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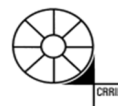
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NAVIGATING CHINA'S NEW SILK ROAD: POTENTIAL IMPLICATIONS FOR INDIA

Keshab Chandra Rath¹

Abstract: At the heart of India's coyness to accept Beijing's promise of road building and connectivity is grounded on strategic mistrust, nothing else. The China-Pakistan Economic Corridor (CPEC) is in fact a challenge to India's sovereignty and territorial boundary as it gives legitimacy to Pakistani claims of being a sovereign power in Gilgit and Baltistan. The long-term strategic consequences of OBOR (expand) for India could also allow China to strengthen its presence in the Indian Ocean at India's expense in terms of strengthening its military capability in general and naval power in particular. India's worrisome concern pertaining to the new MSRI-related China-funded maritime infrastructure assets in the Indian Ocean is likely to be used for military and strategic advantages. The port development within the bracket of the BRI project (Myanmar, Bangladesh, Sri Lanka, Maldives and Pakistan) has the capacity to change the bilateral equation to the disadvantage of India as it looks on with favors from China's trade flows through the Indian Ocean. This may show the way to trade diversion of Indian goods and services. The economic imperatives of China substantiate the strength of its ambitions, bearing far-reaching implications for India. The belt manifests geo-political and geo-strategic interests of China intertwined with geo-economics. The geo-political, geo-strategic and geo-economic considerations are reflected in India's attitudes and responses to China-led developmentalism.

Keywords: Silk Road, Geo-Strategic, Implication, "One Belt, One Road"

Introduction

One Belt, One Road (OBOR) is a much-appreciated new diplomatic and economic policy of China, displaying its economic prowess along with an attempt to build a future strategic reach and consequently extent its sphere of influence beyond its borders, having multiple ends. It indicates a change in the strategic

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thinking and foreign policy of China towards treating the relationship most significant with neighboring countries. The road is the maritime dimension and it consists of a network of ports and other coastal infrastructure from China's eastern seaboard stretching across South East Asia, South Asia, the Gulf, East Africa and the Mediterranean, forming a loop terminating at Piraeus (Greece), Venice (Italy) and Rotterdam (Netherlands) in Europe and Mombasa (Kenya) in Africa. The vision of the One Belt One Road Initiative is to realize the "Five Links", which refer to linkages in policies, infrastructure, trade, finance and people (Chin et. al., 2015). Explicitly, its principal priority is to ensure richness for the underdeveloped parts of China, mostly in the west of the country by making use of domestic investment and economic integration with Asian neighbours. It also signifies to inspire greater connectivity and economic development along the routes, making sure for an infrastructure boost for Asia's least connected regions. Furthermore, Beijing looks forward to the OBOR for achieving China's energy supply through diversification of import sources and transport routes. Implicitly, China tries to investigate new sources of growth abroad, particularly for construction companies and various industries being ill with excess capacity. OBOR also lends a supporting hand to outward investment and RMB (renminbi) internationalisation. It facilitates to branch out export markets and promotes the international expansion of Chinese technology as part of its broader plan to enhance its place in global production and value chains. China is structurally changing its economy from export dependent economy to consumption led one. This economic policy is the major motivating force for the Silk Road initiative. China wants to bring into play the connectivity and infrastructure development in neighbouring regions to take care of regional imbalances within China. China calls for to improve its industry, make it more innovative and quality-driven in order to export high-end Chinese manufactured goods to countries in the neighbourhood taking part in OBOR – at the cost of Western-manufactured goods. Western commentators make clear the Chinese engagement in its near-neighbourhood particularly in its northern neighbourhood having similar characteristics with "Great Power" behaviour and an assertion of its status as an economic power.

Geo-strategic Rationale

In order to expose China as an Asia-Pacific and a global power, the project looks ahead to develop and update its landlocked and underdeveloped southern and western provinces, to enable them to get into the markets of south East Asia and west Asia thus transforming China's regional periphery by exercising economic, cultural and political influence. In fact, excess capacity in Chinese factories is a stern issue. The promotion of investments in course of implementation of OBOR Projects are expected to create new opportunities and markets for Chinese firms facilitating a multiplier impact on production of goods and services domestically which can generate more jobs and higher incomes for the Chinese populace.

Given its huge foreign exchange reserves, totaling about \$4 trillion, China stands eyeing towards avenues to invest so as to earn a reasonable return on the same. The project clearly reveals the increasing Chinese interests in strategically important regions to its west like Persian Gulf. Many of the spectators are of the view that this new initiative by China is a response to the much-hyped “pivot to Asia” by United States. To the view of a few experts, the launch of this project along with much proficiency will act as a non-military catalyst speeding up the relative decline of U.S. power over the Persian Gulf and ensuring more balanced distribution of geopolitical influence in this region (Nataraj and Sekhani, 2015). The main intention of the Silk route is to serve its own interests, ambitions and image in several ways. (Sibal, 2014)

Financial integration is another key foundation driving the implementation of OBOR. This project will help the internationalisation of Yuan and encourage Chinese companies to issue Yuan bond to fund projects for the OBOR initiative. As a consequence of increasing trade activities, the demand for Chinese currency will increase, thereby enhancing its importance in the IMF and Special Drawing Rights. Most of the projects is funded by Chinese financial institutions like China Investment Corporation, China Development Bank etc., and China dominated institutions like Asia Infrastructure Investment Bank and BRICS New Development Bank. Many observers fear that this would support China in faster internationalisation of her currency, the Renminbi. Thus, it is quite obvious that China has a grand vision in promoting OBOR and its political and economic role in the international community (Nataraj and Sekhani, 2015).

For gaining diplomatic clout, China intends to establish itself as the numero-uno in Asia Pacific Region, besides reviving its sluggish economy, fostering common prosperity and addressing long term energy security issues. Carrying international responsibilities, establishing long term strategic trade relationships with the key players in its neighborhood, and containing aggressive policies of certain Western countries express China’s readiness to be accepted as a major global player. The conception organically links the "Chinese dream" to the "Global Dream" bearing far-reaching strategic significance with a global impact.

When the export led Chinese is facing a phase of slowdown, the land and maritime silk route initiatives will serve as lucrative investment destination of huge Forex reserve, with a positive impact on its trade and economy. Given the rising significance of South East Asia and Indian Ocean, the Maritime Silk Route (MSR) will make available a strategic advantage to Chinese by legitimising its presence in important port centres of Indian Ocean. Since 2011, China's relations became acrimonious with-Cambodia, Laos, Thailand, Malaysia, and Japan owing to South China Sea dispute. New Maritime Silk Route policy appears to be aimed at calming tensions-via soft power and economic offer. This will also facilitate

China in opposing the influence of USA, Russia and come out as a marine super power in the region.

India's Lukewarm Response

Given India's strategic location in Asia, China considers India as an important country in its 'Silk Road' diplomacy. In fact, it has continually advocated that India is a country of significance for the execution of the 'Silk Road' projects (Dahiya and Panda, 2015). But India has been somewhat reticent enough in its response primarily due to absence of pellucidity about the Chinese magnificent economic and trade designs, as also infrastructural linkages and above all the larger strategic motivations. India is yet to make up its mind in joining the project. The problem with the MSR, essentially, is the non-transparent nature of its proposal. China has published no details about the project, and this makes many countries feel uncertain about Beijing's strategic intentions. However, there is lack of clarity on "how and what" of the Chinese proposal. The lack of specifics not only makes it hard to decipher the MSR's real purpose, but also it invites geo-political game plan of China into the arena of suspicion. In reality, for a project being hyped as a critical enabler of regional sea-connectivity, Chinese planners would have made use of much time and effort in developing the fine-print. The absence of firm plans, proposals and timelines opens into a doubt that there may be something hidden about the MSR that Beijing is wavering to expose quickly (Singh, 2014). Indian analysts are also concerned about a lack of operational details. Christopher Johnson from the Center for Strategic and International Studies in Washington, says "One Belt, One Road" is a more sweeping vision than operational blueprint (Cai, 2016). Beijing's invitation to India to join in the Maritime Silk Road is a case that explains the emerging balance-of-power politics in the India – China maritime complexity that extends between the South China Sea and the IOR. (Panda, 2014) China knows very well that India will never sign in view of the fact that the political price it will have to pay — accepting Chinese suzerainty — a non-starter in this country (Malik, 2017).

China's announcement of a 10 billion Yuan (\$1.6 billion) fund to finance the "maritime silk road plan" clearly signifies that it is serious about moving ahead with its stated plans. Beijing would also conceivably use the project's commercial investments to establish its legitimate interests in the Indian Ocean. In its ultimate form, therefore, the MSR could end up setting up Chinese logistical hubs in the Indian Ocean, linking up already existing string of pearls. Even assuming the project delivers on its economic promise, it could well turn out to be detrimental to India's geopolitical interests in the IOR. As a consequence of China's involvement in building infrastructure in the Indian Ocean, it is likely to have a major impact on the security and governance of the IOR, posing a challenge to India's stature as a 'security provider' in the region.

The likelihood of adverse effect on New Delhi's strategic purchase in its primary area of its interest cannot be ignored altogether (Singh, 2014).

BRI is a unilateral formation of ideas of China, lacking of transparency in its working. The process is not participatory and collaborative in nature. Under Maritime Silk Route (MSR) China is building ports in Bangladesh, Sri Lanka, and Pakistan and is striving hard to expand its influence by means of its economic might in the Bay of Bengal and the Arabian Sea. Thus, MSR is nothing but an economic disguise to the "Strings of Pearls" Theory. China is devoting a huge sum of money in India's immediate neighborhood and these countries tend to use the China card against India. BRI seems to be primarily driven by broad geostrategic and geopolitical aim. At the heart of India's coyness to accept Beijing's promise of road building and connectivity is a strategic mistrust, nothing else. The China-Pakistan Economic Corridor is the key reason why Delhi is grudging enough to embrace the project wholeheartedly. The proposed corridor (expected to connect Kashgar with the Port of Gwadar in Balochistan) runs through Pakistan-occupied Kashmir and Gilgit-Baltistan which are regarded by Delhi to be Indian territories (Cai, 2016).

Apart from geo-political concerns, India's anxieties and its non-committal approach to the MSRI also represent economic concerns. The MSRI is expected to augment maritime infrastructure capacities across the waters it covers by upgrading existing facilities and creating new infrastructure. Ideally, this should be an exciting prospect for Indian businesses given that their access to new advanced maritime infrastructure facilities within the neighborhood would enable faster and deeper integration with regional and global value chains. But the ability of Indian businesses to capture these benefits depends critically on how well they are also supported by domestic infrastructure capacities inside India. In spite of the continuing efforts of the Narendra Modi government, the poor standard of roads and congestion at inter-state borders persists to impinge on the speed at which goods can be moved within India, keeping transportation costs high for Indian businesses, and making it hard for them to become competitive actors in regional and global value chains. These competitive disadvantages also build inroads to India's lukewarm response to the MSRI (Palit, 2017). It is contended that Chinese policy of "One Belt, One Road" and CPEC is mainly targeted to challenge the rise of India in South Asia in particular and Asia and the world in general. The unilateral ideation and declaration of BRI, as well as Beijing's subsequent bilateral follow-up with regional states, tends to reinforce suspicions of China's geopolitical designs. Indian critics are afraid that China may use its economic power to increase its geopolitical leverage, and in doing so deepen existing security concerns for India (Pant and Passi, 2017). There is also apprehension in India that while CPEC in the short and medium term could be a chance to create jobs and growth in Pakistan, over the longer term its strategic consequences could change the format of the regional balance of power in

support of China and keep tight rein on India's geopolitical reach (Ghiassy and Zhou, 2017). To the Indian strategists, OBOR is a China's grand strategy to build a China dominated world order and it is better for India to extent its support to the west dominated system and order. In no way, it is possible for India to accept a project that allows hostile Chinese presence on all sides, ignoring its core concerns on sovereignty and territorial integrity. China's physical presence in POK is disquieting for India and Beijing's terming of CPEC as a "livelihood project" is an ingenious attempt to justify the unjustifiable (Dahiya and Panda, 2015).

Strategic Consequences

China's maritime Silk Road reinforces India's concerns about encirclement and possible dual-use facilities. The long-term strategic consequences of OBOR for India could also allow China to consolidate its presence in the Indian Ocean at India's expense. Indian critics contend that China may use its economic power to increase its geopolitical leverage and, in doing so, intensify security concerns for India. CPEC gives China a foothold in the western Indian Ocean with the Gwadar port, located near the strategic Strait of Hormuz, where Chinese warships and a submarine have surfaced. Access here allows China greater potential to control maritime trade in that part of the world – a vulnerable point for India, which sources more than 60 percent of its oil supplies from the Middle East. What's more, if CPEC does resolve China's "Malacca dilemma" – its over-reliance on the Malacca Straits for the transport of its energy resources – this gives Asia's largest economy greater operational space to pursue unilateral interests in maritime matters to the detriment of freedom of navigation and trade-energy security of several states in the Indian Ocean region, including India (Pant, 2017). Apart from it, India does not stand to gain any economic dividends by a mere endorsement of the Chinese initiative. China, on the other hand, could benefit from India's approval of OBOR.

The Indian apprehension is especially accustomed to China's expansive ambitions in what Delhi considers its own maritime neighbourhood. The Indians doubt about the MSRI not being truly multilateral and driven exclusively by China. The Vision statement calls for making full use of the following existing mechanisms for regional cooperation : the Shanghai Cooperation Organization (SCO), ASEAN+1 (China), Asia Pacific Economic Cooperation (APEC), Asia-Europe Meeting (ASEM), Asia-Cooperation Dialogue (ACD), Conference on Interaction and Confidence-Building Measures in Asia (CICA), Greater Mekong Sub-Region Economic Cooperation (GMS-EC), Central Asian Regional Economic Cooperation (CAREC) Forum, and the China-Arab States Cooperation Programme. China is a prominent member in all these forums (Palit, 2017). Beijing has been very diligent to project the MSR, which will allow safe passage

of China's shipping through the Indian Ocean and the South China Sea, as an exclusively commercial venture.

Implication on Economy

The OBOR initiative represents China's economic superiority that it is the largest economy and the second and largest manufacturer of the world. The economic rationale behind the MSRI is about creating a corridor that connects hubs of economic resources and actors, across contiguous and heterogeneous geographies. Connectivity on this scale would significantly reduce costs of movements for goods and people across borders and facilitate multi-country production networks in the MSRI geographical zones. This ambitious program follows on China's already extensive involvement in developing transport corridors in Asia. Over the last two decades, China has played a role in the Greater Mekong sub-region (GMS), connecting China to Laos, Myanmar, Thailand and Vietnam in Southeast Asia, and in Central Asia linking Central Asian countries to China, including South Asia.

The Silk Road Economic Corridor initiative is like to that of BCIM and the CPEC Corridor. India has direct and indirect presence in all the three economic corridors. BCIM gives India greater presence in the region as it is the formal member. The CPEC would link to the larger India market in order to reach its full economic potential. This corridor will open up the flow of trade between India and Pakistan which presently has to be routed through third-countries instead of receiving them directly. Further, India does not enjoy much leverage to guide ocean trade markets despite having proximity to sea and a strong navy. Although, China is the largest trade partner with most of the countries involved in BRI projects, India also is a significant trading partner especially with African, South Asian and South East Asian countries. The port development in Myanmar, Bangladesh, Sri Lanka, Maldives and Pakistan included in the BRI project has the capacity to change the bilateral equation along with disadvantage of India as it looks on with favours China's trade flows through the Indian Ocean. This will also show the way to trade diversion of Indian goods and services. China and India export some of the similar set of goods to the countries like Thailand, Myanmar, Cambodia in South East Asia region, Sri Lanka, Pakistan and Nepal in South Asia, few countries in Western Europe and Central Asia. Once the BRI is built, the countries might turn away their trade from India to China due to the easier accessibility to Chinese goods and currency exchange (Nataraj and Sekhani, 2016). In case of India's joining in OBOR, the Chinese companies may supervise the projects in India under OBOR. As a result of which they can neither create employment opportunities for local people nor care about local developmental needs. OBOR would also involve "the export of Chinese capital, labour, technology, industrial standards, and commercial benchmarks, use of the Yuan, development of new ports, industrial hubs, special economic zones and

military facilities under Beijing's auspices" (Rajmohan, 2017). The project in its current form has the capacity to push the countries into financial crisis including India. Through OBOR, China is pushing its global clout, building modern infrastructure that will help in attracting more investment and trade along the route. In the long run, it will help China gain more access to the energy resources.

Ramification on Security Calculus

Since the proposed corridor runs through the disputed territory of Pakistan occupied Kashmir, it is no way plausible for India to accept from any point of view. Construction of any infrastructure and transport linkages in seriously disputed territory by China implies total disregard to India's territorial boundary and interference in its sovereignty. CPEC will provide China strategic access to the Arabian Sea and enhance its presence in the region. It would allow China to exercise much more powerful influence in the Indian Ocean. Hence, it is widely believed that upon CPEC's fruition, an extensive Chinese presence will undermine India's influence in the Indian Ocean (Singh, 2017). The completion of CPEC project would mean the Chinese presence in entire Pakistan including Pakistan Occupied Kashmir without any doubt. The route of CPEC passes through POK and makes China an indirect stakeholder in Kashmir conflict between India and Pakistan. A large number of Chinese flags recovered by Indian security agencies in the aftermath of protests in the Kashmir valley in June last year (2016) suggests a dynamic shift towards a growing Chinese role in Kashmir (Nag, 2017). Chinese influence in Indian neighbors such as Nepal and Bhutan may increase. Encircling India via land corridor is just like string of pearls in Indian Ocean. Chinese presence in the Indian Ocean is no longer a possibility, but a reality. Greater Chinese emphasis on the Indian Ocean will stir up Indian suspicion of China's activities in its maritime backyard (Hendrix, 2016). China's growing engagement with Myanmar, Sri Lanka, Maldives, the docking of submarines in Sri Lanka, the Gwadar port and the China-Pakistan Economic corridor adds to India's suspicions regarding the MSR. Beijing is making progress in port development in the region providing an insight into Chinese ownership of these ports in other's territory. The possibility of an increase in Beijing's military facilities in the region is not far from reality. The unprecedented docking of a PLA Navy submarine at Colombo port in September 2014 is a forerunner for future developments in the Indian Ocean. China is likely to seek naval access to the maritime infrastructure thereby increasing its strategic presence in India's backyard. The PLA Navy could seek replenishment facilities in Chittagong, Colombo, Gwadar, Hambantota, and so on. In the near future, Gwadar will certainly become an important commercial hub for both China and Pakistan. It will be a serious development on ground of the fact that it provides an easy access to the Persian Gulf and is in the vicinity of the proposed Indian developed Iranian port, Chahbhar (40 NM) doubled with its ability to support both naval and commercial activity in South Arabian Sea and along the sea lanes

in Western Indian Ocean. In all likelihood, it might be developed as a possible future naval and communication base drawing the PLAN directly into the Indian Ocean.

The China Pakistan Economic Corridor (CPEC) project not only ensures economic development of Pakistan but also its security issues with India. As for India the Chinese 'New Maritime Silk Route' has geo-political dimensions. The brute reality is that the program of infrastructure connectivity will also expand China's strategic influence across the maritime geographies of the MSRI zones with coverage of the Indian Ocean, the waters of the Bay of Bengal, and the Arabian Sea, comprising India's eastern and western coastlines. Chinese pro-activeness causes anxieties for India, the principal geo-political actor in this maritime space. India's worrisome concern is whether the new MSRI-related China-funded maritime infrastructure assets in the Indian Ocean will be made use of for military and strategic purposes. Further, the railway route planned under BRICS expected to link Pakistan and China via Pakistan occupied Kashmir will be of matter of strategic importance in the occurrence of conflicts with India and will facilitate China to supply missiles and spare parts to Pakistan. This might have entailed severe consequences on India's power to negotiate with China on the territory of Ladakh and further cause tensions at border. Although Chinese analysts have been claiming OBOR as geo-economical initiative and not a geopolitical one, but India has all the grounds to be doubtful in this regard. Resonating the border conflict of 1962 in the minds of the Indians, the CPEC will exacerbate an explosive situation.

China has steadily expanded its influence in the Bay of Bengal and Arabian Sea by building ports in Sri Lanka and Pakistan and helping build Sandia Deep Sea port in Bangladesh apart from other Indian Ocean littoral engagements through a strategy of String of Pearls. The scenario is made worse by Pakistan, Bangladesh and Sri Lanka committing support to President Xi Jinping's MSR initiative as part of the overall Asian Security Plan. In view of the emerging scenario, anxieties in New Delhi are mounted up to a considerable extent that countries like Bangladesh and Sri Lanka could be further drawn into the Chinese domain. China – Pakistan military nexus is gaining ground and poses a clear danger to national security. If India lends support to OBOR, it will be an indication of encouragement to China-Pakistan Economic Corridor. And it will be in some way ratifying Pakistan's transfer of Shaksgam valley in PoK to China and will legalise Pakistan's occupation of Gilgit-Baltistan region.

Ways Ahead

OBOR may be a potential economic opportunity but it poses threats to India's interests. While India continues to measure the strategic pros and cons of joining the MSR, it can expand alliances with Japan to boost up its connectivity corridors. New Delhi is already opening its doors to Japan in areas which has

traditionally been closed to foreign investments. The Modi government has gladly received Japanese investments in India's Northeast region and the Andaman and Nicobar Islands areas with unbelievable geo-political advantages. India can also have more engagement with Japan's Belt and Road initiative to drive rich dividends from it.

Instead of surrendering to China's pressure and proposition on OBOR, India should build up its economic and military strength, form diplomatic alliances and take diplomatic initiatives that look after its interests. India in April 2016 initiated the inaugural Maritime India Summit – a “global platform for investors to find out potential business opportunities in the Indian Maritime Sector”. Modi also laid open a plan for ‘Sagarmala’ to “boost India's merchandise exports to \$110 billion by 2025” while building an impressive employment record. A shift in India's maritime policies helped not to lose its momentum or its vision in building up its maritime capabilities (Baruah, 2017). India is on the process of developing naval ports in Indian Ocean regions like at Madagascar, Seychelles, and Mauritius, Chabahar's location that provides India access, besides Iran, to Afghanistan, central Asia, and Europe, avoiding Pakistan altogether and reducing significantly current travel distances and time. International North South Transport Corridor initiated by India, Russia, and Iran is another timely connectivity solution for India in Central Asia.

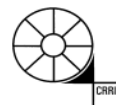
India must strengthen its relations through economic, diplomatic and military cooperation with important countries along the IOR to include Sri Lanka, Maldives, Iran, Mauritius, Seychelles, Madagascar and countries in the African continent and, South Asian countries like Nepal, Bhutan, Myanmar and Bangladesh. India has to bolster up the multilateral framework by drawing on its Strategic Partnership with the USA and, its deepening ties with Japan and Vietnam to ensure freedom of navigation and prevent domination of the IOR and Asia-Pacific by a single country. This will facilitate India to defend its national interests while upholding its strategic autonomy. India must also build up the existing mechanisms of Indian Ocean Rim Association (IORA) and South Asian Association for Regional Cooperation (SAARC) to implement ‘Project Mausam’ and the ‘Spice Route’ initiative. Just and fair implementation of ‘Project Mausam’ and the ‘Ancient Spice Route’ along with multilateral cooperation with other regional powers provides a way out for India to defend its national interests in the IOR and Asia-Pacific (Nair, 2015). It is also an alternative for India to provide political, diplomatic and moral support to the Baloch people who may be engaged in disrupting the corridor. Initiatives like the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) could be followed with great effort and enthusiasm than has been the case till now (Kanwal, 2017). The initiatives like Myanmar's Kaladan project, the Chabahar port project with Iran and north-south corridor with Russia could be potentially

leveraged. The announcement of the Asia Africa Growth Corridor (AAGC) made by Prime Minister Narendra Modi, in which both Japan and India will be important stakeholders, is a welcome step for enhancing growth and connectivity between Asia and Africa and in part a response to China's ever-growing presence on the continent. India has to leave no stone unturned to develop its domestic connectivity and to make available to its own industries a favorable environment in order to meet the Chinese challenge. Up till now, China's political management of the Belt and Road Initiative is quite unsuccessful to gain the confidence of Indian authorities that the MSR initiative is honest and mainly concerning to economic gains and connectivity. A more objective Indian perspective is possible in the presence of clear articulation of the specific projects and benefits of the MSR initiative. The non-availability of these details will hold India in its imagination of a sort of fear with respect to the MSR initiative being a geostrategic design going for promoting the Chinese security interest and increasing its global geopolitical influence under the thin covering of expanding road networks and old narrative of encircling India.

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IS HEALTH CARE A NECESSITY OR A LUXURY? AN EMPIRICAL EVIDENCE FROM INDIAN STATES

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Abstract: This paper investigates the long run relationship between health care expenditure and economic growth in selected major Indian states by employing the panel co-integration and causality analysis over the period from 1980 to 2014. For empirically verifying the long run relationship between health expenditure and economic growth, the panel unit root test and panel causality tests are employed. Further to estimate the long run and short run parameters, the present study has used panel Dynamic Ordinary Least Squares (DOLS), and Seemingly Unrelated Regression (SUR) respectively. To examine the panel causality among Health care expenditure and economic growth, a new method developed by Dumitrescu and Hurlin (2012) is adopted. Overall, the results suggest that there exists a positive relationship between health expenditure and economic growth both in the short run and the long run. The income elasticity of health expenditure with respect to GSDP is 0.71, which is less than one, showing that health expenditure is not a luxury rather it is a necessity for the Indian states. Furthermore, there is evidence of unidirectional homogeneous causality running from economic growth to health expenditure and no causality from health expenditure to economic growth in the major Indian states.

Keywords: Health Care expenditure, GSDP, Indian States, Panel Co-integration, Causality

1. Introduction

Health is regarded as the most crucial aspect of human well-being. It is extremely necessary for the realisation of basic human needs and to attain a status of better quality of life. The goal of “Health for all” as stated by WHO (1978) is an important tool to achieve the target of Universal Health Coverage for a healthy

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society. There is general consensus that health is one of the crucial elements of socio-economic development and further it helps to enlarge human capital and pace of economic growth of a country (Khan et. al., 2015). The contribution from Growth theorists like Romer (1986), Lucas (1988) and Stokey (1991) etc. have argued that the accumulation of human capital can support the long term growth of the economies. These economists considered investments in health and education to be the corner stones of human capital accumulation. According to Michal Grossman (1972) Health is both demanded and produced by the consumer which helps to increase the utility of healthiness through longevity and illness free days. It is a source of utility and determines income and wealth levels of both the individual and the country as a whole. Sen (1999) stated that health is one among the basic capabilities that gives human life a value and constitutes a base for the capacity to learn, the capability to grow intellectually, physically, and emotionally and enhance productivity levels. He further argues that, health care is an essential component of development which is an end goal in itself. According to the World Health Organisation (1999), the economic gains of good health had higher economic growth, while free of ill-health traps in poverty. A global survey of the United Nations (2000) has ranked good health as the first and foremost desire of men and women around the world. A nation's economic resources which is directed towards health care can be considered a part of investment in health and such investments in health can bring about improvements in productivity, raise the nutrition levels and hence a reduction in diseases. Healthier people are active in both physically and mentally and they are more productive and earn higher wages (Bloom et. al., 2001). This leads to an increase in income in all the sectors on account of increased productivity, which in turn contribute to the economic development of a country. Health is considered as a primary and most essential input for human resource development of a country. Uncertainty about the occurrence of ill health and also, health as a basic human right requires government intervention in the provision of providing healthcare services free of cost or at subsidized prices (Gertler 1990). Since the development of endogenous growth model by Romer (1986) and Lucas (1988) which emphasised the role of human capital for economic growth, government at various levels have been urged to spend more on human capital by the donors, international financial institutions such as World Bank, International Monetary Fund (IMF) and civil society organisations.

