true Muslims". The result was devastating and traumatic. The army left no stone unturned to carry out the orders of the Pakistani government. Women were hunted down, picked up from their homes, schools, streets and even their bedrooms and raped barbarously (Indian Express, 19 December 2016). The Liberation War Museum of Dhaka proclaims: "*Between March 25 and December 16, estimated 3 million Bengalees were killed, 200,000 women raped and 10 million were displaced*" (Bose, 2007).

War that had liberated millions from the atrocities of West Pakistan had imprisoned other millions into their own homes and societies. While describing the pain of rape victims of Bangladesh, Saleha Begum says, "*Bangladesh became a free nation and I a fallen woman*". This one line statement is true for around 2-4 million women in Bangladesh. Although, The new president, Mujibur Rehman, referred to the survivors of war rape as *birangonas* (war heroines) and urged their families and society in general to accept them, these women were ostracised, seen as a black mark upon societal honor (Indian Express, 19 December 2016). According to another account of Sarlach (2000), rather than being venerated as war heroines or sympathized with as victims of extreme acts of sexual violence, *birangonas* were treated with scorn and disrespect. Bengali men refused to marry *birangonas* because of the dishonor that accompanied rape in their culture, and many *birangonas* either killed themselves or fled to West Pakistan.

Rape, in any society and everywhere, degrades the status of the victim and punishes her for being victimized. Although, there are examples of women taking part in active combat as described by Yasmin Saikia's *Women, War, and the Making of Bangladesh: Remembering 1971* (2011). Manisha Gangopadhyay includes the first-hand accounts of three female guerrilla soldiers who recount their experiences in her article *Fearless Women Fighters* (Dec 2004). Other than that, there are many other accounts to prove the involvement of women in nation-building in post-conflict reconstruction, and setting examples for other women. Nonetheless, in the aftermath of the mass rape that was the result of war of liberation, the rape victims have never been honored for sacrificing their honor for the cause of the nation, on the contrary, they have only been punished thereafter.

CONFLICT AND WOMEN IN CAMBODIA

The civil war and conflict in Cambodia, unlike Bangladesh, was primarily about power capturing, nevertheless, women in Cambodia met with similar fate as that of the women in Bangladesh. Other than the mass killings of both men and women in Cambodia, the experiences of conflict by women and impact of conflict on women's lives was different from men. The Khmer Rouge (KR) claimed that they had liberated women and women enjoyed greater freedom in their regime. However, other accounts of the regime disapproved this claim and this shows that the truth was otherwise. Women in Cambodia during the Pol Pot regime were used as a support system to take care of the fighting soldiers and for propaganda dissemination. During the conflict, women suffered sexual and physical violence and were subjected to rape by both the factions of conflicting parties. Rape and sexual violence was common during Khmer Rouge regime and was used as a terror mechanism against women.

Rape in prison and re-education centre, rape among the KR soldiers mutilation and forced nudity was rampant (Kasumi 2008). In the film about her life, Tang Kim describes the reason for absence of evidences of rape and sexual atrocities by Khmer Rouge: *They raped all of those who were sent to be killed. They would never rape a woman otherwise....You [the filmmaker] have said that you were looking for people who committed moral offenses with Khmer Rouge soldiers, but you could not find such a case. The Khmer Rouge would never do anything like that; both the rapist and the victim would be executed if it was found out. So, they would only rape those who were condemned to die* (Anderson, 2004). Rape in refugee camps near the border was also prevalent as observed by R.F. Mollica and R.R. Jalbert, psychologists who carried out a study of the psychological problems and needs of refugee. Other than rape, women in Cambodia faced the issues of forced marriages and marital rape after the random marriage decided by the communist leaders. Mass marriages were conducted during that period and no consent was taken from the girls. Women were also given in gifts and as an award to the KR soldiers for their bravery. Women and girls were also forcefully recruited in the KR army. Zal Karkaria (2003) has given a detailed account and interviews of some of the girls who were forcefully recruited during that period.

According to a report by TPO, Cambodia, on the type and frequency of gender based violence during Khmer Rouge, out of 222 respondents interviewed of ECCC, majority of them had reported forced marriage, rape, survival sex, forced sexual service, sexual mutilation, sexual humiliation and abuses widely predominant during that regime. Although, there is no official account of the number of women raped and tortured in Cambodia, the stories of women survivors of conflict indicate that hundreds of thousands of women were raped and physically assaulted during the reign of Khmer Rouge.

WAR TRIBUNAL AND THE CASES OF VIOLENCE AGAINST WOMEN

The formations of International Criminal Tribunal for the Former Yugoslavia (ICTY) and International Criminal Tribunal for Rwanda (ICTR) demonstrated a consensus among international community that impunity is unacceptable. In the similar spirit, the International Crimes (Tribunals) Act, 1973 (ACT NO. XIX OF 1973), was enacted by the sovereign parliament of Bangladesh to provide for the detention, prosecution and punishment of persons responsible for committing genocide, crimes against humanity, war crimes and other crimes under international law. Some significant changes have been brought in the Act, by way of amendment, in 2009 and thereafter, to come out from the culture of impunity, the government, for the purpose of section 3 of the Act by notification in official gazette, has set up the 'Tribunal' on 25 March 2010. The tribunal consists of three Judges of whom one is Chairman and two are members. On 22 March 2012, the government, by official gazette notification, established another tribunal, namely the International Crimes Tribunal-2.

This long delay in the formation of International war crime tribunal after a gap of almost four decades in Bangladesh is itself an injustice to those women who had suffered during the conflict. Half of the victims are dead and those who are alive might or might not have the evidences to prove the crime but must have suffered the shame and social stigma attached to rape victims. Laila Devi, a *Birangona*, describes the condition of women war victims and says that their contribution remains unacknowledged. "*But nobody remembers us. Where is our name in history? Which list? Nobody wants to thank us. Instead we got humiliation, insults, hatred and ostracism*". She believes that the war criminals need justice to heal and that has not been provided till now (Bijoyita Das 2011).

The war tribunal has successfully delivered the judgment on some cases of rape and torture in the recent years. In a judgment of 19 April 2017, the accused, Md. Moslem Prodhan and Syed Md. Hussain (absconded) has been sentenced to death on the charges of rape, torture, abduction and many others. In another judgment, on 5 December 2015, the accused Md. Idris Ali Sardar (absconded), and Md. Solaiman Mollah (dead) has been sentenced to death and rape was one of the charges among many. Nonetheless, looking at the number of rape cases that lie somewhere between 200,000 to 400,000, it can be argued that justice has not been done to the victims. Furthermore, the War Tribunal of Bangladesh is charged by the political opposition to be working selectively with the motive to wipe out the opposition members. It has been accused of being politically motivated.

In case of Cambodia, the Cambodian war tribunal, known as, the Extraordinary Chambers in the Courts of Cambodia (ECCC) is a special Cambodian court which receives international assistance through the United Nations Assistance to the Khmer Rouge Trials (UNAKRT). During the Khmer Rouge regime, between 1975 and 1979, at least 1.7 million people are believed to have died from starvation, torture, execution and forced labor. Hundreds of thousands of women were killed, tortured and forcefully married during Khmer Rouge regime that claims to be an age of gender equality. To deliver justice to the victims of violence, in the year 1997, the government requested United Nations (UN) to assist in establishing a trial to prosecute the senior leaders of the Khmer Rouge.