The Government financing of health care services becomes important particularly in the context of developing economies, for it serves the health care needs of the poor who cannot afford to spend out of their pocket, the externality component present in certain health care services which possess the characteristics of a merit good and also to overcome the market failures (Musgrove, 1997). The ultimate goal of every government is to ensure universal access to health care for its population. According to the studies conducted by international organisation

like WHO and World Bank, the country like India needs to spend 5-6 per cent of its GDP on public health care in order to achieve Universal Health coverage. The studies by Prabhu (1997), UNDP (1997) and Chelliah and Sundaram (1999) showed that the structural adjustment programme led the country to face many odd challenges and suffered huge shortage of finance in public health care. As a consequence of this, the public health care delivery system suffers from inadequate health care services, severe staff shortage, lower quality of infrastructure and catastrophic out-of-pocket expenditure (Kurian, 2015).

The efficiency of health expenditure is determined by its impact on improving health status of the people. Health expenditure has both direct and indirect implications for improving health outcomes of the country. Regarding public health expenditure as a percentage of GDP (1.4%) and private health expenditure as a percentage of total expenditure on health (69.96%), the position of India is worst as compared to other South Asian countries. India's position is only better than Pakistan in case of public health expenditure and on the other hand in case of private expenditure, it is only better than Bangladesh (World Health Statistics, 2017; WHO; World Development Indicators, 2016 and World Bank). As far as the performance of health outcomes in India is concerned, it is only better than Pakistan in case of LE, IMR and U5MR. Furthermore, in case of MMR, a small country like Sri Lanka outperformed others with the lowest figure of MMR rate i.e., 30 among other South Asian countries. On the other hand India is still struggling to reduce MMR below 100 as targeted in the recent National Health Policy and its position is only better than Pakistan, Bangladesh and Nepal. The above performance of India in both financing and achievement in health outcomes are far from satisfactory and quite uneven and slow (World Development Indicators, 2016, World Bank). Further the situation is even worst in case of different states of India. It is evident that some states are well-off and performing better than the national average of health outcomes (South-Indian states, Punjab, Maharashtra, West Bengal etc.) and some other states are performing low (Uttar Pradesh, Orissa, Madhya Pradesh, Bihar, Rajasthan, Assam etc.) as compared to other Indian states (Sample Registration System, 2017, GoI). This shows a clear deprivation of basic health care services for the poor people in achieving the targeted goal of "Health for All" as stated by WHO. Keeping in view the importance of health in the economic growth process, the main objective of the present study is to examine the nexus between HCE and GSDP in the major states of by using the panel cointegration method over the period 1990–2014. We believe that the results of this study provide important insights with reference to health policy in India. Secondly, the present study uses relatively new panel causality test to determine the causality relationship between HCE and economic growth developed by the Dumitrescu and Hurlin (2012).

The paper is systematised as follows. Section 2 reviews past theoretical and empirical literature on the relationship between health and economic growth.

Section 3 is devoted to analytical framework and model specification. Section 4 presents data and methodology. Section 5 discusses empirical findings. Section 6 provides conclusion along with some policy implications.

Literature Review

After the post-war period and since the last quarter of the twentieth century there was a common question among the academicians and policymakers about the persistent rise in health expenditure, solutions or suggestions for cost containment and cost-effectiveness (Matto and Matto, 1998 and Gerdtham and Jonsson, 2000). Most of the studies started research on the above-stated issues by using the Determinants Approach in which per capita health care expenditure was regressed on the variables which in turn was thought to affect health expenditure. The first generation study starting from Kleiman (1974) followed by Newhouse (1977), Leu (1986), OECD (1987a), Gertham et. al. (1988), Culyer (1989), Plaff (1990), and Gertham et. al. (1992a, 1992b) have used several cross-sectional bivariate and multivariate regression analysis to examine the observed differences in health expenditure across countries. The most common results derived from their studies stated that the per capita income is the most significant factor in explaining healthcare expenditure among the countries under study. Most of the studies cited that the 90 percent variation in health expenditure is explained by real per capita income which indicates a strong nexus between national income and national expenditure on health care. Empirical findings from the many studies confirmed the elasticity of health care expenditure with respect to income is greater than one and health being considered as a luxury good.

It was Parkin et. al. (1987) and Gbesemete and Gerthan (1992) who made an attempt to estimate the parameter by using the the data of 18 OECD countries and 30 African countries by using different functional form and conversion factors of exchange rate and PPP and their results are slightly different from the earlier studies on income elasticity which is not significantly higher than one. In the same way, Milne and Molina (1991) had got the same empirical results as Gerthan and Jonsson (1991c) when they pooled the cross-section data of 11 EC countries from 1980 and 1985. The second generation, studies started by criticising the smallness of cross-sectional data and the homogeneous assumption of health care across countries and problem in identifying the systematic relationship between the variables. The studies by Culyer (1990) and Hitiris and Posnett (1992) have attempted to address the above problems by estimating individual countries and pooled cross-section and time series models respectively for OECD countries. The studies concluded by stating the income elasticity was varied from 1.02 to 1.16 at both exchange rate and PPP, which confirmed the elasticity of health spending is around unity. Apart from the GDP, other non-income factors also had a specific influence on the healthcare demand although their coefficients are very small. Recently so many studies have been conducted

by applying Unit root and cointegration methods to observe the connection between health expenditure and GDP. In one case Hansen and King (1996) supported the inclusion of time trend whereas, McCoskey and Selden omitted the time trend in his model giving the argument that it will create a significant loss of power with no significant improvement in fit. The studies by Hansen and King (1996), Blomqvist and carter (1997), Roberts (1998) found different results because they have adopted different methods of co-integrating relationship. In opposition to Hansen and King, others have rejected the null hypothesis of unit roots for both HE and GDP based on an individual country by country and panel unit root tests. The above studies found the non-stationarity for Health expenditure and GDP and elasticity of health expenditure is around one. Further, Gerdtham, U.G. and Mickael Lothgren (2000) have estimated the relationship between health expenditure and GDP by using some new country by country and panel data for 21 OECD countries covering the updated data from 1960 to 1997 by adopting stationary and co-integration tests. From the cointegration test through ECM both by country-specific and panel, it rarely rejects the no-cointegration hypothesis and the same result of co-integration was supported by Shin. The study by Matteo and Matteo (1998) and Freeman (2003) provided a strong evidence of cointegration and the elasticity for health care expenditure is well below one, which clearly stated that health is not a luxury good. In the same way Sen, A (2005) estimated the income elasticity of OECD data and found lowest elasticity of 0.21 to 0.51 by incorporating various demand and supply determinants. Recently the study conducted by Baltagi and Moscone (2010) and Farag et. al. (2012) found a strong cointegration between health expenditure and income by using a panel data and concluded the elasticity is less than one reveals the necessary nature of income elasticity. The evolution of the studies for examining the connection between health expenditure and income are of two types. The short-run type of analysis basically used cross-sectional data and estimated the elasticity of health expenditure and the long-run type of study had used cointegration technique to examine the relationship. The overall findings concluded that economic growth had been a most significant factor in determining the health expenditure of a country which may be developed, developing and underdeveloped.

Most of the above studies are confined to developed countries and all the studies give inconclusive evidence of income elasticity of health expenditure. There are many studies conducted in developing countries, and in the case of India, a handful of studies have estimated the long-term nexus between health care expenditure and income and the measurement of elasticity of health care services. The relationship between health care expenditure and economic growth is further examined in India by Bhat and Jain (2006), Rahman (2008), Pradhan and Bagchi (2012), Hooda (2015), Behera and Dash (2016, 2017 & 2017). Earlier studies by Bhat and Jain (2006), Rahman (2008) and Hooda (2015) used random

effect models and found income and fiscal capacity of the states have the largest impact and most important determinants of the health expenditure pattern of the states with an income elasticity of varies from 0.47 percent to 0.68 percent. In the same way, the long run and causal relationship were examined by few researchers based on the co-integration and VECM frameworks like the studies by Pradhan and Bagchi (2012), Behera and Dash (2016), Behera and Dash (2017) and Behera and Dash (2017). The above studies examined the short run and long run dynamic relationship between health care expenditure and income and found conflicting results.

The whole analysis of determinants of health expenditure and its relationship with economic growth stated that income is the most important determinant of health care spending throughout the countries of the world. Except for income other institutional and non-institutional factors also affect the health expenditure but there is no consensus among the researchers on this specific issue of health care spending. Some researchers argue that it is because of non-availability of data on non-income factors and some others argue and blame the weakness of econometric methods used to model the health expenditure.

Data and Methodology

In order to examine the nexus between health expenditure and economic growth and to investigate the causal relationship between them in the major Indian states, this study used panel data over the period 1980-2014. Real health expenditure and real GSDP are taken into account for the analysis. The econometric methodology for panel co-integration and causality between HE and GSDP consists of three steps. First, we employed panel unit root test proposed by Levin, Lin & Chu (2002), Im–Pesaran–Shin (2003), ADF unit root test and PP unit root test to determine the order of integration of each variable. In the second step, we employed panel co-integration tests proposed by Pedroni (1999, 2004) to examine the long run relationship between HE and GSDP. Third, we applied the panel dynamic least squares (PDOLS). Finally, we applied panel causality test to determine the direction of causality between HE and economic growth (GSDP).

Unit Root Test

Generally, the augmented Dicky-Fuller (ADF) unit root test is normally used to detect the order of integration of time series variables but the traditional ADF unit root suffers from the problem of low power in rejecting the null hypothesis of stationarity of the time series for small size data. To resolve the above problem, we use LLC (Levin et. al., 2002) and IPS (Im et. al., 2003), panel unit root test based on ADF principles. LLC unit root test assumes homogeneity in the dynamics of the autoregressive coefficients for all panel members, while IPS assumes heterogeneity in the dynamics.ⁱ

LLC proposes a panel base ADF test with a panel setting and restricts lag coefficient φ_i to keep it identical across cross sectional regions. The test imposes homogeneity on the autoregressive coefficients $\{\varphi_i\}$ that indicates the presence or absence of a unit root whereas the intercept and trend may vary across individual seriesⁱⁱ. The model only allows heterogeneity only in the intercept and is given by

$$\Delta Y_{i,t} = \alpha_i + \varphi_i Y_{i,t-i} + \sum_{j=1}^{p_i} \beta_j \Delta Y_{i,t-j} + \varepsilon_{i,t} \quad (1)$$

Where $Y_{i,t}$ is a series for panel member (state) $i = (i = 1, 2, 3 \dots, N)$ over period t ($t = 1, 2, 3 \dots T$) and p_i is the number of lags in the ADF regression. The error term ($\varepsilon_{i,t}$) is assumed to be IID $N(0, \sigma^2)$ and independent across the members of the sample. This model allows for fixed effects, unit specific time trends and common time effects. As stated, the coefficient of the lagged dependent variable is restricted to be homogeneous across all units of panel. Hence, the null hypothesis of non-stationarity is stated as:

$$H_0: \varphi_i = 0, \text{ to be tested against alternative,} \quad (2)$$

$$H_1: \varphi_i = \varphi < 0 \text{ for all } i.$$

The fixed effect model (1) is based on usual t-statistic,

$$t_y = \frac{\hat{\varphi}}{(s.e. \hat{\varphi})} \quad (3)$$

Where φ is restricted by being kept identical across members or units of the panel or regions under both the null and alternative hypotheses.

The IPS test begins by specifying a separate ADF regression for each cross section (state i):

$$\Delta Y_{i,t} = \alpha_i + \varphi_i Y_{i,t-i} + \sum_{j=1}^{p_i} \beta_j \Delta Y_{i,t-j} + \varepsilon_{i,t} \quad (4)$$

Where $Y_{i,t}$ is a series for panel member (state) $i = (i = 1, 2 \dots, N)$ over period t ($t = 1, \dots T$) and p_i is the number of lags in the ADF regression. The error term ($\varepsilon_{i,t}$) is assumed to be IID $N(0, \sigma^2)$ for all i and t . Both φ_i and the lag order β in equation (4) are allowed to vary across sections (States). IPS relaxes the assumption of homogeneity of the coefficients of the lagged dependent variable. It tests the null hypothesis that each section in the panel has a unit root for all cross-section units against the alternative that at least one of the series is stationary.

$H_0: \varphi_i = 0$ for all i , is tested against the alternative, (5)

$H_1: \varphi_i = \varphi_i < 0$ for $i=1, 2 \dots N$, $\varphi_i = 0$,

$i=N_1+1, N_1+2, \dots, N$

The alternative hypothesis simply implies that some or all of the individual series are stationary. Im et. al. (2003) developed two test statistics for IPS and called them the LM-bar and the t-bar tests. The IPS t-bar statistic is calculated using the average of the individual Dickey-Fuller τ statistics shown below.

$$\bar{\tau} = \frac{1}{N} \sum_{i=1}^N \tau_i \quad (6)$$

$$\tau_i = \frac{\widehat{\varphi_i}}{\sigma_{\varepsilon}(\widehat{\varphi_i})} \quad (7)$$

Assuming that the cross sections are independent, IPS uses the standardized t-bar statistic

$$\bar{Z} = \frac{\sqrt{N}(\bar{\tau} - E(\bar{\tau}))}{\sqrt{\text{Var}(\bar{\tau})}} \quad (8)$$

The term $E(\bar{\tau})$ and $\text{Var}(\bar{\tau})$ in (8) are the mean and variance of the τ statistic

Co-integration Test

The next step is to test for the existence of a long-run co-integration among GSDP and HE using panel co-integration tests suggested by Pedroni (1999 and 2004). We will make use of seven panel co-integrations by Pedroni (1999), since he determines the appropriateness of the tests to be applied to estimated residuals from a co-integration regression after normalizing the panel statistics with correction terms.

The procedures proposed by Pedroni (1999 and 2004) make use of estimated residual from the hypothesized long-run regression of the following form:

$$Y_{it} = \alpha_i + \sum_{j=1}^{p_i} \beta_{ji} X_{jit} + \varepsilon_{it} \quad (9)$$

and

$$\varepsilon_{it} = \rho_i \varepsilon_{i(t-1)} + w_{it} \quad (10)$$

Where Y_{it} and X_{jit} are observable variables; ε_{it} represents the disturbance term from the panel regression; α_i allows for the possibility of state specific

fixed effects and the coefficients of β_{ji} allows for the variation across individual states. The null hypothesis of no co-integration of the pooled (within dimension) estimation is $H_0: \rho_i = 1$ for all i against $H_0: \rho_i = \rho < 1$. The null hypothesis of no-cointegration of the pooled (between-dimension) estimation is $H_0: \rho_i = 1$ for all i against $H_0: \rho_i = \rho < 1$ for some i . Pedroni suggested two sets to determine the existence of heterogeneity of the co-integration vector. The first is the within dimension approach which includes four statistics that are respectively panel V-statistic, panel ρ statistic, panel PP-statistic and panel ADF-statistic (Pedroni, 1999). The second test based on between-dimensional approach (group test), includes three statistics like the group ρ -statistic, group PP-statistic and group ADF statistic respectively. These statistics are based on estimators that simply average the individually estimated coefficients for each member. All the seven panel co-integration statistics are calculated as below.

Panel v-statistic

$$Z_v = \left[\sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{\varepsilon}_{it-1}^2 \right]^{-1} \quad (11)$$

Panel ρ -statistic

$$Z_\rho = \left[\sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{\varepsilon}_{it-1}^2 \right]^{-1} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} (\hat{\varepsilon}_{it-1} \Delta \hat{\varepsilon}_{it} - \hat{\lambda}_i) \quad (12)$$

Panel PP-statistic

$$Z_t = \left[\hat{\sigma}^2 \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{\varepsilon}_{it-1}^2 \right]^{-0.5} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} (\hat{\varepsilon}_{it-1} \Delta \hat{\varepsilon}_{it} - \hat{\lambda}_i) \quad (13)$$

Panel ADF-statistic

$$Z_t^* = \left[\hat{S}^{*2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{\varepsilon}_{it-1}^{*2} \right]^{-0.5} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11i}^{-2} \hat{\varepsilon}_{it-1}^* \Delta \hat{\varepsilon}_{it}^* \quad (14)$$

Group ρ -statistic

$$\tilde{Z}_\rho = \sum_{i=1}^N (\sum_{t=1}^T \hat{\varepsilon}_{it-1}^2)^{-1} \sum_{t=1}^T (\hat{\varepsilon}_{it-1} \Delta \hat{\varepsilon}_{it} - \hat{\lambda}_i) \quad (15)$$

Group pp-statistic

$$\tilde{Z}_t = \sum_{i=1}^N (\hat{\sigma}^2 \sum_{t=1}^T \hat{\varepsilon}_{it-1}^2)^{-0.5} \sum_{t=1}^T (\hat{\varepsilon}_{it-1} \Delta \hat{\varepsilon}_{it} - \hat{\lambda}_i) \quad (16)$$

Group ADF-statistic

$$\tilde{Z}_t^* = \sum_{i=1}^N (\sum_{t=1}^T \hat{S}_i^{*2} \hat{\varepsilon}_{it-1}^{*2})^{-0.5} \sum_{t=1}^T (\hat{\varepsilon}_{it-1}^* \Delta \hat{\varepsilon}_{it}^*) \quad (17)$$

Here $\hat{\varepsilon}_{it}$ is the estimated residual from equation (9) and $\hat{L}_{11i}^{-2}$ is the estimated long run covariance matrix for it $\Delta \hat{\varepsilon}_{it}$. Likewise, $\hat{\sigma}_i^2$ and $\hat{s}_i^2(\hat{s}_i^{*2})$ are the long run and contemporaneous variances for individual i . The above seven tests are based on the principle of asymptotically standard normal distribution given by their respective panel/group co-integration statistic.

Except Panel v statistic, the remaining statistics diverge to negative infinite, which states that large negative value reject null hypothesis. In the case of panel v statistics, the large positive value rejects the null hypothesis of no-cointegration. All the above statistics are able to explain individual specific short-run dynamics, individual specific fixed effects, individual specific slope coefficients and deterministic trends which would be most useful to analyze the co integration using panel dataⁱⁱⁱ.

Panel Dynamic Ordinary Least Square Estimation

After detecting the co-integration between variables, the very next step is to estimate the long run parameters using the panel dynamic ordinary least square (DOLS) which uses both lags and leads differenced independent variables to capture the possibility of endogeneity in the model^{iv}. The long run panel DOLS can be written as follow.

$$y_{i,t} = \alpha_i + x_{i,t}^I \varphi + \sum_{j=-q}^{+q} c_{ij} \Delta x_{i,t+j} + \varepsilon_{i,t} \quad (18)$$

Where $E(\varepsilon_{i,t} \varepsilon_{j,t}) = \sigma_{ij}$ and $E(\varepsilon_{i,t} \varepsilon_{j,s}) = 0$ for all i, j and $t \neq s$. $y_{i,t}$ is the vector of dependent variables and $x_{i,t}$ is the Vector of independent variables. Δ is the first difference of independent variables. $\mp q$ is the number of lags and leads.

Panel Causality Test

To examine the direction of causality between economic growth i.e., GSDP and health expenditure (HE) for fifteen major states, we have employed the panel Granger causality test developed by Dumitrescu and Hurlin (2012). They have developed four different types of causality relationship in the presence of heterogeneity in the regression model. They are (1) Homogenous non-causality (HNCA), (2) Homogenous causality (HCA), (3) Heterogeneous causality (HECA) and (4) Heterogeneous non causality (HENCA). To examine the HNCA in heterogeneous panels, we use the following model developed by Dumitrescu and Hurlin (2012).

$$y_{i,t} = \alpha_i + \sum_{k=1}^K \varphi_i^{(k)} y_{i,t-k} + \sum_{k=1}^K \beta_i^{(k)} x_{i,t-k} + \varepsilon_{i,t} \quad (19)$$

Where x and y are two stationary variables observed for N individuals on T periods. For each individual $i=1, \dots, N$, at time $t=1, \dots, T$, K is the lag length which is assumed to be identical for all cross-section units of the panel and the panel is balanced, α , φ and β are parameters to be estimated. It is assumed that the autoregressive parameters $\varphi_i^{(k)}$ and the regression coefficients slopes $\beta_i^{(k)}$ differ across the sections and are assumed to be constant in time. In order to test the HNCA hypothesis, the model has taken into account both the heterogeneity and causal relations of the regression variables. The alternative hypothesis allows for a subgroup of individuals for which no causality relationship and a subgroup of individuals for which the variables X Granger causes Y . The null hypothesis of HNCA can be defined as:

$$H_0: \beta_i = 0, \text{ for } i=1 \dots N \quad (20)$$

With $\beta_i = (\beta_i^{(1)} \dots \beta_i^{(k)})$ and β_i may differ across groups under the alternative hypothesis of models heterogeneity. It is assumed that the individual vectors β_i are equal to zero for non causality. Under H_1 there is $N_1 < N$ individual processes with no causality from X to Y . The alternative Hypothesis can be specified as:

$$H_1: \beta_i = 0, \text{ for all } i=1 \dots N \quad (21)$$

$$H_1: \beta_i \neq 0, \text{ for all } i=N_1 + 1, N_1 + 2, \dots, N \quad (22)$$

Where N_1 is unknown but satisfied the condition $0 \leq (N_1/N) < 1$. The ratio (N_1/N) is necessarily inferior to one, if $N_1=N$ there is no causality for any of the individuals in the panel, which is equivalent to the HNCA null hypothesis (Dumitrescu and Hurlin, 2012). In contrast, when $N_1=0$ there is causality for the entire individual in the sample. If null hypothesis is accepted the variable x does not Granger cause the variable y for all the units of the panel. On the other hand, if HNCA hypothesis is rejected and $N_1=0$, then x Granger causes y for all the individuals of the panel which supports the hypothesis of HC. If $N_1 > 0$, the causality relationship is heterogeneous. In this case the regression model and the causality relationships are different from one individual from the sample to another (Dumitrescu and Hurlin 2012)^v.

Keeping in mind the above observations, an average of N standard individual Wald statistics ($W_{N,T}^{HNCA}$) was proposed by Dumitrescu and Hurlin (2012) to test the Granger non causality hypothesis for units $i=1 \dots N$.

$$W_{N,T}^{HNCA} = \frac{1}{N} \sum_{i=1}^N W_{i,t} \quad (23)$$

Where $W_{i,t}$ denotes the individual Wald statistics for the i th cross-sectional units corresponding to the individual test $\beta_i=0$. When T is fixed, finite second order movements ($s=2$) of individual Wald statistic ($W_{i,t}$) associated with the test $H_{0,i}:\beta_i=0$ exists. Consequently, individual Wald statistics ($W_{i,t}$) are not necessarily identically distributed for small T . Under this situation, the non-causality test statistic $W_{N,T}^{HNCA}$ is the average of non-identically distributed variables $W_{i,t}$ with finite second order movements. At the same time the vector of residuals e_i and e_j are independent for $j \neq i$. Therefore, individual Wald statistics ($W_{i,t}$) are independent for $i=, \dots, N$. The distribution of the non-causality test statistic $W_{N,T}^{HNCA}$ can hence be derived by relying on the Lyapunov central limit theorem. The standardized statistic $\bar{Z}_{N,T}^{HNCA}$ is then calculated as:

$$\bar{Z}_N^{HNCA} = \frac{\sqrt{N}[W_{N,T}^{HNCA} - N^{-1} \sum_{i=1}^N E(W_{i,T})]}{\sqrt{N^{-1} \sum_{i=1}^N Var(W_{i,T})}} \quad (24)$$

Where $E(W_{i,T})$ and $Var(W_{i,T})$ denotes the mean and the variance of the $W_{i,T}$. If the realization of the standardized statistic $\bar{Z}_N^{HNCA}$ is superior to the corresponding normal critical value for a given level of risk, the homogenous non causality (HNCA) hypothesis is rejected. For large T the second order movements are expected to converge to $E(W_{i,T})=K$ and $Var(W_{i,T})=2K$ since the individual statistics $W_{i,T}$ converge in distribution to a chi-squared distribution with K degrees of freedom. Then the statistic $\bar{Z}_N^{HNCA}$ converges to $\bar{Z}_{N,T}^{HNCA}$.

Empirical Results and Discussion

Panel Unit Root Test

Before examining the panel co-integration test, we first check for the order integration of each variable by employing the Im et. al. (2003), IPS unit root test, ADF unit root test and PP unit root test. The test like Im et. al. and IPS test are more appropriate for the balanced panel and consider heterogeneity in at least one of the individual states under the alternative hypothesis (Khan et. al. 2015). The results shown in the Table-1 suggest that GSDP and HE are non-stationary in both the Test at their level and become stationary at first difference. Thus, we conclude that each variable is integrated of order one i.e., $GSDP \sim I(1)$, and $HE \sim I(1)$. Given the results of LLC, and IPS tests, it is possible to apply panel co-integration method in order to test for the existence of the stable long-run relation between economic growth and health expenditure.

Table-1
Results of Panel Unit Root Test
Panel Unit Root Test – Levin, Lin & Chu

Variable	Level		First order difference	
	Constant	Constant + Trend	Constant	Constant + Trend
LOGGSDP	5.33 (1.00)	-0.63 (0.26)	-6.13*** (0.00)	-4.21*** (0.00)
LOGHE	2.01 (0.97)	1.19 (0.88)	-5.19*** (0.00)	-3.48*** (0.00)

Panel Unit Root Test – Im, Pesaran and Shin W-stat

	Constant	Constant + Trend	Constant	Constant + Trend
LOGGSDP	11.89 (1.00)	3.07 (0.99)	-11.27*** (0.00)	-10.58*** (0.00)
LOGHE	6.98 (1.00)	0.57 (0.71)	-11.77*** (0.00)	-9.53*** (0.00)

Panel Unit Root Test – ADF - Fisher Chi-square

	Constant	Constant + Trend	Constant	Constant + Trend
LOGGSDP	0.14 (1.00)	20.13 (0.91)	169.35*** (0.00)	148.05*** (0.00)
LOGHE	2.84 (1.00)	43.62 (0.051)*	175.09*** (0.00)	134.81*** (0.00)

Panel Unit Root Test – PP - Fisher Chi-square

	Constant	Constant + Trend	Constant	Constant + Trend
LOGGSDP	42.4(0.06)*	68.02 (0.00)***	320.89*** (0.00)	796.78*** (0.00)
LOGHE	45.25 (0.03)**	94.20 (0.00)***	300.37*** (0.00)	625.75*** (0.00)

Note: ***, **, * indicates rejection of the null hypothesis of no-cointegration at 1% and 5%, levels of significance

Pedroni Co-integration Test

Following the results of the panel unit root test, we test for co-integration relationship by employing the panel cointegration test developed by Pedroni (1999, 2004). This test allows for cointegrating vectors of differencing magnitudes between groups and allows for fixed effects. The results of Pedroni co integration test based on panel v -statistics, panel ρ statistics, panel PP-statistic and panel ADF statistic are reported in Table 2.