In 2001, the Cambodian National Assembly passed a law to create a court to try serious crimes committed during the Khmer Rouge regime 1975-1979. The government of Cambodia insisted that, for the sake of the Cambodian people, the trial must be held in Cambodia using Cambodian staff and judges together with foreign personnel. Cambodia invited international participation due to the weakness of the Cambodian legal system and the international nature of the crimes, and to help in meeting the international standards of justice. An agreement with the UN was ultimately reached in June 2003 detailing how the international community will assist and participate in the Extraordinary Chambers. This special new court was created by the government and the UN but it was agreed that it will be independent of them. It is a Cambodian court with international participation that will apply international standards.

However, it is surprising that the court has failed to deliver justice and till date after spending more than a decade and nearly \$300 million, the United Nations-backed tribunal prosecuting the crimes of the Khmer Rouge has convicted just three men. Of the three people convicted, two were members of the highest circle of the radical Communist regime: Nuon Chea, 90, who was No. 2 in the hierarchy, and Khieu Samphan, 85, the chief of state. They were sentenced to life in prison for crimes against humanity and are undergoing a separate trial for genocide and other crimes (New York Times, 10 April 2017).

These figures show that the role of war crime tribunals of Bangladesh and Cambodia have a limited role. Both war crime tribunals have started registering the cases so late that the effectiveness of such justice system became redundant. The social stigma related to rape victims further hampers the justice to the victims of violence and very few women in both cases have come up to demand justice for themselves. The years of victimization have taken up all the confidence needed to stand up for demanding justice.

Does Involvement of International Actors affect the delivery of justice to women?

Involvement of international actors in war crime tribunal is supposed to be a positive incentive for the case of rape victims by ensuring speedy judgment and impartial decisions. Nevertheless, this study has come to this conclusion that participation of external actors and organizations has no impact on the delivery of justice to the victims. The study shows that the national actor enjoys the privilege to decide who is to be prosecuted and what progress is needed to be made. In case of Bangladesh, due to the domestic politics of the country, it took four decades to start such a tribunal that proved to be outdated and irrelevant. Many times, the Bangladeshi war crime tribunal is accused of punishing the political opposition party members and not working as an independent entity. Similarly, in the case of Cambodia, the Hun Sen government is apprehensive of starting any honest investigation of war crimes for the fear of a new civil war. Hence, the study concludes that the case study done to investigate the proposed hypothesis proves that the involvement of international actors has no effect on the delivery of justice to women.

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Social, Economic and Political Status of Muslims in India

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Abstract—*Social structure has a prolong history for ages. It is the beauty of India and curse for those who belong to a marginalized community. After independence, the constitution has given equal rights to everyone, which are yet to be delivered. Scheduled caste, tribes, women and Muslims are marginalized due to the social structure of Indian society. But Muslims remain poor with declining socio-economic and political status also worsening their health status, probably due to the lack of 'systemic' and 'systematic' approach to empower them since independence. Various reports have enumerated facts that cite that Muslims are lagging behind in every aspect of human development. India cannot become a developed country until the one-third population of the country is also developed.*

Keywords: *Social, Economic, Political, Health and Muslims*

INTRODUCTION

India is a very diverse country with multiplicity of culture, dialects, religions, caste, etc., inbuilt in society for ages ("Stratification," 2018). Social structure is the salient feature of this 'inbuilt' Indian hierarchy system, deciding upon social identity, thereby triggering the social inequalities. It stratifies society into social identities based on race, ethnicity, religion, caste, class, and gender (Saunders, 1994). These stratifications have a crucial role across the world, but it becomes more sensitive in a country like India. These structures of Indian society determine the access to resources and opportunities. Due to social structure, many communities and groups have lagged behind in all aspects of development. Scheduled caste/tribes, Muslims and women are examples of socially backward communities in India.

Muslims are the largest religious minority in India. Their status has not improved much as compared to that of SCs/STs and women (Government of India, 2006). Other backward communities (OBCs) are showing positive improvement because of larger political will, seen in form of state interventions such as reservations, schemes, and policy-programs, whereas on the other hand backward Muslims, who constitute eighty percent of the population of Muslims, are benefitting minimally from the Other Backward Class (OBC) reservation in India (Khanam, 2013). Several national surveys and reports such as multi-round of National Family Health Survey (NFHS), National Sample Survey Office (NSSO), Sachar Committee Report (SCR), Ranganath Misra Commission (RMC), and Post Sachar Evaluation Committee (PSEC) enumerated

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that the condition of Muslims is pathetic. But the SCR, which was appointed by Prime Minister Manmohan Singh, and headed by former Chief Justice of the Delhi High Court Rajinder Sachar (Government of India, 2006), first attempted to analyse the conditions of Muslims, identifying the underlying reasons behind the same. This report exposed the pathetic condition of Muslims across India, providing detailed analysis on their social, economic, employment, and educational patterns. Although the Sachar Committee did not collect information on the 'political backwardness' and health-wise patterns of Indian Muslims, it is a pioneer source of information for scholars and policymakers. Muslims are experiencing not only discriminatory attitude but also problems relating to their security, identity, and equity (Basant, 2007, p. 3)

This paper examines the social, economic, and political status of Muslim and its association with health status, based on secondary analysis. This study shows that poor social, economic, and political status not only adversely affect their housing and living conditions but also the well-being of Muslims community. In addition, there is lack of well-structured program and well-designed affirmative policies for reducing the gaps between the Muslim and non-Muslim community.

The methodology of the study is to collect the secondary data based on review of social, economic, and political variables, with respect to health status, especially among Muslims in India. These relevant data sets were identified, gathered, and analysed thematically. Significant sources of data included multiple-rounds of the Census, NFHS, NSSO, and SCR, analysed according to relevance. The national survey provides community-level information on a range of socioeconomic and political factors as well as on health indicators, which are critical for bringing about the preferred changes in demographic and health parameters. This study also uses a questionnaire related to socioeconomic and health aspects to estimate the socioeconomic difference in the health status of the Indian population.

HISTORICAL BACKGROUND OF THE BACKWARDNESS OF MUSLIMS IN INDIA

Religious association with the rulers provide a sense of empowerment. In India, the collapse of Muslim rule brought deep insecurity for both the poor and the nobility (Mohammad-Arif, 2007). It instead shifted them backwards, into rejection from philosophies of new rulers presented in form of modern education, science, technology, and modernity. These alienations, thus, pushed them into marginalization, which is traceable for past 200 years (Bandukwala, 2006). This also helped the new rulers to rule in India using the tactics of 'divide and rule' for almost 200 years (Ahmed, 1984). They further tried to cultivate communal disturbances between non-Muslims and Muslims (Engineer, 2006), which is generally known as 'social phenomenon'. One the

one hand, they were terminating Muslims from the higher posts and were recruiting non-Muslim on their positions. Another reason was rejecting the English language and modern education (Peshkin, 1962).

The process had begun in 1757 A.D. during the colonization period, when Muslims were in league to attain power from British (Bandukwala, 2006). Muslims rulers led a revolt and had locked horns with the British, but had to lose their high authoritative positions and rights at the end. These factors played a founding role to push them into marginalization in term of social, economic, and political status (Jamil, 2017). These facets affected their health status as well. After the revolt, the colonial ruler made rules which were more anti-Muslim, and most of it is still practiced (Fazlie, 1995).

Non-Muslim community cooperated with the new administration. They did not miss the chance to improve their status and managed with the system of modern education, science, and technology (Jahan, 2016). They gradually became dominant in social, economic, and political arenas. Gradually, the British approach of creating 'communal riots' and accelerating communal disturbances (Engineer, 2006), created a feeling of second-class among Muslims and then propagated to demand a separate state or country. Muslims have to continuously give proof of their patriotism (Engineer, 1985). The analysis of data on Muslim representation reveals an average of about 50% under-representation in the Central and State legislatures, based on their expected share according to population (Ansari, 2006).