Table-2
Results of the Pedroni's Panel Co-integration Test

Test Statistics	Calculated values	Probability	Weighted calculated values	Probability
(Within-Dimension)				
Panel v -Statistics	3.73	(0.0001) ***	3.57	(0.0002) ***
Panel ρ -Statistics	-6.25	(0.000) ***	-5.90	(0.000) ***
Panel PP-statistics	-5.66	(0.000) ***	-5.39	(0.000) ***
Panel ADF-statistics	-2.96	(0.0015) ***	-2.89	(0.0014) ***
(Between Dimension)				
Group ρ — statistics	-4.17	(0.00) ***		
Group PP-statistics	-5.24	(0.0003) ***		
Group ADF-statistics	-2.85	(0.0021) ***		

Notes: (1) The parentheses indicate the probability of significance. Estimation follows no deterministic trend. ***, **, * Indicates significant at the 1 %, 5% & 10% level respectively. (2) All statistics are from Pedroni's procedure (1999) where the adjusted values can be compared to the $N(0,1)$ distribution. The Pedroni (2004) statistics are one-sided tests with a critical value of -1.64 ($k < -1.64$ implies rejection of the null), except the v -statistic that has a critical value of 1.64 ($k > 1.64$ suggests rejection of the null).

Since the variables are found to be integrated in the same order $I(1)$, we continue with the panel cointegration tests proposed by Pedroni (1999, 2001, and 2004). The Pedroni cointegration test is applied to the 15 Indian states with total of 510 observations. Cointegrations are carried out for without trend and the summary of the results of cointegrations analyses are presented in Table 2. In constant level, we found that all the 7 statistics reject null by hypothesis of no cointegration at the 1 percent level of significance. Apart from the above statistics, all the weighted statistics are significant at 1 percent level. The results of the panel cointegration tests in the model with constant level show that HE does hold cointegration in the long run for a group of major 15 states with respect to GSDP. However, since all the statistics conclude in favour of cointegration, and this, combined with the fact that the according to Pedroni (1999) the panel non-parametric (t -statistic) and parametric (adf -statistic) statistics are more reliable, we conclude that there is a long run co-integration among our variables in major 15 states of India.

Dynamic Ordinary Least Square (DOLS)

Given the existence of co-integration relationship between the variables, we have now estimated long run parameters by employing the panel DOLS method. Table-3 depicts the estimation results.

Table-3
Dynamic Ordinary Least Squares Estimation Results: Dependent variable
HE and GSDP

Independent Variables	Prob	Coefficients	Std. Error	T-values
GSDP	0.71	0.16	4.34	0.00***
HE	0.24	0.09	2.68	0.007**

Notes: ***, ** Indicates significance at the 1 % & 5% significance level.

It is evident from the above Table, that health expenditure is positively related to economic growth and statistically significant. It is theoretically consistent that HCE and economic growth are positively related to each other in the long run. The income elasticity of health expenditure with respect to GSDP is 0.71, which is less than one, showing that health expenditure is not luxury rather it is necessary good for the Indian states. An increase in GSDP by 1 percent leads to increase in health expenditure by 0.71 percent in the long run. Our result is consistent with those of Parkin (1987), Hitiris and Posnett (1992); Blomqvist and Carter (1997); McCoskey and Selden (1998); Matteo and Matteo (1998); Freeman (2003); Balgati and Moscone (2010). However, the above elasticity value is contradicting with the results of Kleiman (1974); Newhouse (1977); Leu (1986) and Gerdtham et. al. (1992). The necessary nature of health care good are also reported by many studies like Bukhari et. al. (2007); Haider and Butt (2007); Rahman (2008); Naeem et. al. (2008); Shehzad (2009), Asghar et. al. (2012); Behera and Dash (2016) and Behera and Dash (2017). These studies concluded that as income increases health expenditure also increases.

To determine the impact of health expenditure on economic growth, we estimated equation-18 by using DOLS method. It is evident from the results reported in the above tables that health expenditure is also one of the most dominating factors in determining the GSDP in Indian states. From the above results we can observe that a 1 percent increase in health expenditure results in an increase in GSDP by 0.24 percent in the long run. This indicates that an increase in per capita health expenditure enhances the GSDP in the long run. The possible reason could be that as per capita health expenditure increases, sufficient funds could be allocated for health service which makes positive impact on GSDP through the contribution made by efficient labor force and illness free human capital. Our results are consistent with earlier finding of Khan et. al. (2015); Atilgan et. al. (2017) and Piabuo and Tieguhong (2017). The above results concluded that there is a bidirectional long run impact of both health and economic growth on each other.

Short-run Dynamics of Health Expenditure and Economic Growth

Short-run impact of health expenditure on Economic Growth

To examine the short run relationship between health expenditure and economic growth, the dynamic error correction models are estimated based on Seemingly

Unrestricted Regression (SUR) technique. The results are reported in Table 4. As shown in the table there exists a short run causal relationship between health expenditure and GSDP. The results reveal that health expenditure lagged by one year exerts positive impact on economic growth. The short-run elasticity with respect to health expenditure is 2.87, which implies that a 1 percent increase in health expenditure increases income by 2.87 percent in the short run. The lagged error correction term is negative and statistically significant which supports the long run causality running from public health expenditure to economic growth.

Table-4
Results of Error Correction Model-1

Dependent variable: Δ GSDP		
Variables	Coefficient	t-stat
ΔHE_{it-1}	2.87	26.27***
ΔHE_{it-2}	-9.07	-7.96***
ΔHE_{it-3}	-4.31	38.6***
ϵct_{it-1}	-2.02	-20.04***
R^2		0.99
$\bar{R}^2$		0.99
S.E		1.31
D.W Stat		2.006

*** indicates significant at 1% level.

Short-run Impact of Economic Growth on Health Expenditure

The results of the short run impact of economic growth on health expenditure is reported in Table-5.

Table-5
Results of Error Correction Model-2

Dependent variable: Δ HE		
Variables	Coefficient	t-stat
$\Delta GSDP_{it-1}$	0.10	1.17
$\Delta GSDP_{it-2}$	-0.21	-2.38***
$\Delta GSDP_{it-3}$	0.26	2.91***
ϵct_{it-1}	-0.51	-10.78***
R^2		0.30
$\bar{R}^2$		0.29
S.E		0.04
D.W Stat		1.98

*** indicates significant at 1% level.

Overall, the results suggest that there exists a positive relationship between health expenditure and economic growth both in the short run and long run. Further, the results depict bidirectional causality between the stated variables in both short run and long run. Our long run results are consistent and in line with the findings of Wang (2011), Pradhan and Bagchi (2012), Erkan and Yetkiner (2009) and Elmi and Somayr (2012). Like long run causality results, our short-run bidirectional causality results are also consistent with the findings of Erkan and Yetkiner (2009), Wang (2011), Pradhan and Bagchi (2012), and Behera and Dash (2016, 2017).

Dumitrescu and Hurlin Panel Causality Tests

The short run dynamics based on the SUR estimation technique has certain limitations; one of the major limitations is that it doesn't take into account the heterogeneous units. Therefore, to check the heterogeneity in the panel data, we have employed Dumitrescu and Hurlin panel causality test. In a bivariate framework, this test considers the null hypothesis of homogeneous non-causality running from variable X to Y variables. Table-6 reports the Dumitrescu and Hurlin panel causality results.

Table-6
Results of Panel Causality Test

Pairwise Dumitrescu Hurlin's panel causality test

3 Lags were selected based on Akaike Information Criteria

Null Hypothesis	W-Stat	Zbar-Stat	Prob.
GSDP _{it} does not homogeneously cause HE _{it}	9.72	12.51	0.00***
HE _{it} does not homogeneously cause GSDP _{it}	1.59	-0.93	0.35

Notes: ***indicates significance at the 1 % probability level.

As shown in the above Table, there is an evidence of unidirectional homogeneous causality running from economic growth to health expenditure and no causality from health expenditure to economic growth in major Indian states as indicated by the significance of the Z-statistic. This implies that economic growth homogeneously causes health expenditure but not vice versa. The possible reason could be that an increase in GSDP leads to increase health expenditure as more resources are allocated to health sector in the Indian States. The other causes might be that because of poor health status due to high morbidity and chronic diseases, the labour force are not effective which undermines the effect of health expenditure to economic growth. The above results are very much similar with the findings of Erdil and Yetkiner (2009) and Khan et. al. (2015).

Summary and Conclusion

The main objective of the study is to examine the dynamic relationship between health expenditure and economic growth in Indian states because the Indian states

are showing differences in terms of health expenditure, health services and health outcomes in last three decades. To examine the nexus between health expenditure and economic growth, the present study has examined closely by checking their cointegration and causality. During the study period the Indian economy has been experiencing various innovative policies to guide the Indian economy, including the most celebrated LPG (Liberalisation, Privatisation and Globalisation).

- (1) Economic growth and health expenditure are integrated of order one in all the major states of India based on panel unit roots tests.
- (2) Our panel cointegration tests shows that independent variable i.e., health expenditure does hold cointegration in the long run for a group of major 15 states with respect to GSDP. The long-run estimates from DOLS test reassert the long run positive and significant impact of economic growth on health expenditure and vice versa. The dynamic short-run error correction model shows that there is bidirectional causality between health expenditure and GSDP. Further, the results confirm that health is necessary rather than a luxury good in India as the elasticity is less than one. The Dumitrescu and Hurlin causality analysis shows that there is evidence of unidirectional homogeneous causality running from economic growth to health expenditure and not the other way round as indicated by the significance of the Z-statistic. This implies that economic growth homogeneously causes health expenditure in India.

The overall findings suggest that the health care spending continues to be a critical factor to maintain sustainable economic growth at the current state of growth of the developing economy which is noted for its poor health outcomes and poor health infrastructure. Lack of the required funding will certainly affect the economic growth and human development in the long run. Thus, the government policies towards increasing health expenditure is expected to broadly stimulate the dual benefits i.e., improvement in citizen's health status in particular and economic growth in general. Government should be target orientated by focusing on the particular states which in the lower strata of human development index through need-based planning approach. So, the ambitious target of "Health for All" can be feasible and achievable.

Endnotes

i For details, see Pradhan and Bagchi (2012)

ii For details, see Pradhan (2011)

iii Ibid¹, Pedroni (2004)

iv For details, see Khan *et. al.* (2015)

v Ibid.

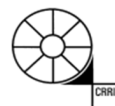
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ANALYSIS OF BORROWERS' OPINION ABOUT THE EFFICIENCY AND EFFECTIVENESS OF WORKING PRACTICES OF REGIONAL NBFCs AND THEIR EMPLOYEES IN DELIVERING CREDIT SERVICES

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Abstract: Non-Banking Financial Companies (NBFCs) are well-known as ‘Financers’ and ‘Finance Companies’ in the local financial landscape. The present study analyses the viewpoint of the borrowers and extracts the factors affecting the efficiency and effectiveness of working practices of the regional NBF

Cs and their employees while delivering credit services. Further, it also examines the difference (if any) in the attitude of borrowers with respect to their socio-economic profile regarding these extracted factors. Primary data has been collected from 250 borrowers of NBFCs-D reporting to the Chandigarh circle of RBI covering two states and one UT; Punjab, Himachal Pradesh and Chandigarh. The results of factor analysis reveal the most important factor affecting efficiency of the working practices of NBFCs: grievance redressal mechanism of NBFCs followed by factor personalised and trustworthy services of NBFCs and factor responsiveness and proper communication by NBFCs, while presence of employees and top officials at NBFCs emerges as least important factor. The study also found gender-wise and income wise significant differences in the opinion of borrowers regarding grievance redressal mechanism, while variation in the opinion of the borrowers regarding factor personalised and trustworthy services of NBFCs is also noticed location-wise and age-wise. Similarly, location of the borrowers also exerts influence on their viewpoint regarding the factor personalised and trustworthy services of NBFCs.

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Keywords: Non-Banking Financial Companies (NBFCs), Credit Services, Efficiency and Effectiveness, Working practices of NBFCs and their Employees; and Socio-Economic Profile of the Borrowers.

Introduction

Non-Banking Financial Companies (NBFCs) have played a decisive role in the Indian loan market since decades. NBFCs have saved the poor masses from the exploitation of local moneylenders to a great extent which was otherwise the responsibility of the banking system of India. NBFCs focus always to lend the credit to the people who were at the end of the financial pyramid and banks had refused credit to them as they were not able to fulfill the stringent eligibility credit criteria of the banks. The core strengths of the NBFCs are their ability to innovate new financial products accustomed to the needs of the their local clients, ability to reach in the local beneath of the market, have minimum paperwork, have hassle-free real time loan sanctioning process, and earn higher margins (*Various Issues of Report on Trend and Progress of Banking in India*). Now-a-days, the loan facility from the NBFCs has become a preferred option for the people who have not income proof and credit scores. On the other hand, borrowers have become the ruling force in the competitive lending market. Nanda and Misra (2012) studied customer relationship management (CRM) practices of CitiFinancial NBFC and inferred that core services and differentiated services which encompassed eight out of ten variables; such as processing time, safety of transactions, customised attention, ease of services, promptness in handling complaints, professional extricates of the employees, promotional/discount offers and value added services provided by the institution were quite satisfactory. Samal and Panda (2012) concluded that customers were more motivated towards the customer relationship management (CRM) and technology rather than employee performance and services. The study highlighted that relationship was dependent on level of trust and confidence for customers. Mudholkar (2014) analysed the attitude of 376 customers, 67 managers and 136 employees of non-banking finance companies in Nanded District. The results showed that 68.7 per cent NBFCs' customers, 76.5 per cent NBFCs' managers, 79.4 per cent NBFCs' employees believed that customers have negative attitude towards marketing practices adopted by the NBFCs. Sibi (2014) examined the attitude of 205 borrowers comprising 43 from the HDFC bank, 52 from South Indian bank, 57 from Manappuram Finance and 53 from Muthoot Finance Corporation in the area of Chavakkad taluk in Thrissur district of the Kerala regarding their gold loan protection practices. The study revealed that demographic variable 'age' indicated no significant difference with KYC norms & documentation but significant difference with interest. In contrast to it, the second variable 'occupation' showed significant difference with KYC norms & documentation but no significant difference with interest. Jeyaraj and Prakash (2017) found that majority of the borrowers (71.20%) have medium level of satisfaction regarding

the lending services of the Bhutan Development Finance Corporation. The study also extracted the significant factors regarding the lending services of BDFCL which had influence on the attitude of the borrowers; such as the loan application of the bank is short; it elicits only the required information for granting of loan, and too high margin money etc. Mathur and Tripathi (2014) extracted that computerisation and online transactions, connectivity, speed and efficiency, clear communication were important factors influencing the customers for selecting insurance company, while marketing campaign, free gifts and peer group impression had played least important role in selection. They also found no significant impact of gender and education in directing the customers' preferences. Khan *et. al.* (2009) found that customers have expressed their satisfaction with four dimensions of service quality of internet banking services, namely reliability, accessibility, privacy/security, and responsiveness, while least satisfied with user-friendliness and fulfillment dimensions. The study concluded all other dimensions as significant predictor of overall service quality except privacy and fulfillment dimensions. Akterujjaman (2016) found that borrowers of Dhaka and Rajshahi cities have medium level of satisfaction regarding the different aspects of loan services provided by four private commercial banks, such as quantity of loan, collateral security for the loan, procedural formalities and documentation, while they found highly satisfied with sanctioning time of loan. The study observed significant difference in opinion among the borrowers with various age levels regarding various services provided by sample banks.

Research Gap

Customers are the central point of any business. Like any other firm, the success of NBFCs also depends upon the way and extent they are able to fulfill the aspiring needs of their clients. Though, the NBFCs are known for their specialty in niche client services but irregularities in their functioning are also not exceptions. So, it is necessary to know the opinion of customers that how efficiently and effectively NBFCs and their employees deliver credit services. The review of literature reveals that most of existing studies have focused on selected southern-specific NBFCs and have neglected northern region NBFCs particularly of Punjab which remained hub of asset finance companies since long period. So, the present study has been outlined to shed the light in the regional context.

Objectives

The specific objectives of the present study are:

- To know the opinion of the borrowers regarding the efficiency and effectiveness of working practices of NBFCs and their employees in delivering credit services.

- To identify the factors effecting the efficiency and effectiveness of working practices of NBFCs and their employees.
- To trace the significant differences (if any) in the opinion of borrowers across the different classified groups with reference to their socio-economic profile regarding the extracted factors.

Methodology

The present study is based on primary data which has been collected through a well drafted and pre-tested self-structured questionnaire. The responses of the borrowers have been collected through interview schedule method on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. The weights were assigned to these responses to calculate weighted average scores (WAS) and overall, weighted average scores have been analysed as follows:

Strongly Agree = 5	Agree = 4	Neither Agree nor Disagree = 3	Disagree = 2	Strongly Disagree = 1
Positive Opinion = WAS > 3.25		Indifferent Opinion = WAS = <3.25>2.75	Negative Opinion = WAS < 2.75	

The universe of the primary study is all deposit taking NBFCs are called A category companies. There were 221 NBFCs-D as on 31st December, 2014 as per the list displayed on the website of the RBI. The multi-stage sampling technique has been used to select the sample.

At the first stage, NBFCs under the Chandigarh jurisdiction of the RBI covering two states, Punjab and Himachal Pradesh and one UT Chandigarh itself have been selected out of 221 NBFCs-D, because the highest number of NBFCs-D (69) are registered under this circle which constitutes almost 30 per cent of the universe. At the second stage, NBFCs have been selected from the five districts of Punjab, namely Amritsar, Gurdaspur, Ludhiana, Moga and Jalandhar representing all the three regions Majha, Malwa and Doaba. However, all the NBFCs from the state of Himachal Pradesh and UT Chandigarh have been approached due to their small number. Out of 69 NBFCs-D, 41 have finally responded under the survey. At the third stage, at least six borrowers from each of the surveyed NBFCs have been selected which makes the total sample size equal to 250 borrowers. However, the borrowers have been selected by using convenience sampling technique. The data has been analysed with the help of descriptive statistics, Weighted Average Score, Factor Analysis, Kruskal-Wallis Test and Mann-Whitney test which have been carried through SPSS (version 20).

Socio-economic Profile of the Borrowers

Table 1 provides the general information about the socio-economic profile of the borrowers. The efforts are made to select the respondents which are related to different groups of socio-economic categories as the opinion of the respondents may differ across the groups of the same category.

Location-wise classification shows that majority of the borrowers 46.8 per cent belong to the rural areas, while almost equivalent number of borrowers (24 to 29%) belongs to the semi-urban and urban locality.

The age-wise distribution pattern reveals that the maximum proportion of the total borrowers surveyed (32.8%) belong to the age group of 30-40 years followed by 30.4 per cent borrowers that have age between 40-50 years. Thus, the large proportion of the borrowers belongs to the middle age groups.

A glance at the table clears that majority of the borrowers (58%) are undergraduate who have either passed matric or senior secondary exam followed by 24.8 per cent borrowers who have qualification below matriculation.

The income-wise distribution pattern of borrowers reveals that the maximum proportion of the borrowers (62.4%) has annual income in the range of Rs. 2.50 lakh to 5 lakh, 17.6 per cent borrowers have annual income in the range of Rs. 5 lakh to 10 lakh, 12.8 per cent borrowers have annual income up to Rs. 2.50 lakh and only 7.2 per cent borrowers have annual income above Rs. 10 lakh.

Table-1
Socio-Economic Profile of the Borrowers

Socio-Economic Profile		Number of Borrowers	Percentage
Location	Urban	61	24.40
	Semi-urban	72	28.80
	Rural	117	46.8
Age	Less than 30 Years	26	10.4
	30-40 Years	82	32.8
	40-50 Years	76	30.4
	Above 50 Years	66	26.4
Educational Qualification	Illiterate	10	4.0
	Below Matric	62	24.8
	Under Graduate	145	58.0
	Graduate	26	10.4
	Post Graduate	7	2.8
Annual Income	Up to Rs. 2.50 lakh	32	12.8
	Rs. 2.50 lakh to Rs. 5 lakh	156	62.4
	Rs. 5 lakh to Rs. 10 lakh	44	17.6
	Above Rs. 10 lakh	18	7.2
Gender	Male	205	82
	Female	45	18

The table also depicts that the number of male borrowers are more than that of female borrowers. As out of total 250 borrowers, 82 per cent are male respondents, while remaining 18 per cent are female respondents.

Opinion of Borrowers Regarding Efficiency and Effectiveness of Working Practices of NBFCs and their Employees in Delivering Credit Services

The statements are framed to seek the opinion of the borrowers regarding the efficiency and effectiveness of overall working of NBFCs and their employees on the five-point Likert scale ranging from strongly agrees (5) to strongly disagrees (1). The responses collected from the borrowers have been shown in the Table 2 below:

Table-2
Opinion of Borrowers regarding Efficiency and Effectiveness of Working Practices of NBFCs and their Employees in Delivering Credit Services

N=250

Sr. No.	Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Average Scores
S ₁	Employees are generally available at NBFCs during the working hours.	59 (23.6)	97 (38.8)	51 (20.4)	37 (14.8)	6 (2.4)	3.66
S ₂	Top officials are always available in case of need.	54 (21.6)	160 (64)	15 (6)	9 (3.6)	12 (4.8)	3.94
S ₃	Employees actively respond to the queries of customers.	28 (11.2)	118 (47.2)	41 (16.4)	49 (19.6)	14 (5.6)	3.39
S ₄	Employees understand the customised/specific needs of their customers.	57 (22.8)	145 (58)	34 (13.6)	12 (4.8)	2 (0.8)	3.97
S ₅	NBFCs provide full information about the terms and conditions of the loan.	18 (7.2)	91 (36.4)	40 (16)	81 (32.4)	20 (8)	3.02
S ₆	NBFCs give the reminder call before the due date of loan.	54 (21.6)	140 (56)	23 (9.2)	26 (10.4)	7 (2.8)	3.83
S ₇	NBFCs maintain the full confidentiality/privacy of the customer's transactions.	44 (17.6)	168 (67.2)	11 (4.4)	20 (8)	7 (2.8)	3.88
S ₈	NBFCs maintain proper records of the transactions.	49 (19.6)	150 (60)	24 (9.6)	20 (8)	7 (2.8)	3.85
S ₉	NBFCs listen to the customer's grievances very patiently.	10 (4)	29 (11.6)	31 (12.4)	119 (47.6)	61 (24.4)	2.23
S ₁₀	NBFCs redress the grievances of the customers very quickly.	7 (2.8)	27 (10.8)	26 (10.4)	119 (47.6)	71 (28.4)	2.12
S ₁₁	Employees of NBFCs never take bribe to favor you.	6 (2.4)	25 (10)	22 (8.8)	133 (53.2)	64 (25.6)	2.10

Note: Figures in parentheses are percentage to the total number of respondents.

The above table shows that the majority of the borrowers have shown their opinion as either strongly agree or agree regarding the following statements which is also reflected in the overall weighted average scores (WAS) viz. 62.4 per cent borrowers confirm that ‘Employees are generally available at NBFCs during the working hours’ (WAS=3.66); 85.6 per cent borrowers also witness that ‘Top officials are always available in case of need’ (WAS=3.94). Generally, these NBFCs are small-sized to medium-sized NBFCs which are operated directly under the ownership. The loan transactions are handled by the designated loan staff at the initial level but it is finalised by the respective owners and borrowers can approach to them for any related matters. Similarly, 80.8 per cent borrowers perceive that ‘Employees understand the customised/specific needs of their customers’ (WAS=3.97). The borrowers have mentioned that the employees discuss in detail about the profile of clients, the amount of money required, and paying capacity and accordingly finalise the loan deal on case to case basis. A majority of the borrowers (77.6%) state that ‘NBFCs give the reminder call before the due date of loan’ (WAS=3.83). However, a percentage of borrowers are not happy with the repeated calls, even in some cases NBFCs make calls despite the EMI is paid.

On the similar lines, 84.8 per cent borrowers believe that ‘NBFCs maintain the full confidentiality/privacy of the customer’s transactions’ (WAS=3.88). As some borrowers state that even their families don’t know about their loan cases and NBFCs take enough care to keep the privacy of their borrowers provided they regularly repay the installments. Moreover, the NBFCs understand their statutory duty of not disclosing the information of their borrowers to the third party. A majority of borrowers (79.6%) have also agreed with the statement that ‘NBFCs maintain proper records of the transactions’ (WAS=3.85). The borrowers told that NBFCs record even miniature details about delay in EMIs, so that the NBFCs can later on charge penalties from their borrowers. On the other hand, the proper record of repayments also provides enough reliability to the borrowers.

Table 2 also displays that the highest proportion of borrowers (58.4%) admit that ‘Employees actively respond to the queries of customers’ (WAS=3.39) which indicates their moderate level of agreement.

On the other hand, a large percentage of borrowers (43.6%) have agreed that ‘NBFCs provide full information about the terms and conditions of the loan’, while almost equivalent percentage of borrowers (40.4%) disagreed with it and 16 per cent borrowers remain indifferent about it. The informal discussion with the borrowers reveals that they are not aware about the actual interest burden. It is the general practice of the finance industry that they communicate the flat rate of interest to the borrowers to trick their brains. On the other hand, they enter reducing balance rate into the loan files which are higher up to 1.5 times to 2 times of the flat rate of interest which depends upon the tenure of loan. Thus, the

borrowers either never come to know about it or come to know quite late. This is the crucial term of the loan on which the NBFCs are not transparent. Moreover, the borrowers have themselves shown indifferent attitude at the time of undertaking the loan and are more interested in the loan amount. Rather, some borrowers never read the terms and conditions of the loan agreement. Thus, the indifferent attitude of the borrowers is also reflected in the WAS of 3.02.

In contrast to above discussion, a majority of the borrowers have raised questions regarding some aspects of working practices of NBFCs and their employees by recording their disagreement opinion on the scale and weighted average score also indicates their disagreement with the statements, such as 72 per cent borrowers didn't think that 'NBFCs listen to the customer's grievances very patiently' (WAS=2.23). Thus, the borrowers state that they are although treated well at the time of agreement but later on, they are not even listened. Similarly, 76 per cent borrowers either disagreed or strongly disagree that the 'NBFCs redress the grievances of the customers very quickly' and overall weighted average score comes to be 2.12. The borrowers mostly have grievances regarding the penalty charges, disturbance due to repeated calls and misbehavior of the employees. Likewise, a large percentage of borrowers (78.8%) have disagreed with the statement that 'Employees of NBFCs never take bribe to favour you' (WAS=2.10). The borrowers reveal that the employees sometime take bribe from them when they don't pay EMIs on time and remarks that the borrowers remain untraceable at the home or workplace (truck union/taxi stand etc.). Some borrowers expose an interesting point that some fake agents have made it their business and they know that mostly the trucks are on loans and delay in payment is a normal custom. Such fake agents usually stop the trucks and demand bribe to favour them in the name of NBFCs.

Factor Analysis on Statements Regarding Efficiency and Effectiveness of Working Practices of NBFCs and their Employees in Delivering Credit Services

Factor analysis has been used to group the statements into meaningful factors that make the analysis more analytical. A Principal Component Analysis (PCA) with orthogonal rotation called varimax rotation has been run on the eleven opinion statements. Table 3 presents the results of KMO and Bartlett's test of Sphericity as below:

Table-3
Statistics of KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sample Adequacy		.658
Bartlett's Test of Sphericity	Chi-Square	927.248
	df	55
	Sig.	.000

The Kaiser-Meyer-Olkin measure confirms the adequacy of sampling to run the factor analysis. Here, KMO=.658 (Mediocre), while the all KMO values for the individual statements are in the range of .5 to .79 which are again above the minimum acceptable value of .5 (Field, 2009). Bartlett's test of Sphericity $\chi^2(55)=927.248$ with p-value .00<.01 has been found highly significant at one per cent level of significance which proves that there exists enough correlation between the statements to run the factor analysis.

Table-4
Rotated Component Matrix, Factor Loadings, Eigen Values and Total Variance Explained

Sr. No	Statements	Factors Extracted				Factors Loadings
		1	2	3	4	
Factor 1: Grievance Redressal Mechanism of NBFCs (F₁)						
S ₉	NBFCs listen to the customer’s grievances very patiently.	.859	.030	-.164	-.114	.859
S ₁₀	NBFCs redress the grievances of the customers very quickly.	.918	-.012	-.006	-.113	.918
S ₁₁	NBFCs employees never take bribe to favor you.	.869	.096	-.097	.083	.869
Factor 2: Personalised and Trustworthy Services of NBFCs (F₂)						
S ₄	Employees understand the customised/specific needs of their customers.	-.181	.696	.141	.163	.696
S ₇	NBFCs maintain the full confidentiality/privacy of the customer’s transactions.	.142	.900	-.020	-.012	.900
S ₈	NBFCs maintain proper records of the transactions.	.131	.867	.118	-.008	.867
Factor 3: Responsiveness and Proper Communication by NBFCs (F₃)						
S ₃	Employees actively respond to the queries of customers.	-.053	.038	.825	.114	.825
S ₅	NBFCs provide full information about the terms and conditions of the loan.	-.038	.161	.473	-.299	.473
S ₆	NBFC give the reminder call before the due date of loan.	-.145	.056	.844	.096	.844
Factor 4: Presence of Employees and Top Officials at NBFCs (F₄)						
S ₁	Employees are generally available at NBFCs during the working hours.	.083	.016	.027	.758	.758
S ₂	Top officials are always available in case of need.	-.350	.164	.042	.655	.655
	Eigen Value	2.560	2.113	1.690	1.174	
	Percentage of Variance Explained	23.274	19.207	15.366	10.676	
	Cumulative Percentage of Variance	23.374	42.481	57.847	68.522	
	Cronbach’s Alpha (α)	.88	.78	.56	.27	
	Overall Reliability	α = .527 for 11 statements with 250 respondents depicting Moderate Reliability.				

Table 4 shows the results of Principal Component Analysis which have extracted total four factors and all factors have Eigen value above 1 as per Kaiser's criterion. These four factors in combination explain 68.52 per cent of the total variance. The rotated component matrix exhibits the factor loadings of eleven opinion statements which are above .4; hence all the statements are kept to be part of the final analysis.

These extracted factors have been named as grievance redressal mechanism of NBFCs, personalised and trustworthy services of NBFCs, responsiveness and proper communication by NBFCs, and presence of employees and top officials at NBFCs. The brief explanation of these factors is as follows:

Factor 1- Grievance Redressal Mechanism of NBFCs: This factor has emerged as most important factor as it has Eigen value 2.56 and is able to explain 23.27 per cent of the total variance of the data set. It has three statements relating to grievance handling mechanism of NBFCs which have factor loadings in the range of .86 to .92.

Factor 2- Personalised and Trustworthy Services of NBFCs: This is the second important factor dealing with customer's personalised needs, confidentiality and proper records of their transactions. This factor has Eigen value 2.11 and this explains 19.21 per cent of the total variance which makes it a crucial factor. The underlying statements have factor loadings in between .70 to .90.

Factor 3- Responsiveness and Proper Communication by NBFCs: This factor also contains three statements dealing with the responsiveness of the employees and the effectiveness of communication related to important matters. This factor has Eigen value 1.69 and solely explains 15.37 per cent of the variance.

Factor 4- Presence of Employees and Top Officials at NBFCs: This factor has only two statements regarding the availability of personnel at office of the NBFCs and both have factor loadings above .65. This factor also has Eigen value more than 1 and still illustrates 10.68 per cent of the variance.

Residential Location Based Comparative Analysis among Borrowers' Opinion regarding Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees

The location of the borrowers may exert influence on their opinion, so same service may be evaluated differently by persons belonging to rural, semi-urban and urban areas. Hence the following null hypotheses have been formulated:

***H_{0LF}:** There exists no significant difference in the mean scores across three groups based on residential location of surveyed borrowers regarding four extracted factors (grievance redressal mechanism of NBFCs, personalised and*

trustworthy services of NBFCs, responsiveness and proper communication by NBFCs and presence of employees and top officials at NBFCs).

Table 5 reveals that the mean score of rural borrowers (2.13) is lower than the mean scores of the semi-urban borrowers (2.16) and the urban borrowers (2.18) which shows that the rural borrowers have comparatively more negative opinion about the factor grievance redressal mechanism of the NBFCs (**F₁**) than its peer groups. In contrast to it, the mean score of rural borrowers (4.01) is much higher than the mean scores of the semi-urban borrowers (3.79) and urban borrowers (3.84), which indicate that rural borrowers are relatively more contented with the personalised and trustworthy services of the NBFCs (**F₂**). Likewise, although the mean scores of the rural borrowers (3.53) and semi-urban borrowers (3.46) reflect that borrowers have moderate positive opinion regarding responsiveness and proper communication by the NBFCs (**F₃**), while the urban borrowers (3.15) have expressed their indifferent opinion about the underlying dimension. Similarly, the mean score of rural borrowers (3.89) are higher than the mean scores of urban borrowers (3.68) and semi-urban borrowers (3.76) which show that the rural borrowers have observed the timely presence of employees and top officials at NBFCs premises (**F₄**) and therefore, they have more positive opinion about the underlying factor.

Table-5
Kruskal-Wallis Results regarding the Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees
(Comparative Analysis based on Residential Location)

		Independent Variable			H-value	df	p-value	Results
Dependent Variables	N	L ₁	L ₂	L ₃				
		61	72	117				
Factor 1	Mean Scores	2.18	2.16	2.13	.126	2	.939	H _{0LF1} Not Rejected
	Mean Ranks	128.25	124.97	124.39				
Factor 2	Mean Scores	3.84	3.79	4.01	7.539	2	.023*	H _{0LF2} Rejected
	Mean Ranks	114.89	113.33	138.53				
Factor 3	Mean Scores	3.15	3.46	3.53	5.424	2	.066	H _{0LF3} Not Rejected
	Mean Ranks	107.22	129.20	132.75				
Factor 4	Mean Scores	3.68	3.76	3.89	8.487	2	.014*	H _{0LF4} Rejected
	Mean Ranks	105.93	122.02	137.85				

*Statistically significant at 5 per cent level.

Note: L₁= Urban Borrowers; L₂= Semi-urban Borrowers; and L₃= Rural Borrowers.

The results of Kruskal-Wallis test regarding two factors, i.e., grievance redressal mechanism of the NBFCs (H=.126, p=.94), and responsiveness and proper communication by the NBFCs (H=5.424, p=.07) are found to be non-

significant indicating that slight variation in the mean scores of rural, semi-urban and urban borrowers is attributed by chance. In contrast to it, significant H-values in other two factors, i.e., personalised and trustworthy services of NBFCs ($H=7.539$, $p=.02$) and presence of employees and top officials at NBFCs ($H=8.487$, $p=.014$) proves that the mean scores of underlying two factors differ significantly on the basis of residential location of the surveyed borrowers. Therefore, the null hypotheses H_{0EF1} , and H_{0EF3} , are not rejected, while the null hypotheses H_{0EF2} , and H_{0EF4} are rejected at five per cent level of significance.

Age-wise Comparative Analysis among Borrowers' Opinion regarding Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees

The opinion of the borrowers towards the delivery of services is also expected to change with respect to different age-levels. Therefore, same service may be evaluated differently by two persons belonging to different age-cycles. The following null hypotheses have been formulated to test the same:

H_{0AF} : There exists no significant difference in the mean scores across four age groups of surveyed borrowers regarding four extracted factors (grievance redressal mechanism of NBFCs, personalised and trustworthy services of NBFCs, responsiveness and proper communication by NBFCs and presence of employees and top officials at NBFCs).

Table-6
Kruskal-Wallis Results regarding the Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees
(Age-wise Comparative Analysis)

										Total N=250
Dependent Variables	N	Independent Variable				H-value	df	p-value	Results	
		A ₁	A ₂	A ₃	A ₄					
		26	82	76	66					
Factor 1	Mean Scores	2.03	2.23	2.23	2.02	2.520	3	.472	H_{0AF1} Not Rejected	
	Mean Ranks	121.79	131.59	129.66	114.60					
Factor 2	Mean Scores	4.22	3.83	3.77	4.04	10.291	3	.016*	H_{0AF2} Rejected	
	Mean Ranks	154.21	114.35	115.84	139.17					
Factor 3	Mean Scores	3.73	3.26	3.43	3.45	6.919	3	.075	H_{0AF3} Not Rejected	
	Mean Ranks	155.00	113.37	126.62	127.67					
Factor 4	Mean Scores	3.77	3.80	3.76	3.86	.594	3	.898	H_{0AF4} Not Rejected	
	Mean Ranks	119.96	122.21	127.86	129.05					

*Statistically significant at 5 per cent level.

Note: A_1 = Borrowers with Age Less than 30 Years; A_2 =Borrowers with Age 30-40 Years; A_3 = Borrowers with Age 40-50 Years; and A_4 =Borrowers with Age above 50 Years

Table 6 depicts that the borrowers who belong to different age groups have clearly negative opinion about the factor redressal of their grievances (F_1) as their mean scores are quite below 2.75. Moreover, the borrowers belonging to age group 'less than 30 years' (2.03) and 'above

50 years' (2.02) have expressed their utmost negative opinion on the scale as compared to the other age groups. In contrast to above, the borrowers belonging to age group 'less than 30 years' and 'above 50 years' have shown their higher level of agreement with the dimension that NBFCs provide more personalised and trustworthy services (F_2) as their mean scores are 4.22 and 4.04 respectively, which are much higher than the mean scores of the other age groups. Similarly, the borrowers from the age group 'less than 30 years' have relatively higher mean score (3.73) than the other age groups which means that they have highest positive opinion about the factor that NBFCs are more responsive and properly communicate (F_3). However, the borrowers belonging to age group 'less than 30 years' (3.77) and age group of '40 to 50 years' (3.76) have comparatively lower mean scores as compared to borrowers belonging to age groups 30 to 40 years (3.80) and 'more than 50 years' (3.86) regarding the presence of employees and top officials at NBFCs (F_4).

However, non-significant H-values of the Kruskal-Wallis test signify that the mean scores of the borrowers belonging to different age groups do not vary significantly from each other regarding three extracted factors, i.e. grievance redressal mechanism of NBFCs (F_1) ($H = 2.52$, $p = .47$); responsiveness and proper communication by NBFCs (F_3) ($H = 6.919$, $p = .08$); and presence of employees and top officials at NBFCs (F_4) ($H = .594$, $p = .90$). Therefore, the null hypotheses H_{0AF1} , H_{0AF3} and H_{0AF4} are not rejected even at five per cent level of significance. Contrary to these results, the mean scores across four age groups of surveyed borrowers differ significantly regarding factor personalised and trustworthy services of NBFCs (F_2). Thus, the null hypothesis H_{0AF2} is rejected.

Education Qualification Based Comparative Analysis among Borrowers' Opinion regarding Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees

There may be variation in the opinion of the borrowers belonging to different educational background because as education level changes, there is also change in their analytical ability. Thus, following null hypotheses have been formulated:

H_{0EF} : There exists no significant difference in the mean scores across five groups based on educational qualification of surveyed borrowers regarding four extracted factors (grievance redressal mechanism of NBFCs, personalised and trustworthy services of NBFCs, responsiveness and proper communication by NBFCs and presence of employees and top officials at NBFCs).

Table-7
Kruskal-Wallis Results regarding the Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees (Comparative Analysis based on Educational Qualification)

Total N=250

Dependent Variables	N	Independent Variable					H-value	df	p-value	Results
		EQ ₁	EQ ₂	EQ ₃	EQ ₄	EQ ₅				
		10	62	145	26	7				
Factor 1	Mean Scores	1.90	2.26	2.10	2.22	2.29	2.702	4	.609	H _{0EF1} Not Rejected
	Mean Ranks	98.05	128.91	123.43	134.33	144.64				
Factor 2	Mean Scores	4.2	3.81	3.93	3.86	4.05	3.415	4	.491	H _{0EF2} Not Rejected
	Mean Ranks	151.45	114.98	129.32	118.71	127.57				
Factor 3	Mean Scores	3.67	3.36	3.41	3.5	3.33	1.755	4	.781	H _{0EF3} Not Rejected
	Mean Ranks	146.9	120.61	125.07	134.25	114.64				
Factor 4	Mean Scores	3.75	3.78	3.87	3.56	3.5	5.218	4	.266	H _{0EF4} Not Rejected
	Mean Ranks	113.4	126.31	131.44	99.94	107.5				

Note: EQ₁= Illiterate Borrowers; EQ₂= Borrowers below matric; EQ₃= Under-Graduate Borrowers; EQ₄= Graduate Borrowers; and EQ₅= Post Graduate Borrowers.

Table 7 depicts that almost all borrowers although belong to different educational backgrounds have negative opinion about the factor redressal of their grievances (F₁). It can be seen that the illiterate borrowers and under-graduate borrowers have relatively utmost negative opinion regarding the factor redressal of their grievances (F₁) as their mean scores stands at 1.90 and 2.10 which are much lower than the mean scores of the other groups of borrowers. In contrast to it, the illiterate borrowers and post graduate borrowers have higher mean scores of 4.20 and 4.05 respectively than the mean scores of the other groups which indicate comparatively their highest positive opinion regarding the factor personalised and trustworthy services of NBFCs (F₂). On the other hand, the borrowers below matric and post graduate borrowers have relatively lower mean scores (3.36 and 3.33 respectively) than the other groups in the respective category which means that they have lowest but positive opinion as compared to their peer groups regarding responsiveness and proper communication by NBFCs (F₃). Likewise, graduate borrowers (3.56) and post graduate borrowers (3.50) have lower mean scores than the other groups in their respective education category which again indicate that they have comparatively lowest but positive opinion regarding the factor presence of employees and top officials at NBFCs (F₄).

The variation in borrowers' opinion across five groups based on educational qualification of borrowers found to be insignificant regarding grievance redressal mechanism of NBFCs (F₁) (H=2.702, p=.61); personalised and trustworthy services of NBFCs (F₂) (H=3.415, p=.49); responsiveness and proper communication by NBFCs (F₃) (H=1.755, p=.78); and presence of

employees and top officials at NBFCs (F_4) ($H= 5.218$, $p=.27$). This signifies that there exists no significant difference in the mean scores of borrowers with different educational level regarding the four factors related to efficiency and effectiveness of working practices of NBFCs and their employees in delivering credit services. Thus, the null hypotheses H_{0EF1} , H_{0EF2} , H_{0EF3} , and H_{0EF4} are not rejected even at five per cent level of significance.

Annual Income Based Comparative Analysis among Borrowers' Opinion regarding Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees

It is well established fact that service providers try to deliver services more efficiently to high income cluster of customers in expectation of more volume of business. NBFCs are also on similar lines and resultant, it will not be astonishing if income-wise variation in opinion is found regarding the delivery of credit services. Thus, the following null hypotheses have been tested:

H_{0IF}: There exists no significant difference in the mean scores across four groups based on Annual Income of surveyed borrowers regarding four extracted factors (grievance redressal mechanism of NBFCs, personalised and trustworthy services of NBFCs, responsiveness and proper communication by NBFCs and presence of employees and top officials at NBFCs).

Table 8
Kruskal-Wallis Results regarding the Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees
(Comparative Analysis based on Annual Income)

Total N=250									
Dependent Variables		Independent Variable				H-value	df	p-value	Results
		I ₁	I ₂	I ₃	I ₄				
		N	32	156	44				
Factor 1	Mean Scores	1.90	2.04	2.64	2.37	15.015	3	.002**	H _{0IF1}
	Mean Ranks	107.23	117.5	155.43	154.14				Rejected
Factor 2	Mean Scores	4.04	3.88	3.89	3.89	1.923	3	.589	H _{0IF2} Not
	Mean Ranks	139.09	125.25	121.77	112.58				Rejected
Factor 3	Mean Scores	3.58	3.36	3.46	3.44	2.291	3	.514	H _{0IF3} Not
	Mean Ranks	141.34	121.15	127.23	130.81				Rejected
Factor 4	Mean Scores	3.91	3.79	3.67	4.08	4.256	3	.235	H _{0IF4} Not
	Mean Ranks	132.23	123.78	115.13	153.83				Rejected

**Statistically significant at 1 per cent level.

Note: I_1 = Borrowers with Annual Income up to Rs. 2.50 Lakh; A_2 = Borrowers with Annual Income between Rs. 2.50 lakh to Rs. 5 Lakh; A_3 = Borrowers with Annual Income between Rs. 5 lakh to Rs. 10 lakh; and A_4 =Borrowers with Annual Income above Rs. 10 lakh.

Table 8 presents that the lower income group borrowers having income 'up to Rs. 2.50 lakh' and 'Rs. 2.50 lakh to 5 lakh' have lower mean scores of 1.90

and 2.04 respectively as compared to the higher income group borrowers (Rs. 5 lakh to 10 lakh, 'above Rs. 10 lakh') who have mean scores of 2.64 and 2.37 respectively. This reflects that the lower income group borrowers are not happy with the grievance redressal mechanism of the NBFCs (F_1) as compared to the higher income group borrowers. In contrary to it, the borrowers having different income levels have highly positive opinion regarding the factor personalised and trustworthy services of NBFCs (F_2) as all have mean scores above 3.85. Similarly, the borrowers having different income levels have positive but moderate opinion regarding the factor responsiveness and proper communication by NBFCs (F_3) as mean scores are in between 3.36 to 3.58. On the other hand, borrowers having income 'up to Rs. 2.5 lakh' and 'above Rs. 10 lakh' have higher mean scores (3.91 and 4.08 respectively) than the mean scores of other groups in the respective income category indicating they have comparatively highest positive opinion regarding the factor presence of employees and top officials at NBFCs (F_4).

The opinion of the borrowers towards grievance redressal mechanism of the NBFCs (F_1) is found to be significantly different as depicted by the results of Kruskal-Wallis ($H=15.015$, $p=.00$), indicated that at least borrowers belonging to one income group has significantly different opinion as compared to its peer groups regarding the underlying dimension. On the other hand, the difference in the mean scores across four income groups is found to be insignificant as depicted by results of Kruskal-Wallis test regarding personalised and trustworthy services of NBFCs (F_2) ($H=1.923$, $p=.59$); responsiveness and proper communication by NBFCs (F_3) ($H=2.291$, $p=.51$); and presence of employees and top officials at NBFCs (F_4) ($H= 4.256$, $p=.24$). It means that borrowers belonging to different income groups have almost same opinion with slight variation attributed to chance regarding all dimensions of efficiency and effectiveness of working practices of the NBFCs and their employees except factor grievance redressal mechanism of the NBFCs. Therefore, the null hypotheses H_{0IF2} , H_{0IF3} , and H_{0IF4} are not rejected, while data set is able to reject H_{0IF1} at one per cent level of significance.

Gender-wise Comparative Analysis among Borrowers' Opinion regarding Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees

The expectations of male and female borrowers differ regarding the delivery of services because there are different driving forces which shape their opinion and resultant some variation in the attitude of both may come to light. In this context, following hypotheses have been put to test:

H_{0GF}: There exists no significant difference in the mean scores between male and female borrowers regarding four extracted factors (grievance redressal

mechanism of NBFCs, personalised and trustworthy services of NBFCs, responsiveness and proper communication by NBFCs and presence of employees and top officials at NBFCs).

Table-9
Kruskal-Wallis Results regarding the Extracted Factors of Efficiency and Effectiveness of Working Practices of NBFCs and their Employees (Gender-wise Comparative Analysis)

							Total N=250
Dependent Variables	N	Independent Variable		U-value	Z-value	p-value	Results
		G ₁	G ₂				
		205	45				
Factor 1	Mean Scores	2.21	1.9				
	Mean Ranks	129.12	109	3870.00	-1.731	.084	H _{0GF1} Not Rejected
	Sum of Ranks	26470	4905				
Factor 2	Mean Scores	3.87	4.07				
	Mean Ranks	122.86	137.54	4070.50	-1.267	.206	H _{0GF2} Not Rejected
	Sum of Ranks	25185.5	6189.5				
Factor 3	Mean Scores	3.32	3.83				
	Mean Ranks	117.09	163.8	2889.00	-3.983	.000**	H _{0GF3} Rejected
	Sum of Ranks	24004	7371				
Factor 4	Mean Scores	3.79	3.86				
	Mean Ranks	125.2	126.86	4551.50	-.143	.888	H _{0GF4} Not Rejected
	Sum of Ranks	25666.5	5708.5				

**Statistically significant at 1 per cent level.

Note: G₁ = Male Borrowers and G₂ = Female Borrowers.

Table 9 reflects that both male and female borrowers have negative opinion about the factor redressal of their grievances (F₁) as mean scores are below 2.75. It can be seen that female borrowers (1.90) have relatively more negative opinion as compared to male borrowers (2.10) regarding the underlying factor. Further table shows that mean scores of female borrowers (4.07, 3.83 and 3.86 respectively) are relatively higher than the mean scores of male counterparts (3.87, 3.32 and 3.79) regarding three dimensions, that is, personalised and trustworthy services of NBFCs (F₂); responsiveness and proper communication by NBFCs (F₃); and presence of employees and top officials at NBFCs (F₄). It reflects that female borrowers have higher positive opinion about the underlying three factors depicting that they are happy with the efficiency and effectiveness of the working practices of NBFCs and their employees used in the delivery of credit services.

However, table witnesses non-significant results of the Mann-Whitney test regarding the factor redressal of grievances (F_1) ($Z=-1.73$, $p\text{-value}=0.08$); personalised and trustworthy services of NBFCs (F_2) ($Z= -1.267$, $p=0.20$); and presence of employees and top officials at NBFCs (F_4) ($Z= -.143$, $p =0.88$). Thus, male and female borrowers have similar opinion about the above discussed factors related to the working practices of NBFCs. However, data set depicts significant difference in the mean scores of male and female borrowers regarding the dimension responsiveness and proper communication by NBFCs (F_3) ($Z= --3.983$, $p=0.00$). Although, both male and female borrowers have positive opinion about the underlying factor but female borrowers have highest mean score contributed to significant variation regarding the underlying factor. Thus, the null hypotheses H_{0GF1} , H_{0GF2} , and H_{0GF4} are not rejected, while the null hypothesis H_{0GF3} is rejected at one per cent level of significance.

Conclusion and Managerial Implications

The current study has identified a total four factors, namely ‘grievance redressal mechanism of NBFCs’, ‘personalised and trustworthy services of NBFCs’, ‘responsiveness and proper communication by NBFCs’, and ‘presence of employees and top officials at NBFCs’ which depict the overall opinion of the borrowers regarding the efficiency and effectiveness of working practices of NBFCs and their employees in delivering credit services. These four factors collectively explain 68.52 per cent of the total variance. The weighted average score for the factor ‘grievance redressal mechanism of NBFCs’ is found 2.15 which reflects that the grievance redressal mechanism of the NBFCs is not an efficient one. The result of the Kruskal-Wallis test found significant H-value in respect of income of the borrowers regarding the grievance redressal mechanism of the NBFCs as the borrowers with ‘income below Rs. 2.50 lakh’ are more affected from the inefficiency of the mechanism. In contrast, the weighted average score for the factor ‘personalised and trustworthy services of NBFCs’ provided by the NBFCs stands at 3.90 which means that the borrowers have rated the personalised and trustworthy services of the NBFCs on high scale. The results reveal significant H-values in relation to residence and age profiles of the borrowers with the underlying factor. The mean scores show that rural borrowers and borrowers with ‘age below 30 years’ and ‘above 50 years’ strongly agree and express over whelmed response to the factor. The factor ‘responsiveness and proper communication by NBFCs’ has weighted average score equal to 3.41 which shows agreement of the borrowers with the factor but it shows moderate level of agreement. The results of Kruskal-Wallis test have non-significant H-values regarding the ‘responsiveness and proper communication’ which implies that there exists no significant difference in the opinion of the borrowers belonging to various socio-economic profiles of the borrowers regarding the underlying factor. The factor ‘presence of employees and top officials at NBFCs’

has weighted average score equal to 3.8 which shows that the borrowers have shown their agreement with the factor. The results of Kruskal-Wallis test and Mann-Whitney test for all the socio-economic profiles except residential location profile are found non-significant indicating no significant difference in the opinion of the borrowers regarding the factor.

Thus, the study emphasised that NBFCs should clearly dictate the terms and conditions of the loan agreement especially about interest rate and hidden charges etc. There is also need that borrowers themselves take informed and calculative decisions because the survey revealed that borrowers are indifferent to know the terms and conditions of the loan. The financial exploitation of the borrowers can be arrested only with the collective efforts on the part of RBI, NBFCs and borrowers themselves.

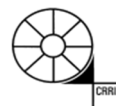
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NUTRITIONAL OUTCOME, STATUS OF WOMEN, INFANT FEEDING PRACTICES: A COMPARATIVE STUDY OF INDIAN STATES

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Abstract: India, despite impressive growth potential, is a home for one third of malnourished children, globally. This paper enquires into the less explored area of women's status and infant and young child feeding practices, as one of the possible causes of under nourishment among children under five. On the basis of National Family Health Survey (NFHS) 4 report, 21 major states have been classified into three groups on the basis of the percentage of underweight children in each state. Indicators relating to infant and young child feeding practices and women's status are better among the group of states with less percentage of underweight children. The inter-generational malnutrition vicious circle can be arrested through appropriate infant and young child feeding practices and improved status of women.