Since the dawn of independence, the Government of India dominated by the Aryan has adopted discriminatory measures against the marginalize community. The Constitution of India, drafted by Dr. B.R. Ambedkar, guarantees fundamental rights to all communities of India. Article 15(1) says, "The State shall not discriminate against any citizen on grounds only religion, race, caste, sex, place of birth or any of them" (Fazlie, 1995).

While the perception of deprivation is widespread amongst the Muslims, there has been a very little systematic effort since Independence to analyze the condition of religious minorities in the country (Khanam, 2013). There is a need to examine the social, economic, and political conditions which would help to empower a community across religious groups in India.

SOCIAL, ECONOMIC AND POLITICAL CONDITIONS ACROSS RELIGIONS IN INDIA

India is one of the fastest economic growing countries while inequalities are increasing as well as stratifying country into classes (Babones, 2018). These inequalities are impacting the growth rates with little or no reduction in forms of inequality. India cannot eliminate poverty. Poverty is not about income alone but also understands the distribution of income across different social groups (Auerbach, Card, & Quigley, 2004). Several national surveys and report highlighted inequalities across religion in India. These reports also revealed that those who belong to the bottom of social

structure have poor socioeconomic status and political representation, including poor health status (Government of India, 2006, 2007, 2014). Strikingly, women statuses are worse in each facet of development within their community, whether belonging to the upper class or caste. In the case of Muslims, they are far behind in every walk of life, and particularly Muslims women's conditions are labelled as pathetic across those variables (Davids, 2016).

Social, economic, and political inequalities have the most definite implication on the well-being and health status of any community (Artazcoz & Rueda, 2007). Recently, this association has attracted considerable research interest. Numerous researches have examined the association particularly among Muslims, but still there is lack of literature and data about this classification as a backward community. This study is an attempt to gather data from various sources, put it together systematically and analyze it across salient indicators such as literacy rate, work participation ratio, per capita income, political representation, and health status. Hence, one can easily understand the plight of the community who are the victims of this process of invidious discrimination in Indian society (Mainuddin, 2011). This study has also analyzed the data of poor health accessibility among the Muslim community and the patterns of variation in health status across different groups.

Since independence, India's focus in this regard has been minimal. Minorities are the most vulnerable group, and the largest religious minority is Muslim community, who constitute 13.4 percent of the total population of India. Despite this, the Muslim communities are the most backward community with respect to the social, economic, and political representation in Indian society (Khanam, 2013). They experience discrimination in education attainments, employment, and public services, which trap the Muslim community in the depressed condition of poverty.

SOCIOECONOMIC CONDITIONS ACROSS RELIGION IN INDIA

Table 1: Literacy Rates (2001)

	2001 Census			2011 Census			Diff.
	Male	Female	All	Male	Female	All	Total
India	75.3	53.7	64.8	80.9	64.6	73.0	8.2
Hindu	76.2	53.2	65.1	81.7	64.3	73.3	8.2
Muslim	67.6	50.1	59.1	74.7	62.0	68.5	9.4
Christian	84.4	76.2	80.3	87.7	81.7	84.5	4.2
Sikh	75.2	63.1	69.4	80.0	70.3	75.4	6.0
Buddhist	83.1	61.7	72.7	88.3	74.0	75.4	8.6
Jain	97.4	90.6	94.1	96.8	92.9	94.9	0.8
SCs	66.6	41.9	54.7	75.2	56.5	66.1	11.4
STs	59.2	34.8	47.1	68.5	49.4	59.0	11.9

Source: Rahman, 2019

According to surveys, table 1 shows that the literacy rate among Muslims is improving over the period but it is still below the national average. The table reveals that the other socio-religious minority communities have better literacy rates than Muslims, while Muslims is the largest religious minority community in India. And the table also highlights that the Jain religious minority community has the highest literacy rate in both male and female. Muslims conditions are similar to the schedule caste and slightly higher than the scheduled tribes. Surprisingly, scheduled caste and tribes have improved at a better pace than Muslims though they were suppressed by the non-scheduled caste and tribe community since ages.

Table 2: Usual Status Work Participation Rates for Socio-Religious Groups for Persons of Age 15 Years and above- NSS61st (2004–05) and 68th (2011–12) Rounds

Years (Round)	Areas	Hindu ST	Hindu SC	Hindu Others	Muslim OBC	Muslim Others	Other religion	All
NSS 61st Round	Rural Male	89.1	85.9	76.8	78.9	81.8	77.4	80.0
	Urban Male	77.1	77.8	72.7	79.1	80.1	71.1	76.3
NSS 68th Round	Rural Male	85.0	80.7	76.8	78.9	81.8	77.4	80.0
	Urban Male	75.5	75.6	71.2	78.6	76.0	71.3	74.1

Source: Government of India, 2014 p. 20

The table shows the disparities between rural and urban areas. The table highlights variations across religions and caste, which has improved over a period of time but is still higher between the socio-religious groups. Muslims are mostly engaged in unpaid work either at home or in family's small shop and business, which affect their male work participation ratio and also their living conditions. Mostly, Muslims children are involved in family business or shop as a helper, which is not counted as work. They are mainly engaged in minimal tasks and that does not count as work.

Table 3: Salaried Workers Employed in Government, Public & Large Private Sectors in Percentage (2004–05)

	All	
	Government	Private
All	34.2	13.1
All Hindus	35.3	13.9
SC/ST	39.4	9.5
OBCs	30.4	12.8
Upper Caste	37.4	17.1
Muslim	23.7	6.5
Others	35.8	12.8

Source: Government of India, 2006

According to table 3, the salaried workers' employment is higher amongst the SCs/STs, while second lowest in private sectors. Muslims are significantly more moderate than in other groups, even SC/ST. In the report, "the most striking feature is the relatively high share of Muslim workers engaged in self-employment activity," primarily in the urban areas and for women workers. Participation of Muslim salaried workers in both the public and private sectors is quite low (as is true for SCs/STs), and the average salary of Muslim workers is more moderate than others (possibly, as more Muslims are in inferior jobs).

Table 4: Social Category wise Average MPCE (MRP) at Constant Prices (1987–88 = 100)

Years	Areas	Hindu ST	Hindu SC	All Hindu	Muslim OBC	All Muslim	Other religion	All
2004–05	Rural	134.1	152.6	178.2	180.7	173.2	258.1	181.6
	Urban Million plus	362.4	275.6	430.9	254.1	317.8	555.3	422.6
	Other Urban areas	218.5	215.1	300.9	203.2	211.7	387	290.6
	Urban	251.6	231.7	336.9	209.1	237.9	439.5	326.8
2009–10	Rural	152.4	162.5	190.1	188	178.4	278	192.9
	Urban Million plus	623.6	329.4	511.6	260.4	344.8	619.4	495.8
	Other Urban areas	266.7	243.5	337.7	239.9	242.8	416.6	326.7
	Urban	354	262.9	382.2	242.8	264.8	470.8	369
2011–12	Rural	167.1	192.6	218.8	214.3	207.9	319.3	221.9
	Urban Million plus	430.3	350.9	549.6	319.6	361	639.5	523.6
	Other Urban areas	283.5	284.2	377.2	259.4	271	484.5	365.8
	Urban	320.4	305.1	429.9	273.9	397.6	527.4	413.5

Source: (Government of India, 2014, p. 37)

The table, above, maps the growth recorded in MPCE over the years in all socio-religious groups. The table clearly shows disparities across region and religion. Scheduled tribes have the most moderate per capita income, followed by Scheduled caste and Muslim in every area. The per capita income is increasing, but it cannot fulfill the two meals per day for most of the marginal population in the Muslim community. The rates of improvement among SCs/STs are comparatively better due to state intervention. "However, in the case of Muslim community, the improvement still lags because of inadequate implementation of schemes and programs by the government." It is happening due to lack of representations in government and decision-making body.