Keywords: Malnutrition, underweight, infant and young child feeding practices, status of women, inter-generational malnutrition vicious circle

Introduction

Sustainable Development Goals (SDG), seek to achieve food security, end hunger, and all forms of malnutrition by 2030 (United Nations Sustainable Development Summit, 2015). Globally, in 2019, 144 million children under 5 (21.3%) were stunted and 47 million children (6.9%) were wasted (Joint Child Malnutrition Estimates of UNICEF/WHO/World Bank Group, 2020). Malnutrition is cited as one of the major causes of child mortality (The World

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Bank in India, 2009). Any policy design focussing on striking hunger, should address the problems and issues related to malnutrition. A number of interrelated factors determine nutritional outcomes (Smith and Haddad, 2000). In spite of rapid economic growth, surplus food production, and a multiplicity of Government programs, nutritional outcome among children in India are vexing. (National Family Health Survey (NFHS)-4, 2015-16).

Statement of the Problem

Malnutrition is a vital issue that would have a wide range of adverse economic and social consequences. At all India level, 38.4 percent of children are stunted, one in every five children (21%) are wasted and nearly one out of every three children (35.7%) under five years are underweight (NFHS 4, 2015-16). Food insecurity is highlighted as the primary cause of malnutrition and hence the measures to mitigate malnutrition in India has been skewed towards food-based interventions and has placed little emphasis on tackling the other determinants of malnutrition (The World Bank in India, 2009). The paper tries to study women's status and infant and young child feeding practices (IYCF) as one of the possible causes of undernutrition.

Objectives

1. To assess the trends in nutritional status of children under 5 and women in India and across states based on the fourth round of National Family Health Survey.
2. To analyse the infant and young child feeding practices, social status of women across the states and their relationship to the nutritional outcome.

Methodology

The study uses secondary data sources like, UNICEF/WHO/World Bank - Joint Child Malnutrition estimates, 2020; different rounds of National Family Health Survey reports, and Comprehensive National Nutrition Survey, 2019. To assess the nutritional status of children under five, NFHS employs anthropometric indicators, namely Height - for-age (stunting), Weight -for- height' (wasting) and Weight - for - age (Underweight). They are expressed in terms of standard deviation units (Z score) from the median of the international reference population. Height- for- age is a measure of linear growth retardation and shows cumulative growth deficits. Children whose height for age Z-score is below -2 standard deviations (SD) from the median of the reference population are treated as short for their age (stunted), and are classified as chronically under nourished. Children who are below - 3 SD are considered severely stunted. Wasting is assessed via weight for height and represents current nutritional status. If the Z score is below - 2 SD from the median of the reference population, the child is considered as thin. It is a case of acute under nourishment. Underweight (assessed via weight for age) is a composite index of height for age and weight for height.

It captures the dimensions of both chronic and acute malnutrition (NFHS 4, 2015-16).

On the basis of the percentage of underweight children in each state, 21 major states are divided into low (Group L), medium (Group M) and high (Group H) vulnerable states. Group L includes states with 30 per cent or less, group M with states between 31 and 40 percent, and Group H with 41 per cent and above underweight children. IYCF indicators – early initiation of breastfeeding, median duration of exclusive breastfeeding, minimum dietary diversity (MDD), minimum meal frequency (MFF) and minimum acceptable diet (MAD) – are compared. Nutritional outcome of women in terms of body mass index (BMI) and anaemia, and their social status in terms of percentage of women earning remuneration in cash, their decision-making role regarding their own health care, female literacy and male female literacy gap are also analysed.

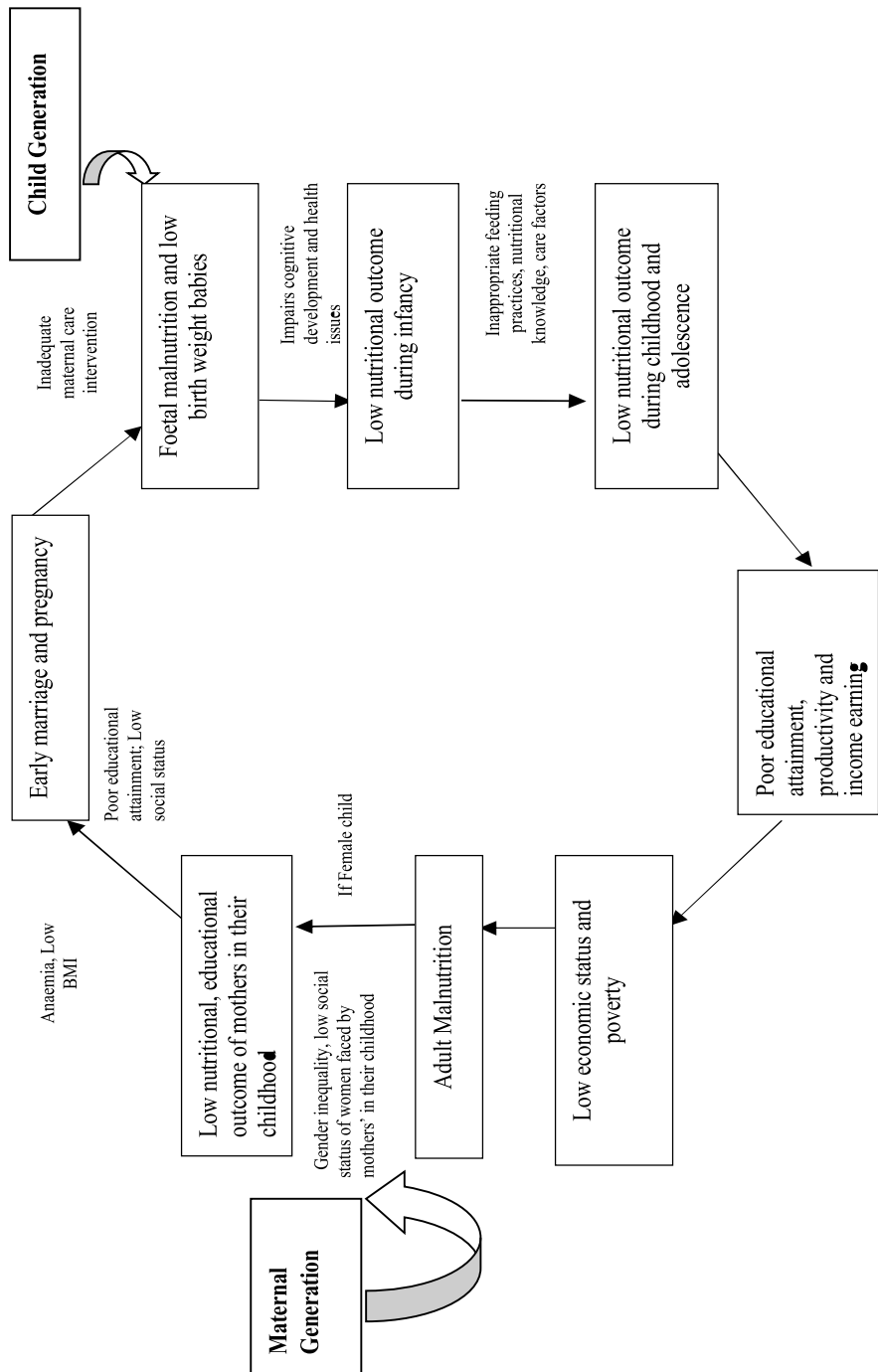
Conceptual Framework

Studies on determinants of malnutrition have identified demographic, socio economic, child care variables, role of maternal autonomy and status of women as the plausible factors leading to child undernutrition (UNICEF, 1990; Ramalingaswamy et. al., 1996; Smith et. al. 2003; Nandy et. al.,2005; Smith & Haddad, 2000; Sinha et. al., 2017). Based on the existing conceptual models, a theoretical framework is developed to explore how the low status of women and gender inequality faced by the mothers during their infancy and childhood perpetuates a vicious circle of inter-generational malnutrition from mother to child.

South Asian countries, in comparison to Sub Saharan African countries, perform better in terms of high growth rates and other determinants of nutritional status, yet they suffer disproportionately high levels of child malnutrition - the Asian enigma (Ramalingaswamy et.al., 1996; The World Bank in India, 2009). India is no exception. In a country like India, son preference and son “meta” preference- having children until the desired number of sons are born, culminated in unwanted girls of approximately 21 million (Economic Survey, 2017-18). Moreover, gendercide (sex selective abortions) and differential survival have led to worsening child sex ratio and missing women to the tune of 63 million (Economic Survey, 2017-18). Female children are exposed to life long discrimination, beginning from foetal stage. Effective implementation of laws banning prenatal sex determination and selective abortions have reduced gendercide, still the challenge faced by India is the attitude of people towards girl children, which cannot be changed overnight. Parents’ unequal resource allocation across children (eldest son versus other children) affects average height in India (Jayachandran & Panda, 2017). Gender specific discrimination at intrahousehold level, results in less allocation of health and nutrition inputs to girl children. Combined with other culture specific (patrilineal kinship) and other

factors, the low nutritional and health status of girl children (anaemia, low BMI) translates into low educational attainment, resulting in early marriage and pregnancy. The low nutritional status of the mother to be, combined with inadequate maternal care interventions paves way to foetal malnutrition. Maternal underweight is one of the factors enhancing the risk of pre term birth and low birth weight babies (Kramer, 1987; Han et. al., 2011). Low status of women is one of the reasons for the manifestation of South Asian Enigma (The World Bank in India, 2009). Women's intra household status as captured by women's earning of cash income, educational attainment, involvement in household decision making, extent of asset ownership, and place of residence (urbanisation) significantly influence the nutritional outcome of children (Guha Khasnobis & Hazarika, 2006; Guha Khasnobis & James, 2010). Pre-term and low birth weight babies are prone to cognitive and motor development delays (Oudgenoeg-Paz et al., 2017), anthropometric failures (Rahman et. al., 2016; Ntenda, 2019) and increased morbidity and mortality (Kramer, 1987). This gets transmitted into low nutritional outcome during infancy. The very first chance to break this inter-generational malnutrition vicious circle outside the womb is through proper feeding strategies. Timely initiation of breastfeeding, appropriate feeding practices, introduction of complementary foods, weaning, maintaining hygiene while handling food, minimum dietary diversity and meal frequency, and nutritional knowledge among mothers/caretakers can break this chain. Breastfeeding is an excellent natural resource to fight risk of neonatal morbidity and mortality (Debes et. al., 2013), common childhood and infectious diseases (Fuschs et. al., 1996; Riordan, 1997; Lamberti et. al., 2011). Malnutrition and subsequent growth faltering among children are also due to inappropriate complementary feeding practices. Children who failed to get timely complementary foods were at higher risk of wasting, those who did not get the minimum dietary diversity had higher odds for underweight and who did not receive minimum feeding frequency were more likely to be stunted (Senarath et, al., 2012; Udoh & Amodu, 2016). Correct dissemination of knowledge to mothers regarding the benefits of breastfeeding, behavioural changes and practices can solve the issue of malnutrition, prevent morbidity and save health care cost. Gaps in the above said factors, lead infancy malnutrition into childhood malnutrition. The child is either stunted, wasted, underweight, micro deficient or a possible combination of any of these. Nutrient deficient children are at higher risk of poor physical, cognitive development as well as display dismal performance in schools (Moock & Leslie, 1986). Childhood malnutrition paves way to adolescent malnutrition. Onslaught of various illness, directly or indirectly linked to undernutrition, affects health and educational attainment of these malnourished children, thereby lowering future productivity and income earning capacity (Thomas & Strauss, 1997). Stunting is one of the factors affecting the wage differentials among individuals. There is a wage premium for adult height.

Figure-1
Inter-Generational Malnutrition Vicious Circle



A one-centimetre increase in stature leads to a four percent increase in wages for men and six percent increase in wages for women (Mc Govern et. al., 2017). The ultimate outcome is low economic status and poverty, when combined with other determinants of nutritional status result in adult malnutrition. The vicious circle enters an infinite loop if the child born is female, and is subjected to low status and gender inequality similar to that faced by her mother. If the child is male, then there is an increased likelihood of being liberated from the inter-generational malnutrition vicious circle. This chain can be broken through concrete nutritional interventions and by improving the status of women in the household as well as in the society.

Trends in Nutritional Status among Children Under 5

There are regional disparities in undernutrition. It is concentrated in certain regional belts. For instance, the percentage of children stunted, wasted and underweight are very high in Central India (Uttar Pradesh, Madhya Pradesh) and Eastern zone of India, which comprises of states like Bihar and Jharkhand. One in every two children are stunted in Bihar, whereas even in Kerala, the state with lowest level of stunting, one in every five children are stunted. Six states (Rajasthan, Gujarat, Uttar Pradesh, Madhya Pradesh, Bihar and Jharkhand) out of the 21 states considered, have levels of stunting greater than the national average. Percentage of children wasted ranges from 6.1 percent in Mizoram to 26.4 percent in Gujarat. Eight states have levels of wasting higher than the all India average. Three top ranked states in terms of the lowest percentage of underweight children are the three North Eastern states-Mizoram, Manipur and Sikkim. Jharkhand, the state with the highest percentage of underweight children, has almost four times the percentage of underweight children compared to Mizoram.

Anaemia is a condition in which the haemoglobin levels in the blood are low. Iron is the key component of haemoglobin and iron deficiency anaemia is not only the most common nutrient deficiency in the world, but also responsible for half of all anaemia globally (NFHS 4). Iron deficiency anaemia is a serious public health concern. Its adverse effects manifest as impairment in cognitive and psychomotor development (Idjradinata & Pollitt, 1993; Walter et. al., 1989), morbidity and stunting among children, productivity loss and premature mortality among adults, thereby resulting in huge health care cost and economic burden to nations. Children aged 6-59 months suffer from anaemia if the haemoglobin level is below 11.0 g/dl. At all India level, more than half of the children under five (59%) had some degree of anaemia, 28 percent had mild anaemia (haemoglobin level is between 10.0 to 10.9 g/dl), 29.2 percent suffered from moderate anaemia (haemoglobin level is between 7.0 to 9.9 g/dl) and 1.6 percent had severe levels of anaemia (haemoglobin level is < 7.0 g/dl). Haryana bears the brunt of anaemia, and except for mild anaemia, the state has the highest percentage of children with any, moderate and severe anaemia. The levels of stunting, wasting and

underweight children in Haryana are not as precarious compared to anaemia prevalence. The percentage of children suffering from anaemia of any form is relatively less in Mizoram. Jharkhand has the highest percentage of children suffering from mild anaemia (31.6%) and in seven states (Haryana, West Bengal, Karnataka, Gujarat, Madhya Pradesh, Bihar and Jharkhand), the percentage of children with mild anaemia are greater than the national average.

Table-1
Nutritional Status of Children under 5 by States

States	Percentage under nourished			Percentage of children 6 to 59 months with			
	Height for age (Stunted)	Weight for height (Wasted)	Weight for age (Underweight)	Any anaemia	Mild anaemia	Moderate anaemia	Severe Anaemia
Mizoram	28.1	6.1	12.0	19.3	12.8	5.9	0.7
Kerala	19.7	15.7	16.1	35.7	22.8	12.5	0.4
Jammu & Kashmir	27.4	12.1	16.6	54.5	22.5	29.6	2.4
Himachal Pradesh	26.3	13.7	21.2	53.7	23.1	28.0	2.6
Punjab	25.7	15.6	21.6	56.6	27.3	27.9	1.4
Tamil Nadu	27.1	19.7	23.8	50.7	27.5	22.2	0.9
Uttarakhand	33.5	19.5	26.6	59.8	27.3	30.1	2.4
Telangana	28	18	28.3	60.7	24.7	33.5	2.5
Haryana	34	21.2	29.4	71.7	28.2	40.5	3.0
West Bengal	32.5	20.3	31.5	54.2	30.9	22.8	0.5
Andhra Pradesh	31.4	17.2	31.9	58.6	26.4	29.9	2.4
Odisha	34.1	20.4	34.4	44.6	24.8	19.0	0.8
Karnataka	36.2	26.1	35.2	60.9	30.3	29.8	0.8
Maharashtra	34.4	25.6	36	53.8	27.7	25.0	1.1
Rajasthan	39.1	23.0	36.7	60.3	27.1	31.3	1.9
Chhattisgarh	37.6	23.1	37.7	41.6	24.0	17.0	0.6
Gujarat	38.5	26.4	39.3	62.6	31.5	29.3	1.7
Uttar Pradesh	46.2	17.9	39.5	63.2	26.4	34.4	2.4
Madhya Pradesh	42.0	25.8	42.8	68.9	29.4	37.6	2.0
Bihar	48.3	20.8	43.9	63.5	30.2	31.8	1.4
Jharkhand	45.3	29.0	47.8	69.9	31.6	37.2	1.1
India	38.4	21.0	35.7	58.8	27.8	29.2	1.6

Source: NFHS 4

The table analyses the nutritional status of children based on anthropometric indicators and prevalence of anaemia across the three groups of states. All the three anthropometric indicators of nutritional status, are worst for Group H or states with high vulnerability (41% or more underweight children). In group L states, the percentage of stunted, wasted and underweight children under

five are 27.7, 15.7 and 21.7 percent respectively, which is lower in comparison to Group M and H states. Anaemia among children aged 6 to 59 months are analysed for the groups of states. Even in the group of states with less than 30 percent underweight, prevalence of any anaemia (<11.0g/dl) is as high 51.4 percent, but is lesser than the national average of 58.8 percent. Prevalence of anaemia is high in those group of states with high percentage of underweight children.

Table-2
Nutritional Status of Children by Group of States

States / percentage Underweight	Percentage of children under age five years			Percentage of children aged 6to 59 months			
	Stunted	Wasted	Underweight	Any anemia	Mild anemia	Moderate anemia	Severe anemia
Group L (30% or less underweight)	27.7	15.7	21.7	51.4	24	25.5	1.8
Group M (31-40 % underweight)	36.6	22.2	35.8	55.5	27.6	26.5	1.3
Group H (41% or more underweight)	45.2	25.2	44.8	67.4	30.4	35.5	1.5

Source: Calculated from NFHS 4

Notes: Percentages are the unweighted average state estimates for each group of states

Group L: States of Mizoram, Kerala, Jammu & Kashmir, Himachal, Punjab, Tamil Nadu, Uttarakhand, Telangana, and Haryana.

Group M: West Bengal, Andhra Pradesh, Odisha, Karnataka, Maharashtra, Rajasthan, Chhattisgarh, Gujarat, and Uttar Pradesh are included in this category.

Group H : Madhya Pradesh, Bihar and Jharkhand

Infant and Young Child Feeding Practices (IYCF)

Child malnutrition in India is mainly due to high levels of exposure to infection, inappropriate feeding and caring practices. The window of opportunity to prevent under nutrition is the first two to three years of life, the same time period when infant and young child feeding are practiced. (The World Bank in India, 2009). The prospective benefit of IYCF is that, for infants with growth faltering, rapid ‘catch up weight gain’ in the first two years of life can prevent long term under nutrition and subsequent morbidity and mortality (United Nations Children’s Fund (UNICEF), 2011). Once the child gets engulfed in the malnutrition vicious circle, it is immensely difficult to be liberated. Rather, it is easier, through timely, adequate, appropriate and safe complementary feeding interventions, to ward off child malnutrition at earlier stage rather than at a later stage. Optimal infant and young child feeding practices rank among the most effective interventions to improve child health. It is estimated that sub-optimal breastfeeding, especially

non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10 percent of the disease burden in children under 5 years (WHO, 2009). In 2008, WHO published the indicators for assessing IYCF and it includes eight core and seven optional indicators. The core list includes early initiation of breastfeeding, exclusive breastfeeding for the first six months of life, continued breastfeeding at one year, timely introduction of complementary foods (solid and semi solid foods at age six months), minimum dietary diversity, minimum meal frequency, minimum acceptable diet and consumption of iron rich or iron fortified foods to assess appropriate IYCF practices across countries.

The paper uses certain indicators related to IYCF from NFHS 4 report to assess infant and young child feeding practices across states and group of states.

Early initiation of breastfeeding

The percentage of lastborn children within 24 months prior to NFHS 4 survey put to breast within one hour of child birth (early initiation of breastfeeding) is abysmally low(41%). Whereas the percentage of children breast fed within 24 hours of child birth is almost double the percentage of children breast fed within one hour of birth. Early initiation of breastfeeding reduces the risk of neonatal morbidity and mortality (Debes et. al., 2013). Less than 30 percent of children were breast fed within one hour of birth in states of Uttar Pradesh (25.4%), Rajasthan (28.4%), Uttarakhand (28.8%) and Punjab (29.9%). Close to three fourth of children in the North Eastern state of Mizoram were breast fed within one hour of birth. Surprisingly, in Odisha, more than two thirds of children were initiated breastfeeding within one hour of birth. In states of Mizoram, Kerala, Odisha, and Chhattisgarh, more than 90 percentage of new born were put to breast within 24 hours of child birth.

Median duration of exclusive breastfeeding

WHO recommends exclusive breastfeeding in the first six months of life. Breastfeeding confers short term and long term benefits to the child and mother. Long term benefit of breastfeeding to children are reduced cardio vascular risk factors and the burden of non-communicable diseases in later years (Fewtrell, 2004). An increase in the duration of breastfeeding has a positive influence on intelligence in young adulthood (Mortensen et. al., 2002) and also on cognitive development of children, particularly among low birth weight infants born close to term (Daniels & Adair, 2005). The median duration of breastfeeding in India is 29.6 months. The median duration of exclusive breastfeeding increased from 2.0 months (NFHS 3, 2005-06) to 2.9 months (NFHS 4). The median duration of exclusive breastfeeding is more than four months in the states of Jammu & Kashmir, Himachal Pradesh, Telangana, Andhra Pradesh, Odisha, and Jharkhand. It is as low as 1.6 months in Uttar Pradesh.

Complementary Feeding

After six months of age, breastmilk alone is not sufficient to meet the increasing nutritional requirement of infants. Studies have shown that growth faltering occurs at the time of introduction of complementary feeding (Shrimpton et.al., 2001). To address the growth requirement of children, complementary foods that include a wide variety of diverse foods rich in nutrients and vitamins need to be added to the diet. The indicator, commonly used for timely complementary feeding rate, is the percentage of infants 6-8 months who receive both breast milk or any solid or semisolid food in the day or night preceding the survey. In India, 45.5 percent of infants aged 6-8 months received both breast milk and any solid or semi solid food. By 9 to 11 months, 68.7 percent of infants receive both breast milk and any solid or semi solid food (NFHS 4, 2015-16).

Minimum Acceptable Diet

Minimum Acceptable Diet (MAD), Minimum Dietary Diversity (MDD) and Minimum Meal Frequency (MMF) are crucial for age specific growth and development of infants and young children and to avoid micro nutrient deficiencies. The WHO minimum acceptable diet recommendation is a combination of dietary diversity and meal frequency and is different for breast fed and non- breastfed children (WHO, 2010). Dietary diversity is a proxy for adequate micro density of foods. MMF is a proxy for child's energy requirement. Percentage of breast fed and non-breastfed children aged 6-23 months, who are fed MDD, MMF and MAD, during the day or night preceding the survey is one of the core indicators of IYCF. At all India level, only one fifth of the breastfed children aged 6-23 months, received minimum dietary diversity. Forty seven percent and 76.2 percent of breast fed and non-breastfed children in Tamil Nadu consumed food from four or more food groups the day prior to the survey. MAD among non-breastfed children is also highest in Tamil Nadu. Though Rajasthan is positioned as a Group M state, the MDD and MAD are the lowest for both breastfed and non-breastfed children, in comparison to all the states under Group H. Regarding the minimum meal frequency among breast fed children, two of the group M states, have the highest (Chhattisgarh) and the lowest (Karnataka) MMF. Himachal Pradesh, a group L state, has the highest minimum meal frequency (78%) among the non -breastfed children. At all India level, 31.2 percent and 61.1 percent of breast fed and non-breastfed children respectively receive MMF. The percentage of children receiving MMF is higher compared to the percentage of children receiving MDD and MAD. Though the children are provided with minimum meal frequency, the diet is not diverse. This is one of the reasons for slow progress in nutritional outcome and increasing micro nutrient deficiencies among children.

Table-3
Infant and Young Child Feeding Practices by State

State	Percentage started breastfeeding within one hour of birth	Median duration of exclusive breastfeeding	Among breastfeed children 6-23 months % fed			Among non breast fed children 6-23 months % fed		
			Minimum dietary diversity ¹	Minimum meal frequency ²	Minimum acceptable diet ³	Minimum dietary diversity ¹	Minimum meal frequency ⁴	Minimum acceptable diet ⁵
Mizoram	73.4	3.9	41.2	35.1	14.6	53.8	30.8	13.3
Kerala	63.3	2.9	37.9	43.1	21.3	44.3	54.7	22.3
Jammu & kashmir	47.1	4.5	43.7	37.4	21.8	53.8	69.2	32.1
Himachal Pradesh	40.6	4.1	24.5	40.0	11.0	37.9	78.0	10.0
Punjab	29.9	2.6	15.6	26.0	5.7	26.1	71.9	6.7
TamilNadu	55.4	2.2	46.6	41.2	21.4	76.2	71.7	47.1
Uttarakhand	28.8	2.4	19.8	35.8	8.6	29.0	74.9	7.8
Telangana	35.8	4.2	25.0	26.3	9.9	38.1	53.6	11.2
Haryana	42.3	2.4	16.4	26.3	7.0	27.4	65.5	10.0
West Bengal	47.7	2.6	36.6	36.7	19.1	55.1	56.7	25.7
Andhra Pradesh	39.2	4.4	21.0	25.1	6.5	30.2	60.7	11.9
Odisha	68.9	4.0	22.5	38.7	8.9	19.7	43.4	5.0
Karnataka	57.6	2.8	17.9	19.3	5.8	34.6	49.0	14.4
Maharashtra	57.0	3.2	20.1	24.9	5.2	28.4	45.2	12.2
Rajasthan	28.4	3.2	8.5	26.7	3.4	16.0	70.7	3.7
Chhattisgarh	47.4	5.3	18.5	56.2	11.1	28.4	67.4	8.5
Gujarat	49.7	2.9	13.3	30.8	5.8	24.3	47.7	2.8
Uttar Pradesh	25.4	1.6	9.8	31.2	5.3	17.7	73.2	5.3
Madhya Pradesh	34.6	3.3	14.8	33.4	6.9	21.7	50.8	4.8
Bihar	35.3	2.7	16.8	25.8	7.3	28.5	60.5	9.2
Jharkhand	33.0	4.0	13.8	39.5	7.2	26.2	49.1	7.1
India	41.5	2.9	19.8	31.2	8.7	33.6	61.1	14.3

Source: NFHS 4

Note: ¹MDD, if children receives food from 4 or more of the following food groups- (a) Dairy products, (b) food from grains or roots (c) Vitamin A rich fruits and vegetables, (d) Other fruits and vegetables, (e) egg, (f) Flesh foods, (g) legumes and nuts, (h) foods made with oil, fat, ghee or butter.

For breast fed children aged 6-23 months, ²MMF is receiving solid or semi solid food at least twice a day for infants 6-8 months and at least three times a day for children 9 to 23 months. ³MAD for 6-23 months breast fed if they are fed minimum dietary diversity and minimum meal frequency.

For non -breastfed children aged 6-23 months: ⁴MMF: receiving solid or semi solid food or milk feeds at least 4 times a day.