Table 5: Political Representation of Muslims in the Lok Sabha (1952-2014)

No.	Year	Total elected member	Muslims elected	Expected Muslims based on their population	Deprivation* %
I	1952	489	21	49	57.14
II	1957	494	24	49	51.02
III	1962	494	23	53	56.60
IV	1967	520	29	56	48.28
V	1971	518	30	58	48.28
VI	1977	542	34	61	44.26
VII	1980	529	49	59	16.95
VIII	1984	542	46	62	25.81
IX	1989	529	33	60	45.00
X	1991	534	28	65	56.92
XI	1996	543	28	66	57.56
XII	1998	543	29	66	56.06
XIII	1999	543	32	66	51.52
XIV	2004	543	36	66	45.45
XV	2009	543	28	66	57.57
XVI	2014	543	23	66	65.15
Total		8449	493	968	49.07

***Deprivation rate = $\frac{\text{Expected Muslims} - \text{Total Elected Muslim}}{\text{Expected Elected Muslim}} \times 100$**

Source: Javaid & Ahmad, 2012

The table shows the representation of Muslims in Parliament from 1952 to 2014. In India, the average Muslim population is 14.81 percent. Total number of seats in the Lok Sabha from 1952 to 2014 was 8449, expected Muslim members were 968, Muslims elected from 1952 to 2014 was 493, so the deprivation rate is 49.07 percent, and so the representation is less than half of their proportion in the population. Strikingly, Muslims representations in Lok Sabha are decreasing over the period and this affects their social, economic status, including the health status due to lack of voice which help to empower the Muslims.

It is in the last few decades that some research on health access has made rapid progress in terms of measuring the socioeconomic differences, per capita income, community incomes, thereby hinting on wealth based concentration. This breakdown has emerged as a tool for health access assessment. The improved tools have aided in measuring the socioeconomic status of the Muslim population in India and understanding issues like lack of access to better health facilities or the health inequality that persists in the community. The measures of the socioeconomic factors are related to health inequalities by performing the breakdown of CI among the Muslim community.

IMPACT ON HEALTH STATUS ACROSS SOCIO-RELIGIOUS GROUPS IN INDIA

Poor health is linked to the absence of essential health services like sanitation and drinking water and poverty. Such deprivation further leads to anemia, malnutrition, and reduced life expectancy, there are also alarming evidences of stress, depression, psychological problems, and traumatic disorders. The association between socioeconomic, political, and health status among the Muslim population remains poorly understood.

Living conditions of Muslims are worse than that of the other community and Muslim women conditions' are beyond words (Jahan, 2016). In Muslim concentration areas, even primary health services are available at long distances. Muslim women prefer to visit doctors, particularly gynecologists, in their community only and the doctors may not be qualified (McLean, Yahyaei, Mansoori, Ameri, & Ahbadi, 2012). Interestingly, these overtly socio-political demands are not addressed by Muslim elites. The question of Muslim leadership was not at all given any considerable importance. Only four percent of the respondents find that the "lack of the right kind of Muslim leadership" has been a problem for Muslims in this country (Engineer, 2015). Based on these findings, it would suffice to suggest that the question of Muslim leadership is not a fundamental issue for Muslims at all. On the contrary, Muslims, like the other deprived and marginalized sections of society, seem to recognize the State as a reference point for making political claims (Ahmad, 2012). Participation in government programs and the coverage of Muslims in regular programs is generally limited. But participation varies with programs. For example, the coverage of Muslims in the midday meal program is decent in relative terms, but the overall coverage is low while the coverage of Muslims in ICDS is low, and so is the total coverage (Basant, 2007).

The relationships between many poverty measures (excepting land ownership) and mortality and family planning use are relatively strong and in the expected direction. A higher frequency of pulse intake (a standard of the quality of current food consumption) is shown to increase fertility and also survival through its effects on health and nutritional status. By constructing a simple poverty index, however, it is shown that there is a distinct positive relationship with the measures of fertility, and adverse association with mortality (Shariff, 1991).

Table 6: Child Mortality by Religion and Wave of the National Family Health Survey for Births from the Five Years Previous to the Survey

	Under-five Mortality Rate		Infant Mortality Rate		Child Mortality Rate		Proportion died by survey date	
	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu
NFHS-1	93.6	105.6	69.8	78.6	25.5	29.3	8.23	9.16
NFHS-2	76.3	93.3	56.8	69.4	20.7	25.7	6.82	8.20
NFHS-3	62.9	71.6	50.5	57.7	13.0	14.8	5.82	6.53
All waves	77.4	90.6	59.0	68.9	19.5	23.3	6.95	2.01

Source: Guillot & Allendorf, 2010

Table 6 shows that Muslim advantage is pervasive across both periods. Mortality declines consistently elsewhere over time from NFHS-1 to NFHS-3. The under-five mortality rate was at a higher decline than other mortality rates. Muslim rates maintain relatively constant differences as compared to the Hindus' rate. Overall averages of all kind of mortality rate are low among Muslims than Hindus. The mortality rate is lower among Muslims than Hindus. Similarly, both infant mortality and child mortality are lower among Muslims than Hindus.

Table 7: Health Status across Religion in India

Number of women and men age 15–49 per 100,000 who reported that they have diabetes, asthma, or goiter or any other thyroid disorders by background characteristics, India, 2005–06						
Religion	Number of women per 100,000			Number of men per 100,000		
	Diabetes	Asthma	Goiter or another thyroid disorder	Diabetes	Asthma	Goiter or another thyroid disorder
Hindu	824	1631	877	1020	1544	381
Muslim	1037	2024	1090	1237	2218	481
Christian	1849	2188	2437	1238	2027	321
Sikh	963	1089	727	1318	955	120
Buddhist/ Neo- Buddhist	684	2191	551	683	1334	77
Jain	1600	1033	2529	1025	2252	44
SC	798	1494	754	991	1688	348
ST	349	1749	753	477	1973	567
Total age 15–49	881	1696	949	1051	1627	383

Source: (Government of India, 2007, p. 422)

The prevalence is lowest among the Buddhist; second highest prevalence is among the Muslims, especially among Muslim women. Table 7 shows that among the Muslims, prevalence rate is higher than that of the SC/ST. Scheduled caste women, scheduled tribe women, and women belonging to other backward classes exhibit lower prevalence than other women, while among men, the lowest prevalence is seen in the men belonging to other backward classes and scheduled castes.

The quantitative review analysis clearly shows that Muslims have an advantage in all kind of mortality rate, but their improvement rates are lower than the other religious groups, even SCs/STs (Government of India, 2014). Their health status is moderate and in few cases lower than in the other religious groups.

SOCIAL IDENTITY AND DEVELOPMENT OF A COMMUNITY

The disparity in various social, economic, and political arenas coexists with poor health status. These are essential indicators to measure the condition of a community within society (Artazcoz & Rueda, 2007). Political participation is one of the salient indicators of community empowerment. In a democracy, the legislature is the fountainhead of power. The Muslim community is inadequately or underrepresented in general assemblies and even in the Lok Sabha (Ahmed, 2015). They are underrepresented in the parliament and the state legislature. On the eve of an election, Muslims are often referred to as ‘pampered community’ and the government’s promises (Jaffrelot & Kalaiyaran, 2018), though seldom fulfilled, are criticized as ‘minoritism.’ They lack in terms of social status, political activism, financial condition, educational qualification, and in almost every other factor that defines the prosperity of a community (Fatmi, 2016). Although one should not underestimate the declining number of Muslim MPs and MLAs, particularly about the overall Muslim marginalization, there is a need to problematize the idea of political representation (Ahmed, 2014). Over the years, it has been realized that the government failed to resolve the question of inherent socioeconomic discrimination and political marginalization of Muslims in participating in the national decision-making process through power sharing. Because religion may also play an essential role in determining the access to health care for both boys and girls, resulting in a complicated relationship between religion, gender, and child survival (Temsah, 2014).

Muslims are the most politically under-represented and socioeconomically underdeveloped community in the Indian society. Representation of Muslims in Indian politics since independence has been disproportionately low, ranging between 6–8%, as compared to their share of the Indian population which is estimated to be around 14%, but believed to be even higher (Talukdar, 2011). It has been noted that the underprivileged sections of this numerically significant minority group have not received social and political support from the state if their position is compared with their counterpart in the Hindu community (Javaid & Ahmad, 2012).

There is some major problem with Muslims as in the Muslims in India are divided on political lines, and they have no or little national leadership. The second, they are hardly found in the country’s public administration and civil services. The third, the community has very low representation in the field of media and journalism. Moreover, Muslims in India have miserable business ambitions. Unfortunately, in the political arena, a low number of Muslims stand. There is not a single Muslim party which represents the whole Muslim community. Muslims do not have a political party yet and religious leaders who would take an active interest in the political, social, economic, and educational progress of the Muslim community and ensure safety and security for the community as a whole. There is determined under-representation of Muslims in central as well as state legislators. The central and state government did not give adequate focus to the economic problems of Muslims that became a cause for

their isolation. While disaggregated data on tuberculosis and malaria is not available, awareness of AIDS among Muslims is at 55 percent for women and 82.2 for men; this is slightly lower than the national averages. However, the prevalence is lower as well (0.06 for women and 0.22 for men against an average of 0.22 and 0.36). The gap is steepest in contraceptive usage (46 for Muslim women and 46 for men, against an average of 57 and men 84) (Fazal, 2013).

Finally, these findings provide significant insights on the social, economic, and political inequalities across religions, including the status of health in India. However, there is still a scarcity of literature on Muslims. There are some studies, but those studies do not throw much insight on the underlying contributory factors apart from the Sachar committee reports that depicts the inequalities across a religion where Muslim status is worse in significant indicators of human development (Mainuddin, 2011, p. 125).

CONCLUSION

The social structure of India is very complex to understand. This structure affects the accessibility and availability of resources and opportunities. There are numerous studies on other marginalized communities but they remain poorly understood in the Muslim context. This study gives an insight into the Muslim community's health status along with their health service accessibility. But it is crucial to know the degree of socioeconomic status associated with health accessibility. The findings from this study provide significant insights on domains of health behaviour among the Muslims in India. Muslims face biased attitude, and this feeling adversely affects mobility mainly in Muslim women, leading to situations wherein Muslims are not able to entirely consume economic opportunities. Limited access to excellent quality health services and schools are a significant problem that adversely affect female and children's health and awareness. The observations, recommendations, and views expressed by various government reports in the recent years (such as the Sachar Committee Report and the Ranganath Mishra Commission Report) are invoked to legitimize the relevance of such claims.

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Health Facilities for Elderly Persons: Some Preliminary Findings from Lucknow City

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Abstract—*The population of the elderly in India has seen increasing over the past few years. Hence, ensuring a secure and healthy life for the elderly in the country needs significant focus. Health continues to be a major problem for the senior citizens in the country as most are unable to access better health facilities because they do not have a permanent source of income. The present study focuses on the health problems of elderly persons of Lucknow district. The objective of the study is to examine the sources of health expenditure of elderly persons and to know the income dependency of old persons on other family members and relatives. The study is based on primary survey. We have taken samples of 240 households of Lucknow district which covers four towns namely Lucknow Municipal Corporation, Lucknow Cantonment Board, Kakori NP and Bakshi ka Talab. Further, two wards from each town have been taken. The results clearly show that most elderly persons are not financially independent and they have to rely on their children or their relatives for their daily sustenance. Only those elderly who are financially independent are able to access better health facilities compared to those who have no financial support. The author suggests that the government should provide financial support to the elderly who are deprived of any source of income and thus help lead a healthy life for the senior citizens.*

Keywords: *Ageing, Elderly Persons, Health Facilities, Lucknow*

INTRODUCTION

In India, with the majority of the population aged less than 30, the problems and issues of its grey population have not been given serious consideration and only a few studies on them have been attempted in our country. To reap the advantage of demographic dividend, the focus is mainly on the children and the youth and fulfillment of their basic needs for proper development. Also, the traditional Indian society and the age-old joint family system have been instrumental in safeguarding the social and economic security of the elderly people in the country. However, with the rapid changes in the social scenario and the emerging prevalence of nuclear family set-up in India in recent years, the elderly people are likely to be exposed to emotional, physical and financial insecurity in the years to come. This has drawn the attention of the policy makers and administrators at central and state governments, voluntary organizations and civil society.

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Since the twentieth century, there has been a trend of an increase in the population of old age. As per the Census 2011, out of a total population of 1210 million, 103 million (8.6%) are above the age of 60 and 11 million are over 80 years of age. About 70 per cent of the elderly live in rural areas. By 2050, while the population below 60 would increase by 20 per cent, that above 60 would increase by 300 per cent, and that above 80 by 500 per cent.

Hence, it becomes imperative to map out a plan for enabling best health facilities for the elderly in the country. Health is not only the absence of illnesses; it is also the ability of people to develop and evolve to the best of their potentials during their entire lives. In that sense, health is an asset that an individual possesses. Health has both an intrinsic value and instrumental value as good health becomes the essential premise for one's well-being. Health is a direct source of human welfare and also an instrument for raising income levels. This study intends to discuss a number of mechanisms through which health can be affected and these include income, worker's productivity, children's education, savings and investment, and demographic structure. According to the **Geriatric Medicine Survival Handbook** (2008) aging is a multidimensional process and refers to the process of "*...accruing maturity with the passage of time.*" It begins with conception and continues throughout life until death occurs.

EXPENDITURE ON HEALTH OF ELDERLY

Public health expenditure on the elderly in India is less than the other developed countries. The Centre bears 75% of the total budget and the State Government's contribution amounts to 25 % of the budget. A total amount of Rs. 1710.13 crore had been approved for XII Five Year Plan for NPHCE. Out of this, an amount of Rs. 1147.56 crore is earmarked for activities proposed to be undertaken up to district level. An amount of Rs. 562.57 crore has been earmarked for tertiary level activities. An allocation of Rs.150.00 crore has been made for the year 2013-14, out of which Rs. 50.00 crore relates to National Health Mission Non Communicable Diseases Flexi Pool for activities up to district level and Rs. 100.00 crore relates to Health Sector, i.e., the tertiary level activities. According to the World Health Organization's (WHO), World Health Statistics, India is ranked 184 amongst the 191 countries in terms of public expenditure on health as a percent of GDP. In terms of per capita, the expenditure on health, India ranks 164 among 191 countries.