⁵ MAD: If the child receives other milk or milk product at least twice a day, receive MMF as mentioned in ⁴ and receives solid or semi solid food from at least four food groups (excluding milk or milk products food group).

All the indicators considered relating to infant and young child feeding practices are better among the group of less vulnerable states. Early initiation of breastfeeding is a determining factor to arrest malnutrition. In low vulnerable states (group L), 46 percent of children under 5 were put to breast within one hour of birth, whereas in highly vulnerable states (group H), its percentage is low.

When it comes to the percentage of children breast fed within one day of birth and mean duration of exclusive breastfeeding, there are not much variation among group L, M, and H states. In group L states, 30 percent of breastfed children aged 6-23 months get MDD, whereas in group H states, only 15 percent of children receive MDD. Apparently, there are not many variations in MMF among breast fed children across the group of states. Children are fed either accessible food or child's preferred food rather than a diverse food with adequate nutrition. In group L states, the percentage of non- breastfed children receiving MDD is double the percentage of children receiving MDD in group H. These findings alone cannot solely prove that inadequate IYCF are responsible for poor nutritional outcome, but improvements in feeding practices can undoubtedly address the problem and can break the chain of malnutrition.

Table-4
Infant and Young Child Feeding Practices by Percentage Underweight Across Group of States

States/ percentage Underweight	Percentage started breastfeeding		Mean duration of exclusive breastfeeding	Among breastfed children 6-23 months % fed			Among non breastfed children 6-23 months % fed		
	within one hour of birth	within one day of birth		Minimum dietary diversity	Minimum meal frequency	Minimum acceptable diet	Minimum dietary diversity	Minimum meal frequency	Minimum acceptable diet
Group L (30% or less underweight)	46.2	82.7	3.2	30	34.5	13.4	42.9	63.3	17.8
Group M (31-40 % underweight)	46.8	83.8	3.3	18.6	32.1	7.9	28.2	57.11	9.9
Group H (41% or more underweight)	34.3	82.8	3.3	15.1	32.9	7.1	25.4	53.4	7.0

Source: Calculated from NFHS 4

Notes: Percentages are the unweighted average state estimates for each group of states

Nutritional Status of Women

Nutritional status of women, in particular, mothers affect the nutritional outcome of infants. A malnourished mother is more likely to have a child who is undernourished. Widely employed indicator of nutritional status of adults is the BMI, which is defined as weight in kilograms divided by the height in metres squared (kg/m^2). This indicator is used to assess both thinness and obesity. A BMI of less than 18.5 kg/m^2 indicates chronic energy deficiency and a BMI greater than 25 kg/m^2 indicates overweight or obesity. According to the NFHS 4,

at all India level, 23 percent of women aged 15-49 years had a BMI of less than 18.5 kg/m² and 21 percent were overweight.

In less vulnerable (group L) states, the percentage of women who are thin (less than 18.5 kg/m²) are less compared to the other two groups. More than one fourth of the percentage of women in group L states are obese. In group H states, the percentage of women who are thin, are more than twice its percentage in Group L states.

At national level, 53 percent of women aged 15-49 years are anaemic - 40percent and 12 percent of women respectively are mildly and moderately anaemic. One percent of women are severely anaemic. Group L states, have lesser percentage of women suffering from anaemia (mild, moderate and any anaemia), compared to group M and H states, and its percentage is lesser than the all India average.

Table-5
Nutritional Status of Women by Percentage Underweight Across Group of States

States / percentage Underweight	Percentage with BMI below 18.5 kg/m ²	Percentage with BMI of 25 kg/m ² or more	Percentage of women			
			Mild anemia (10-11.9g/dl)	Moderate anemia (7.0-9.9g/dl)	Severe anemia (<7 g/dl)	Any anemia (<12g/dl)
Group L (30% or less underweight)	14.4	27	35.4	11.9	1	48.3
Group M (31-40 % underweight)	23.9	20.2	38	11.9	1	51.9
Group H (41% or more underweight)	30.16	11.8	44.7	13.7	0.9	59.3

Source: Calculated from NFHS 4

Notes: Percentages are the unweighted average state estimates for each group of states

Status of Women

Improved status of women can greatly influence the intra household distribution of food and other resources. Their low status gets culminates into poor nutritional outcome, thereby igniting the inter-generational malnutrition vicious circle. To understand the status of women among the groups of states, the variables considered are (1) among those employed in the past 12 months, percentage of currently married women aged 15-49 years who receive cash earning for employment (as a proxy of women's status in society), (2) her decision making role in the family regarding her own health care (as a proxy for familial status), (3) female literacy and (4) male female literacy gap.

Eighty percentage of women receive cash earning for employment (NFHS 4, 2015-16). In 13 out of the 21 states considered, the percentage of women earning cash for employment is less than the national average. Himachal Pradesh has the lowest percentage of women receiving remuneration in cash (55%) whereas, it is as high as 97.4 percent in Kerala. Percentage of women making decision alone or jointly with the husband regarding their own health care is taken as a proxy for her role in decision making and hence her status in family. At all India level, close to three fourth of women are partakers of decision making regarding their health care. Kerala has the highest female literacy (92.1%), followed by Mizoram (89.3%) and Bihar has the lowest female literacy (51.50 %). In highly vulnerable states, female literacy is less than 60 percent. Male female literacy gap indicates the level of gender parity. Male female literacy gap is the least in the high female literacy states of Kerala and Mizoram. Rajasthan, a group M state, has the highest male female literacy gap (27.1%) and the gap is relatively higher among group H states.

Table-6
Status of Women by States

State	Among women employed in past 12 months, percentage earning cash	Percentage of women who usually make decision alone or jointly regarding own health care	Female literacy (in percentage)	Male female literacy gap (in percentage)
Mizoram	60.9	88.8	89.3	4.1
Kerala	97.4	80.6	92.1	4.0
Jammu & kashmir	63.9	75.1	56.4	20.3
Himachal Pradesh	54.6	83.7	75.9	13.6
Punjab	95.9	84.2	70.7	9.7
TamilNadu	93.2	76.1	73.4	13.3
Uttarakhand	72.8	82.2	70.0	17.4
Telangana	95.5	68.2	Not Available	Not Available
Haryana	80.5	69.8	65.9	18.1
West Bengal	94.2	81.1	70.5	11.2
Andra Pradesh	93.3	67.5	59.1	15.7
Odisha	79.0	71.9	64.0	17.6
Karnataka	81.8	68.0	68.1	14.4
Maharashtra	77.0	80.2	75.9	12.5
Rajasthan	63.0	72.6	52.1	27.1
Chhattisgarh	81.9	78.8	60.2	20.0
Gujarat	79.5	73.8	69.7	16.1
Uttar pradesh	63.8	73.0	57.2	20.1
Madhya pradesh	73.0	77.2	59.2	19.5
Bihar	61.7	66.1	51.5	19.7
Jharkhand	75.7	80.4	55.4	21.4
India	80.0	74.5	64.6	16.3

Source: NFHS 4; Office of Registrar General, India (as cited in Women and Men in India-2016)

Unweighted average state estimates for each of the indicators discussed earlier reveal that the status of women, be it at societal level or family level, is higher among the group of states with less than 30 percentage of underweight children (L states). In group L and M states, close to 80 percent of women receive their earning in cash, compared to 70 percent in group H states. In group L states, 78 percent of women make decision alone or jointly with their husband regarding own health care compared to 74 percent each in group M and H states. Close to three fourth of females (74.2%) are literate in low vulnerable states, whereas just 55 percent of females are literate in highly vulnerable states. Gender parity is higher among group L states, compared to the other two groups. From the analysis it is clear that those states which are better in terms of women's status in society and family have better nutritional outcomes.

Table-7
Status of Women by Percentage Underweight Across Group of States

States / percentage Underweight	Among women employed in past 12 months, percentage earning cash	Percentage of women who usually make decision alone or jointly regarding own health care	Female literacy (in percentage)	Male female literacy gap (in percentage)
Group L (30% or less underweight)	79.4	78.7	74.2	12.56
Group M (31-40 % underweight)	79.2	74.1	64.0	17.1
Group H (41% or more underweight)	70.1	74.5	55.3	20.2

Source: Calculated from NFHS 4; Office of Registrar General, India(as cited in Women and Men in India-2016)

Notes: Percentages are the unweighted average state estimates for each group of states

Conclusion

The first thousand days of life, starting from conception to two years, provides a window of opportunity to break the inter-generational malnutrition vicious circle. Optimal feeding practices can serve as immediate interventions outside the womb, to prevent lifelong irreversible damages caused by malnutrition. Though the group of low vulnerable states perform relatively better in terms of indicators pertaining to IYCF, its percentage is very low. An area of concern is the abysmally low percentage of children receiving minimum dietary diversity. Imparting nutrition education at community and household levels will improve the knowledge of mothers on the importance of providing a dietary diverse food to children. Improving the status of women at societal and household level will

reposition herself as a partner in decision making, and thereby increasing resource allocation for health and nutrition inputs for her children. The much-rooted gender inequality cannot be wiped off overnight. The study calls for promoting gender equity to allay malnutrition. A viable means of averting transmission of malnutrition from mother to child is through optimal feeding practices.

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BRIDE BUYING IN NORTH INDIA: AN ANALYTICAL STUDY OF FACTORS, METHODS AND PROCESS

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Abstract: In an economically prosperous north Indian state, mismatch in the marriageable age population is a glaring menace. In sociological terms, this mismatch is known as marriage squeeze. Particularly in north India, due to shortage of girls, there is a male marriage squeeze. Men who failed to get brides in local areas have been interchangeably called ‘malang’ in Haryana and ‘chadda’ in Punjab (Ahlawat 2016; Gill 2019). The lives of bachelors are considered incomplete and meet with pity or social disapproval in the rural areas of north India. Therefore, these bachelors purchase brides from other states. Hence to study the methods used by these bride hunters to procure girls for marriage is the need of the hour. With this backdrop, the first part of the paper tries to examine the question whether the brides who enter into such kind of alliances are simply migrated or trafficked? This section also tries to examine the push and pull factors of such kind of alliances. The second section of the paper deals with the classification of mediators, agents or go between involved in this process. The section further tries to explore the process of the transportation of these brides from source areas and the form of payment by grooms’ families. The last section brings out the summary and concluding remarks.

Keywords: Purchased Brides, Modus Operandi, Agents, Mediators, Marriage Squeeze.

Introduction

Due to skewed sex ratio, the shortage of girls in marriageable age has become a glaring menace. One of the important consequences of the dismal sex ratio is the

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mismatch in the marriageable age population. Sociologically, this mismatch is known as marriage squeeze. Particularly, talking about north India, the skewed sex ratio has led to male marriage squeeze. Due to this squeeze, men in the rural areas are not able to get brides in local marriage market. The men with lower educational and socio-economic status in society are unable to get local girls to marry (Ahlawat, 2016). Pertinently, the impacts of the marriage squeeze are likely to be felt more than twenty years after the appearance of skewed sex ratio (Kaur, 2016). The men who are unmarried and without families have been interchangeably called *malang* in Haryana, *chadda* in Punjab and *bare branches* in China (Ahlawat, 2016; Eklund, 2013; Gill, 2019).

Therefore, this shortage of brides has been addressed in various ways, including through, cross regional marriages, kidnap marriages including deception and enticement (Chao 2005; Schein 2005). The relation between an increase in trafficking of women and increase in sex industry has also been linked to male marriage squeeze (Chen 2008). The brides who are purchased from other states are interchangeably called as Cross Regional Brides, Purchased Brides, and Imported Brides (Kaur, 2004; Chaudhry and Mohan, 2010; Mishra, 2013; Darling, 1928).

According to Blanchet, in Uttar Pradesh, such marital alliances are considered as a lower form of marriage (2003; 11). Social Scientists engaged in the area of human trafficking have emphasised the nature of such marriages as “Buying”, “trafficking” or “trade” of brides (Blanchet 2003, 2005; Jeffery and Jeffery 1996; Pandey and Kant 2003). Blanchet mentioned that in Uttar Pradesh these brides are called *Kharidan Aurat* (Purchased Women). Marriages in Haryana by buying bride are documented widely which record the practice, status and violence involved (Choudhary 1994; Kaur 2004; Ahlawat 2009). Still, there is much to be explored. Therefore, this study is further exploring the modus operandi of such marriages in rural areas of Haryana, arranged after paying price to the agents, or the families of girls.

In our country, migration after marriage is the most prevalent form of migration for women. Earlier not much importance was given to women migration as they were considered as associational migrants or trailing wives.ⁱ But, the recent literature has questioned many of the earlier assumptions and generalisations. Marriage migration in India is almost an entirely unexplored area, despite its vast size and a growing consensus that women play a crucial role in education, health, and economic development.ⁱⁱ In conventional marriages in rural area, care is taken by the families not to marry their girls far away, as it is expected that they would maintain contact with their natal families throughout their lives. But, in these marriages the women migrated from a long distance to language wise, culturally and topographically different region.

With this background, the objective of this article is to identify the push and pull factors which compel these girls to get married in such distant places. The paper also tries to examine the Modus Operandi of such kind of marriages. Further, the paper tries to highlight the process of the transportation of girls from their maternal homes to bride scant areas. To examine the category of mediators who hired girls for potential grooms from the source area is also the objective of the paper.

Further, talking about the methodology, the study would be exploratory in nature due to the limited availability of literature. Due to the nature of the phenomenon under study, qualitative research methods were used. In view of the qualitative nature of the research issue, the data were obtained by using methods such as personal interviews, narratives, observations and focus group discussions. The case studies were helpful in getting an in-depth idea about the problem. The present study was executed in the state of Haryana. Forty-one cases of purchased brides from sixteen villages of Haryana were selected for the study.

Migration or Trafficking?

Migration and trafficking are somewhat similar and there is a very thin line between them. By taking the advantage of this similarity, the traffickers are able to manipulate these processes and create the illusion that the victims are not involved in the fraud of '*human smuggling*'. In reality, however, the purpose of trafficking from the very beginning is to earn profit by the exploitation of the victims. The critical factors that separate trafficking from other processes of physical movement are;

1. Nature of consent,
2. The intention of the agency that transport people,
3. The ultimate consequences of the movement.

The difference in the thinking of the victim and traffickers about the final purpose normally keeps such cases surreptitious until the victim realises his/her misfortune or the ordeal he/she has been put into. In the cases of purchased girls also, the agents influenced these girls by showing the dreams of jobs, marriages and enjoyment of full life in the states like Haryana. In most of the cases, it was found that women, who were trafficked, were not aware of this fact. It was also analysed particularly in districts of Yamunanagar and Rohtak. The parents of these girls were influenced by the traffickers by offering to them lucrative offers of spending money in the wedding ceremonies. With reference to the point 6 of the Section 370 of I.P.Cⁱⁱⁱ it can be inferred that all these cases where the money was offered for spending in wedding ceremony, were cases of trafficking of girls because the grooms' families/agents in order to achieve the consent of parents offer to spend money in their marriages. There are cases where the agents (*dallals*) portrayed a very rosy picture of such alliances in front of their parents,

but ultimately when women reached their matrimonial homes, they realised that they were misled by these agents (*dallals*). These are cases of human trafficking because to achieve the consent of the parents or girls, they were cheated by these agents.

During the field work, a few cases were found in which the girls from the source areas were tempted into a relationship with men of dubious intents. Once the girls ran away with them, they were sold in this deceptive marriage markets of north India. One such case was found in the village Madhi of Nuh, where a woman, who was originally from Jharkhand, was trapped in a relationship with her servant, she ran away with him and once they reached Delhi she was sold to an agent by that servant. The agent then sold her to a man of village Madhi of district Nuh.

In the field, cases were found where majority of the women were not aware about the fact that they had been purchased by their matrimonial families. In one of the cases in district Jind, it was told by one of the brides that, after two years of her marriage she came to know that she was purchased by her husband. In another case of district Nuh, a woman told that her marriage had been arranged by one of her relatives, but after her marriage she came to know that the relative was an agent of girls. After her marriage he never visited her home because he knew that she was aware of the fact that he had taken money to arrange her marriage. In another case of district Jind it was told by the wife that the agents told her that, he would help her in finding job, but once she reached Karnal, she was sold to a man of Jind for Rs. 50,000 by that agent.

The intention of the agents (*dallals*) who transport girls from the source areas is only to earn profits. For monetary gains these agents use different tactics to get the consent of parents or girls and transport them to destination areas. The ultimate consequence of the movement of these girls from their native villages is that they are pushed into forced marriages. Therefore, the findings clearly highlight that these cases are not the cases of simple migration but trafficking of girls for marriages. A report by Kant and Pandey (2003) on cross-regional marriages in Haryana and Punjab and another by Singh (2009) on the Mewat region of Haryana also substantiated this finding and place such marriages in the category of trafficking. Also, one of the Hon'ble Justices of High Court of Punjab and Haryana and Chief Judicial Magistrate Cum Secretary, DLSA, Nuh also substantiated this finding and said that these are the cases of Human Trafficking because no consent has been given by the victims, and money is involved in each step of such alliances.^{iv}

Further, in such marital alliances there are certain factors which push these girls from their maternal homes (source areas), and there are certain factors which attract these girls to the destination areas. In other words, it is to see

whether brides migrate because of the compelling circumstances at the place of origin which pushed them out, or whether they are lured by attractive conditions in the new place.

On the pull side, a major factor is the demand of brides in the rural areas of Haryana. The state of Haryana has a great gender difference and hence known as the destination for bride trafficking. It is an area where female children are considered as financial burden and female infanticide and foeticide are common practices which lead to imbalance in sex ratio. So, the men folk are now buying, sharing, selling and re-selling wives. The demand is also for younger girls who can be used as per the whims and fancies of their matrimonial families. The fancy lifestyle promised by the agents is also attractive to girls who blindly believe their false promises. The families who do not have land or own a very small portion of it are not able to find brides in their local areas. Unemployment among youth in Haryana is also one of the pull factors. Also, the increase in the literacy rate of women in Haryana is a reason behind male marriage squeeze, because literate girls of Haryana have a clear cut preference for boys from urban areas than the ones from the rural areas as evident from the literature reviewed (Kaur, 2012). This male marriage squeeze in the rural areas of these states (Haryana, Punjab, Uttar Pradesh and Rajasthan) provides an attractive market for traffickers to sell these girls.

The push factors are those that compel or force these brides, due to various reasons, to leave their native place and go to some other place in the state of Haryana. Poverty in the source area is a push factor for the transportation of girls from the source states. Huge demands for dowry in the source areas, which could not be given by the families due to weak financial status. Women belonging to the poorest and underdeveloped parts of the country are invariably abducted, misled, raped and coerced into being sold off as brides for a meagre amount of money in Haryana. There are certain natural and manmade calamities which are also responsible for such kind of trafficking. For example, it was evident from various studies that the girls from the flood prone areas of Assam and Bihar were more susceptible to such kind of movement. According to the documentary India's Slave Trade-101 East, *'the Brahmaputra river provides rich land to crops but it is prone to catastrophic flooding, many girls and women have been procured for marriage from the farms of flood plains'*.^v According to The Indian Express, there is 15 per cent spike in Human Trafficking after earthquake in Nepal.^{vi} Vulnerability of Rohingya women/ girls for trafficking as brides in Haryana (India) and Malaysia is one of the recent patterns of the manmade calamities in the present scenario (Srivastava 2018; Ahmed 2019).^{vii} Similarly, if similar kind of calamities happens in the source area, it also acts as a push factor for the transportation of girls as brides.^{viii}

Agents in Such Alliances

In the traditional Indian marriage system, the marriage negotiations are initiated by the family members, relatives and kins. But, the kin and caste network of traditionally arranged marriages do not work in such kind of marriages, because the distance between the natal and the matrimonial village is too large. Those who help the potential grooms in Haryana to find brides of the other states are called as “Go-between”, “matchmakers” and “mediators” (Chaudhary 2018; Khan 2013) but in the present study they are called agents (*dallals*) because earning profit by arranging girls is the only objective of these agents. In traditional marriages, in Haryana before the marriage there is an interaction between the parents and relatives of grooms’ and brides’ families, some sort of rapport is there between the two families before marriage. But, in such kind of marriages, there is no rapport between the two families. During the field work it was found that in such kind of marriages these days the Agents (*dallals*) are active. Thus, the new kinds of intermediates enter to negotiate marriages. Who are these agents (*dallals*)? In the cases examined here, the researcher was able to categorize some of these agents (*dallals*);

Purchased Brides: It was found that the agents (*dallals*) who were active at the destination point, themselves purchased brides and their husbands. According to Vajinder Maratha, a correspondent in Dainik Bhaskar (Hindi Newspaper) said these purchased brides were active as agents (*dallals*) because they have close knit relationship with people in the source area. Similarly, in her work among such brides in Haryana, Kaur found that one marriage leads to more marriages, resulting in a network (2004 p.2597). During the informal discussion with P.P.O^{ix} of district Kaithal, she told that these brides and their husbands in the beginning voluntarily helped needy bachelors to get brides from other states but once they started getting money and realized that huge amount of financial benefits they pursue it as their profession. The researcher got the chance to meet two agents (*dallals*) in the field site. After discussions with them, it was found that, both of them were married to the women from other states. This finding of purchased brides acting as agents was also substantiated by Chaudhary and Mohan (2010) and highlighted that were all *Bengali* or *Bihari* women married into villages in district Badaun of Uttar Pradesh.

Migrant Labourers: Since, Haryana is an agrarian society, huge amount of labour force has migrated from poor states to rural areas of Haryana. Also, most of the towns in Haryana are industrial towns (Panipat, Sonapat, Hissar, Gurugram) and labour force from other states has also migrated to these areas. In two of such cases, it was found that the agents (*dallals*) are migrant labourers. In one of the cases, it was told by the respondent that when he was not able to find a bride in the local area, he contacted a migrant labourer living in the adjacent village for getting a bride for him from other state. In another case, it was found

that when the man was not able to find bride in his local area, he contacted a migrant labourer residing in Panipat for finding a bride for him. From this it can be said that some migrant labourers were also working as agents (*dallals*) who provide girls for the purpose of marriage to the potential grooms of Haryana.

Truck Drivers: In the state of Haryana, there are sufficient numbers of men who are in the profession of truck driving. Due to their profession, they visit almost all parts of India and they have contacts in the source areas. They help these needy bachelors in search of a bride for themselves. According to Khan, truck drivers from Haryana act as network for procuring girls from source areas. (2013; 52) The Coordinator, Khap Panchayat, Inder Jit Hooda, during an informal discussion told that the truck drivers from Punjab and Haryana visit all these areas. During their regular visits to these areas, they befriended girls of that area (Source areas). The realization dawns on them that it would be difficult for them to snap these relationships and then they bring these girls to their native place and sell to needy persons who are unable to find brides. During the informal discussion with P.P.O of district Rohtak, she narrated that, *“truck driver bhi le karata hain wahan se, istmal kar ka ya to chod deta ya phir aage bech deta ha jis kisi ko jarurat ho use”* (Truck drivers also bought girls from the source areas, after abusing these girls some of them abandoned these girls and in some cases they are further sold to needy bachelors). Also the S.H.O of the Women Police Station, Ambala told that, *“jo ya truck driver hain, vo le kar ata hain aur yahan bech deta hain”* (These truck drivers also bring girls from the source area and then sold these girls here). Although, in the present study the researcher was not able to find a single case where the truck driver was acting as agent.

Placement Agencies: The field work also highlighted that these women are also being cheated by placement agencies and the agents lure these girls by giving them offers of providing them good jobs with handsome salaries. After giving them very big dreams, these girls are transported from the rural areas of West Bengal, Assam, Chhattisgarh, Bihar, Jharkhand etc but once these women reach Delhi and its surrounding areas then they realise that they have been embittered by these agencies. Khan (2013) from their work highlighted that Panipat and Sonipat are the main points of this trade as huge number of placement agencies acting as hub of different types of trafficking. Most of the girls rescued from such agencies have been sexually exploited by the placement agencies and sometimes even trafficked," as told by Rakesh Sengar from Bachpan Bachao Andolan.^x Some victims are sent to Haryana where there is a demand of girls for marriage. One such case was found where the respondent told that women were transported to Gurugram by placement agencies by giving them false hope of good jobs. In her case also, she was ensnared by the agent but when she reached Gurugram and started working, after sometime she realised that she had been cheated by the agency and no money was transferred into her family's bank account. She told that the placement agencies take advantage of the vulnerable situation of the girls

who are transported from the source area to the cities like Gurugram and Delhi and then sold them into the marriage market of Haryana.

Transportation Process

Generally, the process through which transportation of these girls takes place is often highly complex and typical, especially when taken into consideration the transportation within the country or inter-state transportation. It is a universal perception that the movement of the person is from less developed areas to more developed areas or regions. It was also found that most of the women who are transported from the states like Bihar, West Bengal, Assam and Himachal Pradesh belonged to the under developed poor and flood prone areas of these states. The process of transportation of such purchased women was comprised of three main stages;



Origin: Origin is the place/stage from where the girls have been recruited (Mishra, 2013). In other words, it can be said that origin is the place to which the victim belonged, it should be the birth place or maternal home of the girls or women. During discussion with such purchased girls in the state of Haryana it was found that under developed, poor and flood prone areas of Bihar, West Bengal, Assam, Himachal Pradesh, Andhra Pradesh etc. are the epicenter or the origin from where this process of transportation of girls/ women starts. From the source area, girls are normally transported to fulfill the demand as domestic servants, sexual labour, surrogate mothers in the metropolitan cities like Delhi and Gurgaon and as *brides* in the rural Haryana. Further, it was very surprising to find out that people in source areas are failed to realize the fact that the girls are purchased. On the contrary bride buying is so common in destination areas that everyone knows that these girls are purchased for money.

Transit Point: Transit point is the point where the agents sold the girls to other brokers. The locale of the transit point is always close to the destination point. Because if the transit point is nearby then it would be easier for the broker to sell girls at the destination and also it is helpful during the transportation of girls from the transit point to the destination area. According to the study, *Situational Report on Human Trafficking in Jharkhand* (2015), for trafficking of brides to Haryana and Punjab, Delhi is being used as the transit point. In most of the cases the girls are being brought and kept in Delhi for some days and they are transferred to the destination villages of Haryana and Punjab. Palwal, Panipat, Karnal, Faridabad and Delhi are some of the transit points for such kind of alliances as per the information given by the girls. It caters to the need of girls in Uttar Pradesh and Central and south Haryana. Kalka, Ambala and Saharanpur are the transit points which cater to need of North Haryana and Punjab. Dhaliwal (2003) by referring to Mr. Sarwan Singh Bir wrote about the transit areas and said that before the

partition, in Ambala, Haryana, there used to be an ‘*adda*’ where women were offered for sale after sunset; people from various parts of this region especially the Malwa belt, used to flock to ‘*adda*’ to buy women (or ‘brides’).^{xi} Khan (2013) in his article *Bride Trafficking with in India* highlighted that Panipat and Sonipat are the main transit points and the placement agencies are actively working as trafficking network in this area. Further, it was very interesting to note that in some cases where the grooms visit the source area with agents and directly spent money in marriage ceremony there the girls directly migrated from the source area to destination area. In such cases the source area acts like a transit area. sa

Destination: Destination point is the last link in the bride trafficking chain. The destination areas receive these brides and are economically more prosperous than the source areas. Depending on the purpose of trafficking the destination sector varies. For domestic labour it is mainly Delhi, Mumbai, and Bangalore. According to the report, ‘*Female Foeticide, Coerced Marriage & Bonded Labour in Haryana and Punjab; A Situational Report*, Delhi in recent times has emerged not only as a major destination but also as a major transit point for the trafficking of girls from the North Eastern states and Eastern states. The final destinations of these girls who are brought from other states are Haryana, Punjab, Uttar Pradesh and Rajasthan.^{xii}

Forms of Payment

During fieldwork, it was found that the process of getting a bride from the other states is a complex process and most of the times agents are hired by the potential grooms and their families. The deal is fixed before the (*dallals*) agents hand over the girls to the prospective groom. There is a variation in the prices of these brides and it was found during the field work that the price varies according to the age, earlier marital status, educational qualification and the colour complexion of the girl. During discussion with villagers it was found that the price of bought brides varies from rupees 35000 to 1,50,000; the humungous share from this amount is paid to the *dallals* (agents) by grooms or their family members, as told by one of the former Sarpanches in Haryana.^{xiii}

There are two ways in which the money is spent:

1. Direct Cash
2. Money Spent in Wedding Ceremony

From the data, it was very astonishing to analyze that in nearly sixty three percent of cases (twenty six out of forty-one) money was paid in the form of hard cash and in the remaining cases (fifteen out of forty-one) the money was spent in marriage ceremonies by grooms’ families at purchased brides’ maternal families. Further, it was found that in thirty five cases (out of forty-one) the money was paid to the agents (*dallals*) by the bride hunters and in remaining (six out of forty-

one) cases the money was received by parents and relatives of the respective brides. The result is that these brides are highly commoditized as evident from the language used by agents (*dallals*), potential grooms and their families for the women they bring in as brides and the nature of transactions they undertake with the grooms and conjugal family members. These *dallals* (agents) often have no direct connection (except Purchased brides who are acting as mediators) with source region but work through a network of similar agents (*dallals*) who, either through deception, kidnapping or coercion, bring women for marriage in Haryana. Further, the buyers also accepted the fact that the amount is fixed earlier with agents before the deal is locked and the amount of purchase varies according to the choice of the buyer. The findings about the financial transaction taking place between the groom and the agents is also substantiated by Mukherjee (2013) in her study *Skewed Sex Ratio and Migrant Brides in Haryana*. The respondent shared that in addition to this amount they had to spend money on the meals, room rents and railway tickets of the agents. On the other hand, little variation was found in the cases of districts Yamunanagar and Rohtak, wherein more than half of the cases the payment was not in form of hard cash but money was spent indirectly in the form of expenditure incurred on the marriage ceremony in the source area. The expenditure on the room rent, meals and tickets were in addition to the amount spent by the buyer on agents who accompanied the buyer to the source area.

Further, it was very shocking to find out that in sixty-five percent of cases women (Victims) were not aware that they are bought by the their so called husbands. One of the respondents told that her husband told her later that he had paid Rs. 20,000 to the agents for this marriage after two years of her marriage. She further added that if her husband had told her earlier she would never have allowed him to pay the amount to agents. Once the money is spent by the grooms they start treating them like their own property, as they paid for them, which further leads to the objectification of these women and they are treated like objects and the property of their husbands only.

Conclusion

Over time, there has been a significant increase in the number of brides being brought to Haryana from far off states. Due to factors, i.e. shortage of girls, unemployment, landlessness, alcoholism etc., not much importance was given to women migration earlier as they were considered as associational migrants or trailing wives. But, the recent literature has questioned many of the earlier assumptions and generalizations. Poverty, huge dowry demands, under-development and natural calamities in the source area are the push factor for the transportation of girls from the source states. On the other hand, landlessness, unemployment and poverty in the destination areas are the pull factors that attract these girls as brides from their native areas.

The process of getting a bride from the other states is a multi-faceted procedure and most of the times agents are hired by the potential grooms and their families. The deal is fixed before the agents hand over the girl to the prospective groom. Those who help the potential grooms in Haryana to find brides from the other states are called as agents in this study because their only objective is to earn profit from these alliances. In the cases examined in this study, the researcher was able to classify some of the agents i.e., Purchased Brides, Migrant Labourers, Truck Drivers, Placement Agencies.

Findings revealed that most of the women who were transported from the states like Bihar, West Bengal, Assam and Himachal Pradesh belonged to the under-developed poor and flood prone areas of these states. During the discussions with these brides, their husbands and agent, it was also found that the process of transportation of such purchased women was comprised of three main stages i.e., Origin, Transit Point, Destination.

The study also highlighted that there is a variation in the prices of these brides and the price varies according to the age, earlier marital status, educational qualification and the colour complexion of the girl. As a result, these brides are highly commoditized as evident from the language used by agents, potential grooms and their families for the women they bring in as brides and the nature of transactions they undertake with the grooms and conjugal family members. These agents often have no direct connection (except Purchased brides who are acting as mediators) with source region but work through a network of similar agents (*dallals*) who, either through deception, kidnapping or coercion, bring women for marriage in Haryana. Further, the buyers also accepted the fact that the amount is fixed earlier with agent before the deal is locked and the amount of purchase varies according to the choice of the buyer. Once the money is spent by the grooms, they start treating them like their own property, as they paid for them, which further leads to the objectification of these women and they are treated like objects and the property of their husbands only. This is substantiated by Phyllis B. Frank, in her paper titled *Objectification of Women*. She defines Objectification as portrayals of women in ways and contexts which suggest that women are objects to be looked at, even touched, or used, anonymous things or commodities perhaps to be purchased, perhaps taken and once tired of even to be discarded, often to be replaced by a newer, younger edition, certainly not treated as full human beings with equal rights and needs. Once a class of human beings are seen as objects or commodities or in ways that effectively reduce them to objects, it becomes much easier to use them as one would, an object, with little or no regard. In the case of bride buying also, once the money is paid by the groom, she is also treated like an object. An object which satisfies the sexual gratification of the husband/male members, fulfills the desires of the families and once she has satisfied the desires, she is further sold to someone who is in need, from which it can be said that these girls are treated like objects by the grooms' families.

Further, it was found that, at different levels, these women face discrimination and were exploited by the family and community members only because they are purchased with money.

Endnotes

ⁱ Kaur, R. (2012). Marriage and Migration. *Economic and Political Weekly*, XLVII(43), 78-89. Retrieved March 6, 2018, from http://www.epw.in/system/files/pdf/2012_47/43/SA_XLVII_43_271012_RWS_Ravinder_Kaur.pdf

ⁱⁱ (UNICEF, 2007; World Bank, 2012)

ⁱⁱⁱ *Trafficking of Person: According to Section 370 of Indian Penal Code trafficking is defined as: Whoever, for the purpose of exploitation, (a) recruits, (b) transports, (c) harbours, (d) transfers, or (e) receives, a person or persons, by—*

1. *using threats, or*
2. *using force, or any other form of coercion, or*
3. *by abduction, or*
4. *by practicing fraud, or deception, or*
5. *by abuse of power, or*
6. *by inducement, including the giving or receiving of payments or benefits, in order to achieve the consent of any person having control over the person recruited, transported, harboured, transferred or received, commits the offence of trafficking.*

^{iv} Informal discussion with Hon'ble Justice Nirmal Jit Kaur, Punjab and Haryana High Court.

^v <https://www.youtube.com/watch?v=VulRaK1i6qo&t=1029s>

^{vi} <http://indianexpress.com/article/world/world-news/nepal-since-earthquake-15-spike-in-human-trafficking-2771820/>

^{vii} <https://www.reuters.com/article/us-india-trafficking-rohingya/lured-with-a-happily-ever-after-dream-rohingya-girls-sold-in-india-idUSKBN1FB1LD>

^{viii} <https://www.aljazeera.com/indepth/features/rohingya-women-girls-trafficked-malaysia-marriage-190507212543893.html>

^{ix} Protection cum Prohibition Officer at district level to implement the Protection of Women from Domestic Violence Act, 2005 and Prohibition of Child Marriage Act, 2006.

^x <https://www.indiatoday.in/india/north/story/woman-trafficking-placement-agencies-delhi-jharkhand-252183-2015-05-10>

^{xi} Dhaliwal, S. (2003). Bride-buying an Old Practice in North India. *The Tribune*. Retrieved December 22, 2017.

^{xii} Kant, R. (2003). Female Foeticide, Coerced Marriage & Bonded Labour in Haryana and Punjab; A Situational Report. Faridabad: Shakti Vahini.

^{xiii} Sunil Jaglan, former Sarpanch, Panchayat- Bibipur, Jind

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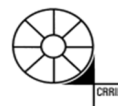
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LABOUR MIGRATION AND REMITTANCES IN KASHMIR: EXPLORING SOCIO-ECONOMIC IMPLICATIONS AND POLITICAL DIMENSIONS

Mohd Aslam Bhat¹ and Tareak A. Rather²

Abstract: Kashmiri society has a long historicity of the processes of in/out-migration. Contemporarily, however, the migratory flows in the region intensified in mid-20th century. Specifically, with the partition of the Indian sub-continent in 1947, Jammu & Kashmir experienced a radical type of mass inter-regional and interstate migration, with causation ranging from political, religious, ethnic to military interventions. During the last couple of decades, the region has, nevertheless, started to experience a considerable up-going trend in international and internal labour in/out migratory flows. Precisely, in the backdrop of political turmoil in Kashmir, it remains a noteworthy socio-demographic and economic phenomenon and an interesting case study since, to avoid the wrath of poverty and insurgency, a significant number of people from different areas of Kashmir have moved to different regions and continents of the world for business, employment, education, training etc. In this context, the paper seeks to explore and analyse the patterns of labour migration in Kashmir with a major focus into international and inter-state labour out-migration. Next, it examines the role of remittances as a positive driver of change at the household economy in Kashmir.

Keywords: Kashmir, Migration, Remittances, Labour, Security, Development

Introduction

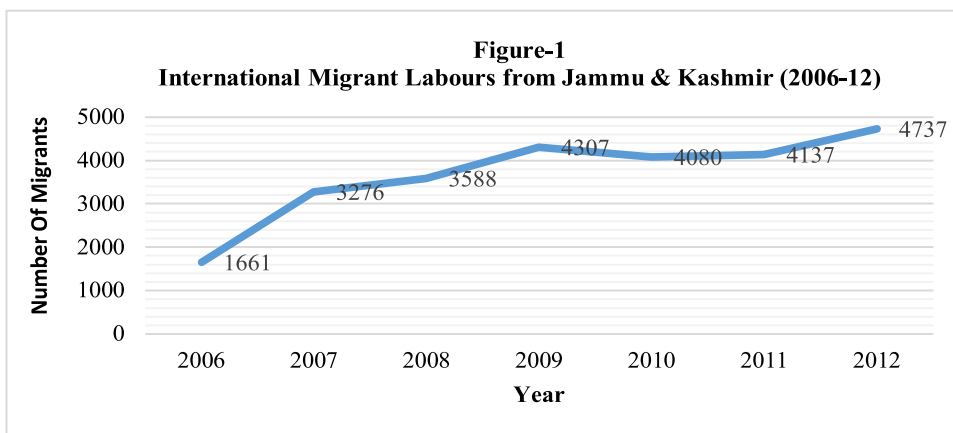
The state of Jammu and Kashmir – northern-most tip of India, located in the great north-western Himalayan ranges – has not remained isolated and unaffected from the 21st century global phenomenon of migration and dispersion of people – largely branded as ‘the age of migration’ (Castles and Miller, 2003). Indeed, Kashmiri society specifically, has experienced the processes of in/out-migration

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since ancient times, nonetheless it was in the medieval ages that such flows increased to greater measure, with Mughals, Afghans, Sikhs, Dogras, who came as rulers and settled in the State. It was also the time when thousands of merchants (caravans) and missionaries from Central Asia used to come for businesses and spread Islam in Kashmir (Dabla, 2014).

Contemporarily, however, the migratory flows in the region had intensified in mid-20th century. Specifically, with the partition of the Indian sub-continent in 1947, Jammu & Kashmir experienced a radical type of mass inter-regional and interstate migration, with causation ranging from political, religious, ethnic to military interventions. Nevertheless, in terms of labour in/out migration, the region has started to experience a considerable up-going trend in international and internal labour migratory flows during the last couple of decades. A significant number of people from different areas of Kashmir have moved to different regions and continents of the world for business, employment, education, training etc. Still, for the most part it is the labour migration that dominates the scene.



Source: Emigration Services Division, MOIA, Annual Reports 2011-12-13

Collectively known as “the Kashmiri Diaspora” (Dabla, 2014), this contemporary migratory flow from Kashmir as we will substantiate later-on, are of two kinds: first is the emigration of highly skilled professionals, labourers and students with tertiary and higher educational qualifications migrating to developed countries, such as UK, USA, Canada, and many European and Arab Countries. This flow started in early 1990s and gathered momentum in mid 1990s possibly with the rise of separatist insurgency in Kashmir, which proved a strong impetus for international emigration in the following decades. Thousands of people with different qualifications, expertise and experiences could not stay in conflict-ridden state and were compelled to migrate to different destinations in order to avoid the wrath of poverty and insurgency. The second is the flow of

unskilled and semi-skilled labourers going mostly to the Middle East countries. Both these types of Kashmiri migrants send on regular basis heavy amounts of money to their families back home. This has helped tremendously in the economic improvement of many families in Kashmir Valley.

Equally in terms of internal migration, J&K, specifically the Kashmir province is emerging as the key destination for thousands of labour migrants from Bihar, Bengal, UP and other states of India. As the 64th round of the National Sample Survey shows, Jammu and Kashmir receives' moderate level of internal migration. In fact, in urban areas, Jammu and Kashmir (10/1000) along with Assam (18/1000) and Bihar (12/1000) has a high temporary migration rate. And if the recent media-derived accounts are even partially true, then Jammu & Kashmir stands the first largest internal in-migrant states of India.

Such a sheer size of migration in the state resonates something far more than actually most of the literature on migratory processes makes us to believe. Especially in the backdrop of political turmoil in the Kashmir Valley, it remains a noteworthy socio-demographic and economic phenomenon in the region and an interesting case study that attracted our attention for the present study. As elsewhere, the awareness that labour migration can and does contribute to development and poverty reduction is equally important in J&K, but this important phenomenon has not come under any serious study. Indeed, there is the complete dearth of any meaningful study on the issue of labour migratory processes in J&K. Present study aspires to be a step toward rectifying that deficiency by identifying and analysing the patterns of labour migration in Kashmir and the kind of jobs/sectors labour migrants are employed-in, with major focus onto international and inter-state labour out-migration. Secondly it aspires to explore the role of remittances as a positive driver of change at the household economy in Kashmir.

Data and Methodology

Jammu & Kashmir comprises of three natural divisions: Jammu, Kashmir and Ladakh, with diverse populations including Muslims, Hindus, Buddhists and Sikhs, which in turn represent multi-ethnic, multiracial and multi-lingual groups and castes with distinct and peculiar cultural ethos. Since the universe of this study was Kashmir Valley, which has ten administrative districts, the sample was however, proportionally selected from both rural and urban areas of the following six districts, with a representation given to every tehsil in order to make it more representative:

[1] Srinagar

[2] Baramulla

[3] Budgam

[4] Anantnag

[5] Pulwama

[6] Ganderbal

As the major focus of the study was on international and inter-state labour out-migration,³ these districts, consistent with the latest census data and having conducted multiple observations and interviews with many concerned officials, have the larger frequency of such flows compared to other districts of Kashmir. The unit of analysis in the study was labour migrant and the questionnaire administered incorporated a range of questions about the socio-demographic characteristics of labour migrants. Nevertheless, in terms of the analysis vis-à-vis the impact of remittances our major focus was on household with one or more inter-state or international labour emigrants. Total number of the sample studied was 480 households belonging to the above mentioned six districts.

Table-1
Sample Size

S. No.	District	Sample size	S. No.	District	Sample size
1.	Baramulla	110	4.	Srinagar	89
2.	Budgam	64	5.	Anantnag	93
3.	Pulwama	76	6.	Ganderbal	48
Total = 480					

For data collection, a detailed questionnaire was formulated, and administered by trained research investigators. And since, there was no population frame/source list available of household with one or more inter-state or international labour emigrants, we were technically bound to adopt the snowball sampling scheme – this technique consists of gathering informants who, after the interview, refer you to other informants – initially to identify the potential households and then after developing the source list, we adopted the systematic sampling scheme to select the sample from the villages, towns and different vicinities of the selected six districts of Kashmir valley.

Certain biographic factors or variables like age, education, marital status etc. of the sample of labour migrants were studied in order to be able to make certain associations and to draw how one is affected by these processes in different ways.

Data on individual labour migrants in Kashmir show a significant clustering of migrant labours (36.22%) in the 36-45-year age group, followed by 28.14 percent labour migrants in the 26-36 age group. There was a very small percentage (6.29) of female labour migrants in our sample. In terms of marital status, majority (77.16%) were married, while 0.39 percent were divorced or living separate. With respect to educational level, largest proportion of labour

³In this study, out-migrant is defined as persons who are a usual member of a household in Kashmir, but for the work-related purposes, are living in other states in India or outside India or returned at the time of the survey.

migrants in the sample were having higher secondary level education (27.16%) and 16.14 percent were graduate. A very small percentage (3.74) of the sample comprised of degree holders such as doctorates.

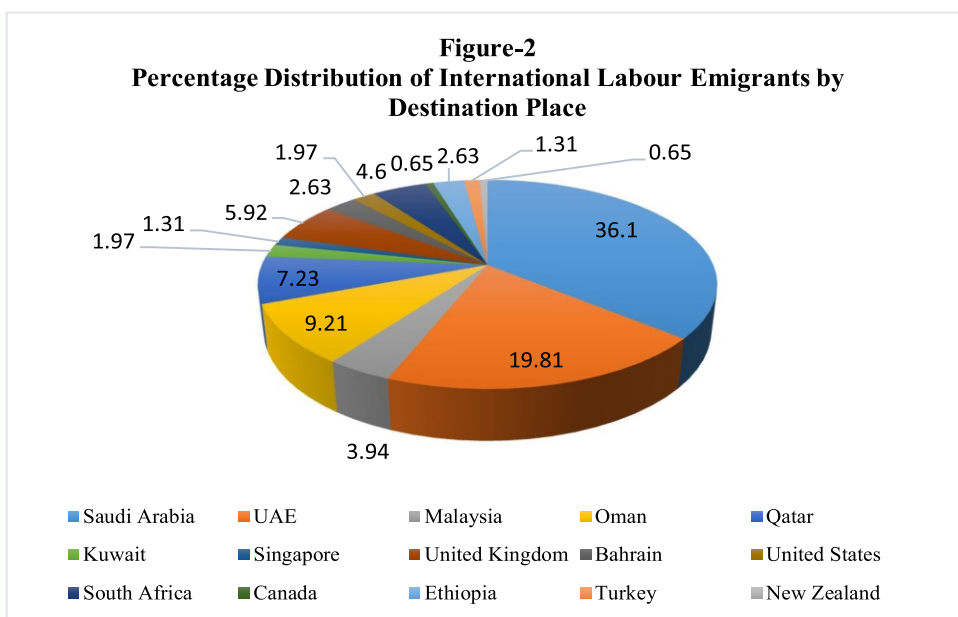
Such literacy status of labour emigrants from Kashmir is in sharp contrast to the general picture of India's migrant population. As some of the recent official data report the migrant population in India as primarily illiterate, which means that the migrants are largely concentrated in the informal employment market with unskilled labour power and inadequate social security (Rajan, 2013). Certainly, research studies demonstrate that odds of getting a job mainly depend on education, language ability, age, social ties with experiences in destination country or region also explains the chance to attain a skilled job (Massey, et. al., 2011).

Notwithstanding, labour migration brings livelihood opportunities and leads to a considerable reduction in unemployment. Indeed, India presents a modern success story in terms of the gains it has made from labour migration, both national and international, with remittances having become an increasingly important part of the financial and social structures of the economy. India is the biggest recipient of foreign remittances in South Asia and the world at large. As of 2013, the total flow of remittances into India was around \$71 billion and if informal flows are added, the total for the country may be as high as \$100 billion (World Bank 2013).

Table-2
Percentage Distribution of Kashmiri Labour Emigrants by Destination

Labour Migrants			
International %		Inter-state %	
Saudi Arabia	36.10	Karnataka	5.61
UAE	19.81	Punjab	7.30
Malaysia	3.94	Gujarat	9.55
Oman	9.21	Andhra Pradesh	5.89
Qatar	7.23	New Delhi	9.83
Kuwait	1.97	Madhya Pradesh	2.24
Singapore	1.31	Goa	17.97
United Kingdom	5.92	West Bengal	10.67
Bahrain	2.63	Utter Pradesh	4.49
United States	1.97	Jharkhand	3.37
South Africa	4.60	Rajasthan	3.93
Canada	0.65	Maharashtra	5.89
Ethiopia	2.63	Tamil Naidu	7.58
Turkey	1.31	Pondicherry	3.08
New Zealand	0.65	Assam	2.52
Total	100	Total	100

Therefore, remittances and lessening unemployment are the main benefits of labour migration that considerably impact regional economies positively, increases consumption expenditures and boosts development. Same has been true about Kashmir – at least for the number of households enumerated in the present study. Nevertheless, before going to elaborate upon such notions vis-à-vis labour migration in Kashmir with empirical evidence, below are highlighted the destination points (DP) of Kashmiri labour emigrants followed by a section on the patterns of labour migration in Jammu & Kashmir.



As for the sample enumerated in the present study is concerned, the major countries of destination of Kashmiri international labour emigrants have remained relatively unchanged over the years, with nearly 75 percent of them going to one or other country of the Middle East. Within this region, Saudi Arabia is the major destination for over 36 percent labour migrants from Kashmir, followed by UAE (19%). Third major destination for Kashmiri international labour emigrants is Oman (9.21%), followed by Qatar (7.23%). United Kingdom (5.92%) South Africa (4.60%) Malaysia (3.94%) and Bahrain (2.63%) are the other destinations for Kashmiri labour emigrants.

For the inter-state labour emigrants from Kashmir, Goa is the major destination, with nearly 18 percent of them going there for work purposes. The second major destination for interstate labour migrants from Kashmir is West Bengal (10.67%), followed by New Delhi (9.83%). Gujarat (9.55%), Tamil Naidu (7.58%) and Panjab (7.3) are the other destinations of Kashmiri labour emigrants.

Streams of Labour Migration in Jammu & Kashmir

The labour migration from Kashmir to other parts of the Indian sub-continent is very old phenomenon. Before partition in 1947, Kashmiri labour migrants used to go to Lahore, Punjab, Delhi etc. to work as manual labourers or vendors to sell-out products such as wooden crafts, saffron, shawls etc. especially during winters. This pattern was relatively constant for many years in post partition period, though the movement was now restricted to northern states of India only. However, from last couple of decades' things are not the same anymore. Like many beautiful, largely self-sufficient regions in the world, Kashmir despite the longstanding conflict situation has been influenced by external forces that caused massive and rapid social transformations. At the core of this phenomenon are ongoing processes of modernisation and the linkage of a traditional subsistence economy with regional and national markets, tourism and state interventions. In this milieu of change, there has been a tremendous rise in the level of aspirations of the general masses in Kashmir. Consumerism, commodification of lifestyle and product-hungry mentality have surfaced, while much declining interest in agricultural pursuits or blue-collar jobs is revealed. Contrarily, a high priority is given to government and non-manual jobs.

In this context, many people especially from Kashmir region, who have required qualifications and aptitude resort to skilled overseas jobs for reasons ranging from high earnings, unavailability of jobs locally to exit from conflict situation. And many who do not have the capability to espouse the gauntlet of competition in public sector, resort to inter-state or at times international labour emigration to earn their livelihood. Concomitantly, Kashmir offers many streams of complex labour movements, with differences in duration, origin, destination and migrant characteristics. Following we have attempted to give a simplistic picture of this process under five streams.

Certainly, the state of Jammu & Kashmir offers variety of job opportunities to labour immigrants from different regions and states of India with the reverse seasonal internal labour migration exceeds in number and magnitude the labour out-migration in the state. However, from the last couple of years it has turned out to be a major social phenomenon in Jammu & Kashmir, having profound impacts on the local social and economic aspects of everyday life. In fact, it has at times remained a highly politicised issue with many people especially separatist leaders smell a sort of conspiracy in the process and believe that rise in the migrant population is leading to immoral activities like prostitution, crime, drugs etc. in Kashmir. Though local media has highlighted some of these cases, State statistics say almost nothing. Indeed, state doesn't have exact figures about the number of the internal labour immigrants. While some estimates put the number at around five lakhs, others estimate that Kashmir hosts over one million internal labour migrants during summers – higher than any other state in India.

Table-3
Streams of Labour Migration in Kashmir

S. No.	Labour Migrant Streams	Conceptual Description
1.	International highly skilled labour emigration	People with highly technical skills and professional expertise migrate to developed and developing countries, such as UK, USA, Canada, and many European and Arab Countries. This flow started in early 1990s and gathered momentum in the mid-1990s possibly with the rise of insurgency in Kashmir.
2.	International semi-skilled/unskilled labour emigration	Migrant labourers going mostly to the Middle Eastern countries to work as casual labourers, salesmen, wilders, plumbers, technicians etc. This flow of labour emigration started in the late 1990s in Kashmir.
3.	Interstate skilled labour emigration	Young people with tertiary and higher educational qualifications, who by and large migrate to work in different companies in different states of India. This labour migratory flow started in late 1990s.
4.	Interstate unskilled/semi-skilled seasonal labour emigration	Most of the seasonal labour emigration from Kashmir comprise of those hawking various handicraft products mostly embroidery shawls, and those who serve Kashmiri <i>Kehwa</i> (kind of tea) and <i>wazwan</i> (Kashmiri traditional cuisines) in parties and private functions particularly in winters. Including both young and adults, this labour emigration from Kashmir usually takes place in the months of October/November. Many of these migrants have now their own shops, showrooms and restaurants in different states of India.
5.	Reverse semi/unskilled seasonal labour immigration	This includes 200 thousand to half a million (Dabla, 2014) labour immigrants from different states of India particularly Bihar, UP, Gujarat, Rajasthan, Jharkhand and West Bengal, for whom Kashmir is like the new Gulf and earn six times above the national average here. Major works these labour immigrants usually take up are: construction and brick-kiln workers, hairdressing, carpenters, painters, masonry, tailors, agriculture labourers and ice-cream making etc. and work seasonally through summer. The flow of this labour in-migration started in late 1990s in Kashmir.

As elsewhere in the world, labour migration can never be without its undesirable connotations in Kashmir, but this should not blind us of its other implications. These labour immigrants take up those works in Kashmir, which many local labours now aren't ready to take-up. Secondly, they spend considerable chunk of their earnings for daily-use items, rent and transport expenses etc. which to some extent help many local families to generate income.