REVIEW OF LITERATURE

The elderly people in India battle with several problems and these include financial debilities, secure shelter, and health problems. Health problems are common in old age and affect the elderly in both the rural or urban areas. Many researchers have defined the problems of old persons by their own study experiences. **Prakash** (1999) discussed about ageing in India. He described that India is geographically a vast country and he said that reduction in fertility is of longer span. For defining the old age, he divided the life of a person into four stages. He also defined several implications for health, economic security, family life and well-being of old people. **Shiva Raju** (2006) has discussed about the health and various issues of old aged people. Many senior citizens in India lead healthy, dignified, and satisfying lives. They work through the day or part-time and live off well-planned savings. The studies on ageing conducted so far may be broadly categorized as: demography of ageing, attitudes and stereotyped perceptions, ageing differentials, ageing in specific locations, cross cultural comparisons of ageing, development and health in old age, Livelihood issues, care of older persons, family relations and social networks, quality of life, preparedness for death and policies and services. **Rajan** (2006), focus in his paper on the population ageing and health in India. He has discussed the ageing scenario in India and points out that in the time period from 2001 to 2050 in India, there has been high fertility and low mortality and this is the main reason of ageing. **Prasad** (2011), in his paper, has discussed that changing age structure is one of the structural changes that has been witnessed since the last century. Population ageing, at present, has emerged as a global phenomenon. **Balamurugan and Ramathirtham** (2012) have discussed about the health problems of the aged peoples. Their study was undertaken to understand the health status of elderly people residing in Puducherry district and to gather relevant information about their perceived health needs. **Mane A.B.** (2016) has emphasized in his paper that increasing ageing population leads to health care demands. **Himanshu and Talukdar** (2017) have discussed in their paper a self-reported health of elderly persons using BKPAI data.

OBJECTIVE

The objective of the present study is to examine the source of health schemes for elderly persons in Lucknow district.

METHODOLOGY

In this study, a total of 240 households of Lucknow district have been taken to gauge the source of health schemes for the senior citizens. Four towns have been taken,

namely, Lucknow Municipal Corporation, Lucknow Cantonment Board, Kakori Nagar Palika and Bakshi ka Talab. 60 samples have been collected from each town. Simple random sampling has been used in this study. Out of the 240 households, a total of 318 senior citizens were considered for the study's analysis.

The table 1 shows the number of old people suffering from a disease during the last 365 days. We can see that 83.33 percent of the old persons are accepting that they are suffering from one or the other disease during last 365 days while about 17 percent of them were not afflicted with any disease. The persons who have accepted that they are not suffering from any disease during last 365 days are mostly those persons who belong to military jobs or active in physical activities like yoga, farming, and others.

Table 1: Confirmation of Diseases

Are you suffering from any disease during last 365 days	freq.	percent	cum.
Yes	265	83.33	83.33
No	53	16.67	100
Total	318	100	

Source: Primary Survey

DISTRIBUTION OF DISEASES AMONG OLD PERSONS

Table 2, as cited below, shows the details of diseases that affected the elderly. In the table we can see that diabetes have highest percent (21.34) followed by arthritis/ joint pain (20.55), vision problem (9.43), stomach related problems (kidney, liver and digestion) (8.3), asthma (7.51), Blood Pressure (7.11) and heart disease (6.72) percent. Thyroid (4.74), paralysis (3.56), and nervous system (1.98) are other major diseases. About 7 percent of the elderly interviewed reported other diseases like cancer, infections, T.B., and memory loss. Some diseases are gender specific like cervical cancer and breast cancer and they were found to be only in females.

Table 2: Distribution of Diseases

Name of Disease	Freq.	Percent	Cum
Diabetes	54	21.34	21.34
Heart Disease	17	6.72	28.06
Arthritis/ Joint Pain	52	20.55	48.62
Vision Problem	24	9.49	58.1

Dental Problem	5	1.98	60.08
Nervous System/Stroke	5	1.98	62.06
Asthma	19	7.51	69.57
Thyroid	12	4.74	74.31
B.P.	18	7.11	81.42
Paralysis	9	3.56	84.98
Stomach Related Problems	21	8.3	93.28
Others	17	6.72	100
Total	253	100	

Source: Primary Survey

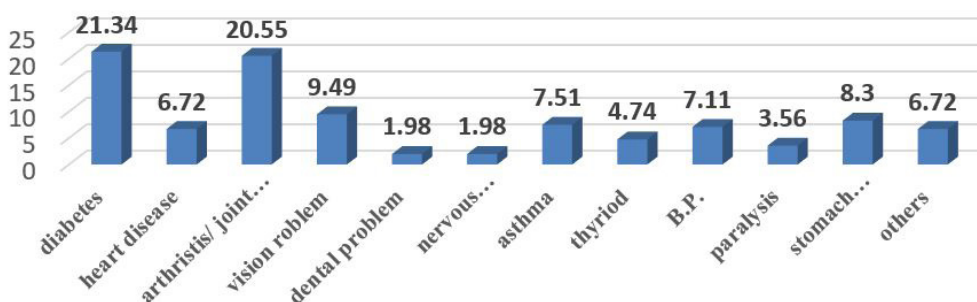


Figure 1

Source: Primary Survey

DISTRIBUTION OF ELDERLY PERSONS TAKING TREATMENT

Table 3 shows the frequency and percent of those old people who are not taking treatment. 93.21 percent of the elderly are taking some kind of treatment while about 7 percent persons reported that they are not taking any kind of treatment. The main reason of not taking treatment is financial problem or they are not satisfied with medical facilities.

Table 3

Are you taking treatment?	Freq.	Percent	Cum.
Yes	247	93.21	93.21
No	18	6.79	100
Total	265	100	

Source: Primary Survey

HOSPITALS FROM WHERE THE ELDERLY ACCESS TREATMENT

Table 4 shows that the most of the old persons are taking treatment from private hospitals (39.13 percent) while 21.34 percent of the old people are taking treatment from government hospitals, 17.39 percent of the senior citizens are taking treatment from CHCs/PHCs and 15.42 percent are taking treatment from private clinics while about 7 percent of the aged persons are taking treatment from others sources like *quack*, doctors, medical store, and vaidya. The results show that more than 50 percent of the aged persons are taking treatment from private hospitals or private clinics. Few of the elderly interviewed said that they are unwillingly taking treatment from private hospitals because the treatment is very expensive.

Table 4: Type of Hospitals

Type of Hospital	Freq.	Percent	Cum
CHC/PHC	44	17.39	17.39
Govt. Hosp.	54	21.34	38.74
Private Hosp.	99	39.13	77.87
Private Clinics	39	15.42	93.28
Others	17	6.72	100

Source: Primary Survey

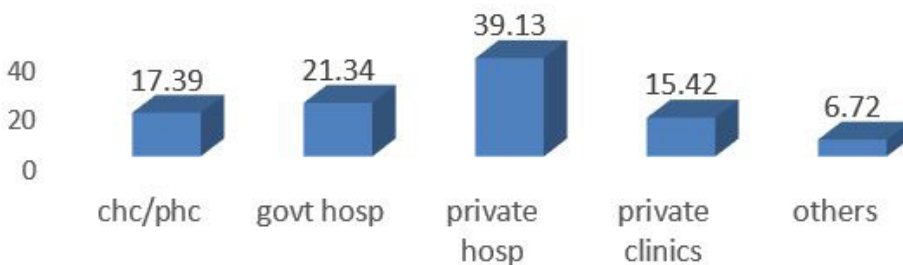


Figure 2

Source: Primary Survey

However, they did not prefer government hospitals either due to lack of medicine and inadequate infrastructure, unavailability of doctors and beds. Moreover, the dependency of persons on government hospitals is very high which leads to long que and tedious waiting hours in government hospitals which only worsens the health of the elderly .

HEALTH SCHEMES ADOPTED BY ELDERLY PERSONS

The Government of India has implemented the health support schemes for the old persons for betterment of their life such as old age pension schemes, Pradhan Mantri Suraksha Bima Yojna and Employers health Protection. The table below shows the health support schemes adopted by elderly persons. We can see in the table that 77.39 percent persons are not covered under any health protection, 15.92 percent persons are covered under Employer Health Protection while 5.73 while 5.73 percent are covered under the Old Age Pension Scheme. On the other hand, the number of elderly benefitting from the Pradhan Mantri Suraksha Bima Yojna and other health protection schemes or insurance policies is negligible.

Table 5: Health Facilities

Health Support Scheme	Freq.	Percent	Cum.
Old Age Pension Scheme	18	5.73	5.73
Pradhan Mantri Suraksha Bima Yojna	2	0.64	6.37
Employer Health Protection	50	15.92	22.29
Others	1	0.32	22.61
Not Covered	243	77.39	100
Total	314	100	

Source: Primary Survey

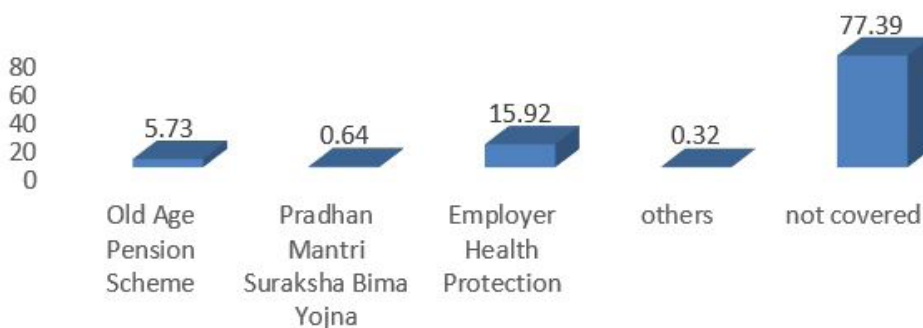


Figure 3

Source: Primary Survey

The results show the real situation of the elderly persons where only those persons who retired from government jobs have health protection and financial support but most of the senior citizens do not have any financial support and depended on their

relatives for basic needs. Figure 6 shows the main reasons behind the elderly not being a part of any health insurance scheme. Reasons cited are varied and include: Lack of awareness which is among 58.79 percent of the elderly, lack of support is 12.56 percent and tough procedure for taking benefits of the schemes is 18.09 percent.

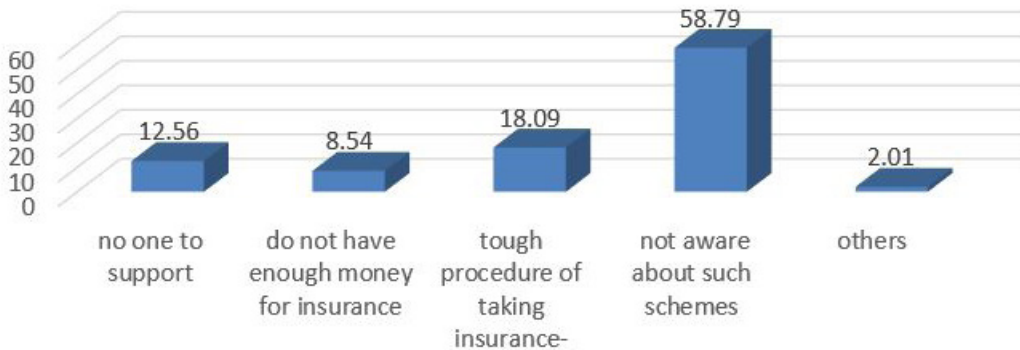


Figure 4: Reasons for not Adopting any Health Support Schemes

Source: Primary Survey

EXPENDITURE DETAILS OF ELDERLY PERSONS

The graph shows that Rs.500 is the highest amount spent by old people, this means that about 38 percent of the elderly persons spend Rs.500 per month on their health, 24.44 percent of them spend up to Rs.3000 per month on their health. About 9 percent of the old people are spending up to Rs. 8000 per month on their health. The data shows that health services are very expensive. Most of the persons are taking treatment from private hospitals and that is why the treatment is very expensive

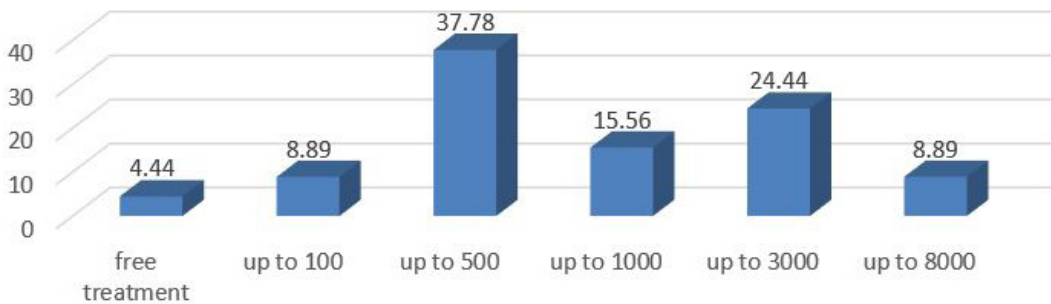


Figure 5

Source: primary survey

CONDITION OF THE HOUSEHOLDS AFTER THE HEALTH EXPENDITURE

Table 6 shows the economic condition of households after health expenditure on elderly persons, 36.67 percent have stated that their condition remains the same, 32.08 percent accepted that their condition deteriorated little while the condition of 29.58 percent of the persons deteriorated a lot. Health expenditure done on the old persons changed the economic conditions of their families.

Table 6: Economic Condition after Health Expenditure

Economic Condition After Health Expenditure	Freq.	Percent
Remain Same	88	36.67
Deteriorated Little	77	32.08
Deteriorated a Lot	71	29.58
Do Not Know	4	1.67
Total	240	100

Source: Primary Survey

CONCLUSIONS

Old people face many problems like physical weakness, immobility, loneliness along with poor financial condition. Hence, most of the elderly in India are not able to access health facilities properly. As per the observation, the study found that in the remote areas like Kakori NP and Bakshi ka Talab NP due to the absence of government hospitals, the old people residing in these areas resort to taking treatment from the nearest private hospitals or clinics. In some cases of Kakori they are also taking medicine from *quacks*. Old persons are not even aware about their health problems. For example, many old people do not consider dental problems, vision problems, hearing problem, memory loss, skin diseases to be ailments. They are not aware about health insurance policies as they believe that in old age what is the need of insurance. Results show that the elderly, at times, do not even visit the overcrowded government hospitals finding the services inadequate for their care. Society, the government and NGOs need to invest in renewed efforts to ensure that the elderly in our country get the most basic of their dues which is a healthy life.

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RAPPORTEUR'S REPORT

National Seminar on Problem of Sectorial Scarcity and 'Choice in India March 06-07, 2019'

**Alpana Srivastava
Amity University, Lucknow, Jointly Organized
BBAU and ASEDS, Lucknow, India**

The two days national seminar on "Problem of Sectorial Scarcity and Choice in India" was jointly organized by Babasaheb Bhimrao Ambedkar University (BBAU) and Association of the Socio-Economic Development Studies (ASEDS) on 14-15th March, 2019

The programme was inaugurated with lighting of lamp & garlanding of statue of Babasaheb Bhimrao Ambedkar by VC, BBAU and other esteemed guest. Prof A K Sengupta, Ex Pro VC, Lucknow University was the Chief Guest for the occasion and Prof. NMP Verma, on behalf of Department of Economics, 'welcomed all the guests and dignitaries present at the forum.' He talked about mismatch of choice which gives rise to the entire problem in decision making.

Prof. Alpana briefed about the conference theme. She emphasized on the seminar objective of providing an ideal platform where the experiences and thoughts can be shared and assimilated to come up with a unified understanding of redefining scarcity and choice theory in the view of Indian sectorial economy.

This was followed by thought-provoking lecture by Prof A K Sengupta who was the Chief Guest for the occasion. He pointed out that political economy plays a pivotal role in national decision making. He explained about the world's great financial depression. Prof. Verma talked about institutional change with respect to Indian Planning and the role of NITI Ayog. Prof Sanjay Singh, Vice Chancellor, BBAU, Lucknow talked about the Indian economic journey from glorious past to the present regime and asked the gathering to discuss the same in the seminar and give some workable solutions for the betterment of the society. Panel Discussion was chaired by Professor A K Singh who highlighted the gap between limited means and unlimited ends. He emphasized on bridging these gaps judicious use of resources. The first panelist, Prof. Arvind Mohan, Department of Economics Lucknow University, delivered his thoughts on Inflation and Unemployment in contemporary India. Next panellist Prof. Yasvir Tyagi, Former Head Department of Economics Lucknow University, explained how Manufacturing industry is affected by new indirect taxation policy, known as GST. Prof. RK Sinha, Head Department of Economics, Dr Shakuntala Mishra University Lucknow, highlighted his views on declining Agricultural productivity in India and also discussed about inequality between Rich and Poor farmers, he also talked about water and land stress. Prof. Sanatan Nayak, Head, Department of Economics, BBAU Lucknow, discussed about the

issues of Environmental Challenges in India. He stressed that climate change is the main cause of reducing agricultural productivity. It also creates water scarcity and many diseases.

The first technical session post lunch was on "Macroeconomic instability in India", chaired by Prof. Manoj Aggarwal and co-chaired by VK Srivastava, RMLAU, Ayodhya and Dr. Angrej Singh. In all, 08 papers were presented by delegates from various universities. The deliberations catered wide range of issues from inequality on one hand to the analysis of dualism. Issue of water scarcity and remedial action were suggested by one of the participants. Another participant discussed on growth and instability in agriculture sector of UP. A participant highlighted myth and reality of GST in India. The last of day one was on Environment and agriculture, chaired by Prof. B N Dubey Department of Sociology, BBAU and co-chaired by Dr. Surender Meher, department of Economics, BBAU and Dr. Preeti Chaudhary, BBAU Lucknow. In this session, 4 papers were presented by delegates. The first author deliberated on the gender and asset ownership in rural India, followed by in-depth presentation on agriculture problems of Jammu & Kashmir district of India. An important paper was presented on the impact of pro-micro environmental problem on health of slum dwellers in Lucknow.

Day two started with special lecture on "Corruption on the Neutral Path" delivered by Mr. Manohar Manoj, President Indian Young Journalist organization. The session was chaired by Prof. S Victor Babu, BBAU and Co- chaired by Dr. Anamika Chaudhary, Dr Shakuntala Mishra University and Dr Himanshu Rastogi Amity University, Lucknow. Mr. Manoj covered a very daring topic on corruption in India by covering all segments of society that is government bureaucrats, businessman etc. where trigger is needed for ethical revolution in India. He also emphasize on the fact that the coming era will be of digital corruption.

The last technical session was on "GST, Manufacturing, Demography, health, Inequality, Recession and service Sector problems" which was chaired by Prof. Ashutosh Sinha, RML Awadh University, Ayodya and Co-chaired by Anupama Srivastava, IT College, Dr. Nimish, Amity Lucknow, and Dr. Pranav Anand, BBAU.

The valedictory session was chaired by Prof. P.K. Sinha, ex-VC, Dr Ram Manohar Lohia Awadh University, Faizabad, Prof. Jaswant Singh, DRMLAU, Ayodhya who was the Guest of Honour for this session. Prof. NMP Verma welcomed the dignitaries and guest for this session and also congratulated all the guests present for making the National seminar on the problem of sectorial scarcity and choice in India a grand success. Prof. Singh in his speech stressed on the need of conserving our environment because if environment is protected we are protected. He further said that in the entire universe, life is only possible on the earth and we need pure water, pure air and food to sustain our life. So it's our responsibility to conserve our environment. On the other hand, Prof. Sinha discussed how environment and economics are interrelated. And it becomes more relevant in India because in an agro based economy like ours, agriculture remains a significant contributor to the GDP of the country. But in India, agriculture is still mainly dependent on monsoon so it becomes necessary for us to pay our attention to conserve our environment. Prof. Alpana Srivastava presented the concluding remarks on the two day exhaustive deliberations by the participants and experts.

BOOK REVIEW

A Crusade Against Corruption on the Neutral Path by Manohar Manoj (2019)

As attention-grabbing is the subject of discourse all over the world at large in the present temporal terms, this book proves consequential in terms of its intricate diagnosis of hard-put questions in minds of the masses. The author's feat to extend a compilation of the shady business running in some public houses is yielded in two volumes of nine chapters in entirety.

It has been creditable on the author's part to start the journey by educating the readers of all the available definitions and tiers about corruption. The entire first chapter endeavors to make up for the vague understanding of the content of study in hand with some valid definitions laid in distributed literature; supported with popular quotes. Thus, being a student of economics himself, the author delivers an excellent wherewithal to students, intellects and curiosity-seekers. From here he took the journey forward into explaining 'corruption' and its causal spawning deducing from reasons like an unquenching psychological thirst for power, ethical pressure in social relations, man-made complex built system and complicated structural governance. It tracks back the origin of corruption much older than deciphered as 'wealth-earning' in Arthshastra.

The third chapter vividly showcases the regime-based corruption in ancient and present-day nations largely based on factual literature. There is a further illustration based on various macro-form of government followed then, rooting from monarchy to various forms of democracy. The potency of this chapter lies in taking serious cognizance on questions that jeopardizes the authenticity posed over the successful out-reach of a democratic form of government. On the same front, the organization of the following chapter unveils to the readers some well known scams and scandals looming during the governance of different political sans beating about the bush. With the same vision to surface the ground realities further, the study digs deeper into the phenomenon of institutionalized corruption and also the menace that outgrows ranging from our four-pillared democratic hierarchical structure to professional and sectoral level. Even before listing the accounts of bribery or fraud, an elaborate discussion on the nature of work and their accountability and responsibility is well-explored which meshes well with the compilation of anti-corruption movement and tribunals set up in direction of prevention against the hazardous venture in the

following chapters of the second volume. Every aspect in the author's mind takes a monumental position in his book with justifiable evidences to support, which led him to extend his crusade continuing in his second volume with the chapter in hand.

The last chapter of the book imprints the author's capabilities as a researcher, for he thought it worthwhile to not only base his knowledge-contribution on the underlying facts and news-headlines but to get in touch with the ultimate victims of the breeding plaque. In his five sets of questionnaire to five categories of people he strived to assay their general attitude of the common people. The survey majorly interpreted some intangible elements of lack of public awareness as the cause that gives further air to corruption. It is the public in general that greases bribery and like practices without deter or complaining against it.

Only the comprehensiveness of the book into two handsome puts lopsidedness to its easy mobility. Otherwise, this book proves to be a laudable form of an asset to anyone who is intrigued to learn about the history or pursue to make a mark in direction of sabotaging the peril of corruption. The author does justice to this field and the conventions of its genre.

Reviewed by Deepanjali Das