Labour Emigration, Remittances and Household Development

As discussed in the foregoing, labour migration whether inter-state or international, brings livelihood opportunities and leads to considerable reductions in unemployment and poverty. Indeed, in this part of the world – Kashmir – labour emigration remains one of the few options for people, to find some decent work, and escape poverty and longstanding conflict. As far as the sample in present study is concerned, a considerable percentage of labour emigrants (27.68%) were unemployed prior to emigration (Table 4) and many others were underemployed in the sense that major proportion of these labour emigrants were engaged in agriculture (10.43%), embroidery (14.78%), weaving (5.31%) and construction (9.05%) related works. Contrarily, after emigration, such occupational engagements were dropped entirely with new works such as hawking/vendor (12.59%), party attendant (9.25), salesman (6.69%) by labour emigrants at destination places. By and large, these were the works taken-up by inter-state labour emigrants presently employed in different states of India.

Taking into account the percentage distribution of labour migrants by occupation before and after emigration, we are indeed attuned to a set of positive relations between labour emigration and employment opportunities. Only 1.18 percent of the sample studied were employed as lecturer or assistant professor before emigration, which increases to 3.33 percent after emigration including 2.75 percent male and 0.57 percent female labour emigrants (Table 4). Equally, there were only 1.96 percent of the migrants employed as doctors prior to emigration, which stands at 4.98 percent after emigration. Even, none of the labour migrants in the sample was employed as mechanical engineer, civil engineer, chemical engineer or automobile engineer at the time of emigration, but after emigration there were 0.98 percent employed as mechanical engineers, 0.57 percent civil engineers, 0.39 percent chemical engineers and 0.39 percent automobile engineers. By and large, this is the case with international highly professional and skilled labour emigrants, who were at the time of enumeration employed in different countries of the world, specifically West Asian and Middle East countries.

Table-4
Percentage Distribution of Worker Migrants Before and After Emigration by Occupation

S. NO.	Occupation	Before Emigration			After Emigration		
		Male	Female	Total	Male	Female	Total
1.	Machinery Repair / Welder	0.98	0.0	0.98	4.33	0.0	4.33
2.	Embroidery	13.57	1.13	14.78	0.0	0.0	0.0
3.	Teacher	1.76	0.39	2.16	1.76	0.98	2.7
4.	Lecturer/Asst. Professor	0.98	0.19	1.18	2.75	0.57	3.33
5.	Hairdresser	0.57	0.0	0.57	0.57	0.0	0.57
6.	Hotel Attendant	0.78	0.0	0.78	2.55	0.0	2.55
7.	Cook in Hotel/Restaurant	0.57	0.0	0.57	2.16	0.0	2.16
8.	Agriculture Labourer	10.43	0.0	10.43	0.0	0.0	0.0
9.	Doctor	1.18	0.78	1.96	3.34	1.57	4.98
10.	Plumber	1.18	0.0	1.18	3.34	0.0	3.34
11.	Shoemaker	1.37	0.0	1.37	1.37	0.0	1.37
12.	Weaving	5.31	0.0	5.31	0.0	0.0	0.0
13.	Tailor	1.57	0.0	1.57	1.57	0.0	1.57
14.	Electrician	0.78	0.0	0.78	3.54	0.0	3.54
15.	Driver	1.76	0.0	1.76	1.76	0.0	1.76
16.	Motor Vehicle Mechanic	1.57	0.0	1.57	2.75	0.0	2.75
17.	Pharmacist	0.98	0.0	0.98	3.14	0.0	3.14
18.	Nursing Assistant	0.39	0.78	1.16	1.76	2.36	4.52
19.	Painter	0.78	0.0	0.78	0.78	0.0	0.78
20.	Office Clerk/ Accountant	0.39	0.0	0.39	3.34	0.0	3.34
21.	Laboratory Technician	0.19	0.19	0.39	1.37	0.39	1.77
22.	Shopkeeper	0.78	0.0	0.78	1.57	0.0	1.57
23.	Manager	0.57	0.0	0.57	2.75	0.0	2.75
24.	Mechanical Engineer	0.0	0.0	0.0	0.98	0.0	0.98

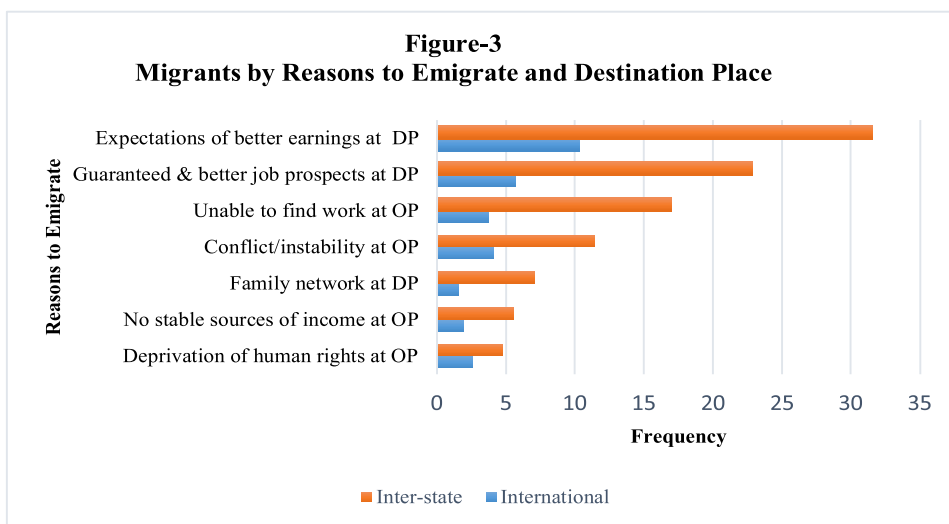
S. NO.	Occupation	Worker Emigrants					
		Before Emigration			After Emigration		
		Male	Female	Total	Male	Female	Total
25.	Security Staff	1.18	0.0	1.18	2.75	0.0	2.75
26.	Hotel Administration Staff	0.98	0.0	0.98	2.55	0.0	2.55
27.	Electrical Engineer	0.39	0.0	0.39	0.78	0.0	0.78
28.	Salesman	2.36	0.0	2.36	6.69	0.0	6.69
29.	Data Entry Operator	0.78	0.0	0.78	4.13	0.0	4.13
30.	Construction Worker	9.05	0.0	9.05	0.0	0.0	0.0
31.	Civil Engineer	0.0	0.0	0.0	0.57	0.0	0.57
32.	Computer Assistant	0.39	0.0	0.39	1.77	0.0	1.77
33.	Blacksmith	1.57	0.0	1.57	1.57	0.0	1.57
34.	Carpenter	0.39	0.0	0.39	0.39	0.0	0.39
35.	Chemical Engineer	0.0	0.0	0.0	0.39	0.0	0.39
36.	Advocate & Legal Service	0.39	0.0	0.39	1.77	0.39	2.16
37.	Hawker/Vendor	2.75	0.0	2.75	12.5	0.0	12.5
38.	Party Attendant	0.0	0.0	0.0	9.25	0.0	9.25
39.	Automobile Engineer	0.0	0.0	0.0	0.39	0.0	0.39
	Total	68.86	3.46	72.32	93.74	6.26	100.00

As such, in almost all other occupations, the number of migrants before emigration is smaller than the number with the same occupations after emigration at destination places. For example, before emigration, there were 0.98 percent labour migrants employed as welders, 0.78 percent as electricians and 0.39 percent as office clerks or accountants, but after emigration number of labour emigrants with these occupations stands as 4.33, 3.54 and 3.34 percent respectively. Among female labour emigrants, majority employed at destination places were Nursing Assistants (2.36%), Doctors (1.57%), teachers, lecturers or assistant professors (1.55) and laboratory technicians (0.39%) indicating that women labour emigrants were, by and large, employed in health and education sectors.

In the case of certain occupations such as hairdresser (0.57%), shoemaker (1.37%), painter (0.78%), tailor (1.57%) and driver (1.76%), there has been no change in the frequency of labour migrants with these occupations before emigration and after emigration. However, there may have been certainly some enhancement in the earning level of these labour emigrants.

Motivations for Labour Emigration

As we find in Figure (3) below, the most salient reason for emigration have more to do with economic motivations, including expectations of better earnings (31.49%) at the place of destination as well as better job prospects (22.83%). Likewise, for 16.92 percent of the labour migrants in the sample, the reason to emigrate was that they were not able to find work at origin place and for 5.51 percent, they were not having any stable source of income. Such an emphasis on economic motivations to emigrate is consistent with general observations in the context of South Asia.



Though, the data presented above indicates that economic factors were of primary importance in explaining labour migrants' decisions to emigrate, but political factors have also accounted sufficiently to produce emigration. Nearly 11.41 percent labour migrants held the conflict and instability in Kashmir as a factor responsible for their emigration while 4.72 percent of them were motivated to leave because of the deprivation of human rights. May be these factors have influenced their emigration decisions only insofar as it affected their material wellbeing, by creating various barriers as no one would like to operate businesses and market related transitions in conflict zones. But above all, it is the fear of conflict and violence that led many parents in Kashmir to send their sons and daughters outside the valley both aboard and different states of India, where they later settled – pursued higher qualifications and professional and technical jobs. This stream of emigration as mentioned in the earlier started in early 1990s, with thousands of people having different qualifications, expertise and experience, could not stay in conflict-ridden state and were compelled to emigrate to different destinations in order to avoid the wrath of poverty and militancy.

Such observations make us believe and are consistent with many conventional theories of migration, which classify migratory movements in terms of the factors emanating from the place of exit on the one side and the place of entry on the other-typically known as 'push-pull' factors. Accordingly, factors such as expectations of better earnings and better job prospects abroad which accounted as reason for nearly 55 percent labour migrants to emigrate can be classified as 'pull factor'. Whereas conflict and instability in Kashmir along with deprivation of human rights, which were held as cause, responsible for the emigration of over 16 percent of the labour migrants can be categorised as 'push factor'. Alongside, however, we are also attuned to a set of third factor widely known as network factors. Over 7.08 percent of labour migrants in the sample demonstrated that they emigrated outside the valley of Kashmir, because they have a family network at destination place, including 1.57 percent international and 5.51 percent inter-state labour migrants. Undoubtedly, network factors are not a direct cause of migration they do however, facilitate it, but rather at times become strong motivating factor to emigrate, especially when there are welcoming immigration policies and better economic opportunities.

Altogether, economic motivations loomed largest as 76.75 percent of the labour migrants held one or other income or work-related reason to emigrate, with expectations of better earnings at destination place (31.49%) stands a top motivating factor among labour emigrants from Kashmir and elsewhere. This sounds what most of the literature on labour migration and remittances infer that remittances are increasingly identified as golden eggs, which contribute crucially to the earnings of many developing countries across the world. As in 2014, labour migrants from developing countries sent home an estimated US \$436 billion in remittances – 4.4 percent increase over the 2013 level (United Nations, 2016: 2),

far exceeding official development assistance (ODA) and foreign direct investment (FDI). Expectations of better earnings are therefore, a major factor that account the contemporary labour migrant flows across regions and nations. This is even pretty visible from the data presented in what follows, giving clear presentation of the earnings of labour migrants and consequently the contribution of remittances towards the annual income of households surveyed in the present study in Kashmir.

Earnings of Labour Migrants at Destination Places

Once at their Destination Points (DP) the labour migrants were earning quite a range of incomes. Majority of the labour migrants (31.29%) earned between ten to twenty thousand a month, followed by 16.53 percent, who were earning below ten thousand (k) a month. Unsurprisingly, there is a good deal of variation in earning levels according to the destination of labour migrants and this may also be the indication vis-à-vis the variation of jobs/sector they are employed-in.

The majority of international labour emigrants (13.18%) mostly employed in different countries of west Asia and Europe were earning more than one lakh a month, followed by another 6.18 percent, who earned between 90k to 100k a month. Since majority of these labour migrants were employed in higher education, health and public works sector, the monthly average earning for them was nearly 95k, which is exceedingly higher than the monthly average earnings of inter-state labour migrants. The lowest earning interval for international labour migrants was around 30k–40k.

Table-5
Monthly Earnings of Labour Emigrants by Destination

Earnings at DP (Rupees)	Labour Migrants		Total %
	International %	Inter-state %	
< 10000	00.0	16.53	16.53
10000-20000	00.0	31.29	31.29
20000-30000	00.0	12.00	12.00
30000-40000	5.31	2.55	7.87
40000-50000	4.52	2.36	6.88
50000-60000	00.0	1.37	1.37
60000-70000	0.80	1.77	2.55
70000-80000	00.0	00.0	00.0
80000-90000	00.0	00.0	00.0
90000-100000	6.10	2.16	8.26
100000 >	13.18	00.0	13.18

The majority of inter-state labour migrants earned between ten to twenty thousand (k) a month. Nearly 12 percent of them were earning between 20k–30k a month. The highest monthly earnings reported among inter-state labour migrants was around 90k to 100k, but that comprised just 2.16 percent of the total

enumerated sample, followed by 1.37 and 1.77 percent of them, who were earning between 50k–70k respectively.

Since majority of these labour migrants were employed in unskilled informal/unorganised sectors such as hawking, salesman, party attendant etc. their monthly average earnings were unsurprisingly much lower than those working abroad. However, it is worth mentioning here that the inter-state labour emigration from Kashmir is mostly seasonal in nature and therefore, along observing the contribution that remittances make towards household annual income, it becomes important to observe the differences between the earnings of labour migrants at origin point and destination point or with occupations before emigration and after emigration.

As such as shown in table (6) the frequency of labour migrants, who were earning less than 10k a month is higher at origin point (37.45%), whilst at destination point, the percentage of labour migrants with same income is smaller (16.53%). Contrary, while the frequency of labour migrants with the 10–20k a month is 24.5 percent at origin point, however after emigration i.e. at destination places the percentage increases to 31.29 percent.

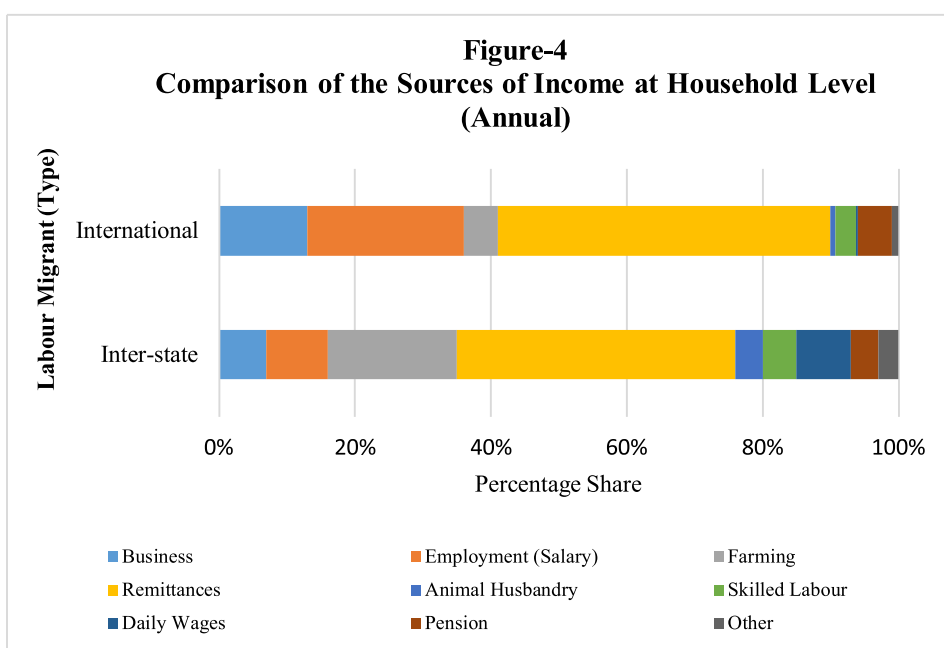
Table-6
Income Differential of Labour Migrants Across Occupations at OP and DP

Monthly Income (Rs)	At Origin Point (OP) %	At Destination Point (DP) %
< 10000	37.45	16.53
10000-20000	24.50	31.29
20000-30000	19.24	12.00
30000-40000	11.4	7.87
40000-50000	4.10	6.88
50000-60000	1.76	1.37
60000-70000	1.55	2.55
70000-80000	00.0	00.0
80000-90000	00.0	00.0
90000-100000	00.0	8.26
100000 >	00.0	13.18
Total	100.0	100.0

In almost all higher income intervals starting at 40k+ the percentage of labour migrants at origin point i.e., before emigration is smaller than the percentage with the same incomes at destination places i.e. after emigration. And in fact, there doesn't happen any number of the labour migrants earning 90k – 100k and 100k+ a month at origin point. But at destination point the number of labour emigrants earning 90k–100k and 100k+ stands as 8.26 and 13.18 percent respectively.

Altogether, the analysis of data shows that there has been a lot of differences in the earnings of the labour migrants before emigration and after

emigration. This sounds in correspondences with the motivations of migration discussed earlier, wherein expectations of better earnings at destination place was reported by majority of the labour migrants as a motivation for their emigration. It may also resonate a successful strategy of those labour migrants, who were without any stable source of income prior to emigration, because comparing the different sources of annual income at the household level (figure 4), demonstrates that the earnings sent by the labour migrants back home have become a major source of income for their families and this is relatively same for both international and inter-state labour migrants. For the households of inter-state labour migrants, remittances constituted over 41 percent of the annual income, while for the households of international labour migrants, earnings sent by them comprised nearly 49 percent of the annual income.



The analysis of data presented above in figure (4) in fact reverberates the prevailing view in the literature on the subject that for labour migrant households, money sent back home by them, comprises the big share in their total annual income. And as expected, international labour migrants remit more than the internal labour migrants. However, analysing the second major source of income, employment salary and business constituted respectively 23 and 13 percent of the annual income of households with one or more international labour migrant, while for the households with inter-state labour migrants, it is the farming as a second major source, making 19 percent of their annual income.

This altogether gives a kind of feedback on the socio-economic background of the cohort of labour migrants enumerated in the present study. Because, though not a rule, but mostly labour migrants from Kashmir, who go overseas for jobs belong to economically well-off families. And as such it may also indicate that the dependency of inter-state labour migrant households on remittances to meet their everyday consumption needs may be higher than households with international labour migrants, who as evidenced herein, have other stable sources of income and may be also successful in directing remittances to productive investments. Because, it is apparent that the greater the level of household income from sources other than remittances, the greater the possibility of using remittances for investments and savings.

Utilization of Remittances

At the household level, the decision on utilisation of money remitted back by the labour migrants depends upon many factors, with economic and social conditions of the household prior to emigration comprising the main deciding elements. It is obvious that labourers from well-off households are expected to have access to many resources and assets before they decide to emigrate, and these resources could not only proffer them with the possibility of using remittances for productive investments and savings, but rather operates as determining factor in the whole process of their emigration – their employment sector, destination point and duration of stay etc. As demonstrated in the present study that majority of international labour migrants were from well-off households and majority of them were employed in health, higher education and information and communication technology sector.

Equally, the marital status of labour migrants may affect the patterns of remittance use. Mostly labour migrants decide to emigrate when they are likely to get married and have children. As in present study, over 28 percent labour migrants were in 26-35 age group, while more than 36 percent were in 36-45 age category. On the other hand, over 77 percent of them were married. Hence, during the period of their migration, familial consumption demands are likely higher.

More importantly, when it comes to relative success in handling remittances, household non-remittance income proves crucial both as a supplementary source of income and as a disciplining factor regulating the economic behaviour of the family. Hence, the absence of any stable source of income implies that the remittances are more likely to be used for everyday household consumptions, while little is left for savings and investments.

Insights from the present study vis-à-vis the use of remittances suggest that remittances were mainly utilized for everyday living expenses, food (8.85%) education of children (8.08%), health (7.67%), debt repayment (6.29%), marriage

expenses (6.88%), and improvement in housing (4.72%), purchase of land (6.88%) for house or buying/constructing a new house (7.08%) etc. In some cases, however, a chunk of remittances was invested in agricultural land and equipment as well as small business enterprises to augment the family income.

Table-7
Utilization of Remittances at Household Level

S. No.	Investment Areas	Labour Migrants		Total%
		Inter-state %	International %	
1.	Education	8.70	10.47	8.07
2.	Food	9.83	7.28	8.85
3.	Health	8.14	6.56	7.67
4.	Marriage	9.26	1.31	6.88
5.	Loan payment	7.02	4.60	6.29
6.	Durable items	6.46	1.31	4.92
7.	Land purchase	4.49	12.5	6.88
8.	House repair	5.05	3.94	4.72
9.	Construction of dwelling house	6.74	7.89	7.08
10.	Vehicle	3.37	6.57	4.33
11.	Electronic gadgets	5.33	5.26	5.31
12.	Saving	7.58	10.52	8.46
13.	Travel	1.40	0.65	1.18
14.	Agriculture equipment	4.49	1.31	3.54
15.	Insurances	1.96	2.63	2.16
16.	Business/industry unit	3.65	9.86	5.51
17.	Construction of commercial building	2.52	5.92	3.54
18.	Other	3.08	1.31	2.55
Total		100	100	100

Although the results on remittance use patterns presented in Table (7) above are broadly in accordance with those found elsewhere among labour migrants' households in south Asia, there were however, many differences as well. As we find that households with inter-state labour migrants in Kashmir are focused more on improvements in living standards rather than investments compared to the households with one or more international labour migrants. Among these households, the major areas of investing the remittances include: land purchase (12.5%), education (10.47), business enterprises (9.86), construction of commercial buildings (5.92) and vehicle (6.57). They do also save a considerable chunk (10.52) of the overseas remittances they receive over a period of time.

Contrarily, among the inter-state labour migrant households, the major areas of remittances investment included food (9.83%), marriage ceremonies (9.26%), education (8.70%), loan payment (7.02%), health (8.14%) and durable items (6.46%). They do also save some amount of the remittances (7.58%),

nevertheless their investments cluster largely around every day needs. As aforementioned, this remittance use pattern, though resonates that economic behaviour of the remittances' recipient households is determined mainly by the socio- economic and cultural backgrounds at origin points. But it may be argued that all the consumptions and investments these households have had out of the remittances they receive from the labour migrants are not unproductive.

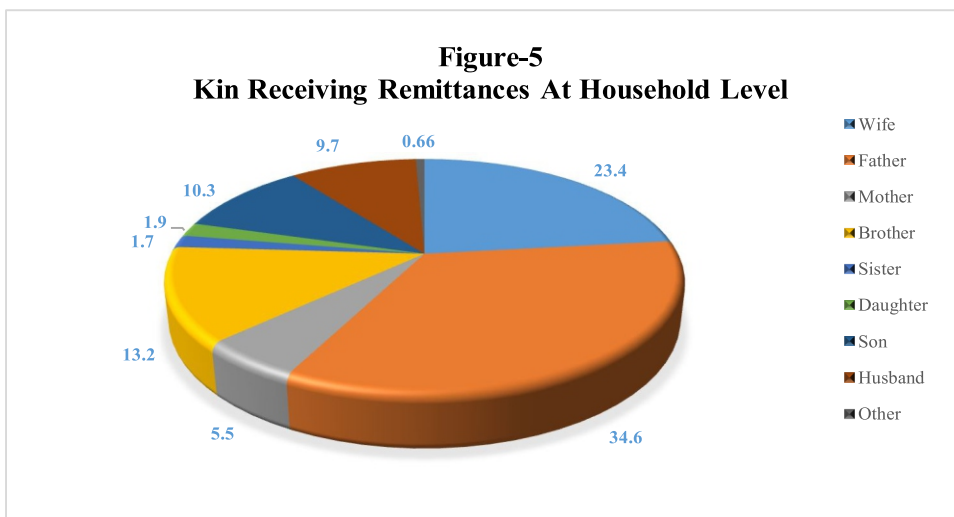
Certainly, for households with inadequate or unsteady incomes, major priority is always to raise their consumption standards than making productive investments. But in a country like India, where Government is spending huge amounts every year on many schemes and programmes related to nutrition, health, education and poverty alleviation etc. such consumption expenditures by inter-state labour migrant households in Kashmir may be seen as self-investments in human capital, thereby raising productive efficiency not merely at micro level i.e., familial level, rather have a multiplier effects in the local economy and contributing positively to the national standards.

Tied together, there may be many other social and cultural dimensions of labour emigration and remittances use pattern at household level. For example, inter-state labourmigrants in Kashmir are usually employed according to a seasonal cycle and come back home only for few months in summer season, and in the early fall go back to work for the rest of the year. Indeed, for international labour migrants they stay years at destination points and come home occasionally. Women in such families thus run the households alone for most of the year, a situation which may have two main effects: first, it empowers women by increasing their role in the family; and second, there may be some gender differences in the observed relationship. Because in the absenteeism of the male head, women generally are more likely to be empowered to manage resource allocation at household level. Secondly, women in labour emigrant families usually fend for themselves, take care of in-laws, feed children, keep households, and harvest crops etc. It is like the boundary between what is otherwise considered men's and women's work narrows or disappears completely.

Though temporarily these effects may be, because once the labour migrant return, the decision-making returns to the way it was prior to emigration. But generally, it has been observed that the remittances received by women back home improves their position significantly, not only in terms of decision making vis-à-vis utilisation of remittances on ever day consumption, rather being a recipient of the money may have possibly played a key role in giving women the authority to hold the bank account. And as such this authority could be effective in increasing the status of women, and likely to enable her to have independent market-oriented interactions.

In good number of cases in the present study, women were the recipients of remittances. As Figure (5) clearly demonstrates this stance and brings forth

that in over 23 percent of the households, wives of the labour migrants were recipients of the money they sent back home and in 5.5 percent of the cases, their mothers were the recipients. Equally, sisters and daughters of the labour migrants were also recipients of remittances in 1.7 and 1.9 percent of households respectively.



Nevertheless, such pattern of remitting earnings by labour migrants from Kashmir is not different from what is generally observable elsewhere in south Asian countries, sending money mainly to parents (father 34.6%) and wives, but in some cases other relatives, such as an elder brother (13.2%), where both parents were deceased. Indeed, Kashmiri labour emigrants display a similar pattern in using the methods for transferring money back home, with banking channel as the most popular and widely used system.

Epilogue: Political Dimensions of Labour Migration in Kashmir

As demonstrated in foregoing labour migration and remittances are becoming an increasingly important part of the economic landscape of the Kashmir – at least for the number of households enumerated in the present study – where remittances have generated enormous optimism about grassroots economic development, contributing significantly to annual household incomes and thereby poverty reduction, which is difficult for the development agencies to reach. However, in the context of Kashmir, discussions vis-à-vis understanding the macro-micro-economic consequences of labour migration, which have so far been minimal, need also to be politically contextualised.

Kashmir is a territory with a precarious political character and longstanding conflict and secessionist insurgency mainly since 1989.

Specifically, in terms of migratory movements, one of the most extreme episodes that crop-up in this conflict has been the near total emigration of *Pandits* (Hindus) from Kashmir valley in early 1990s to Jammu region and other cities of Northern India. This movement was so speedy and pronounced that the entire residential mohallas, colonies and villages of Pandits in Kashmir became deserted within a shorter period of time, leaving behind their entire property assets. It was like they were given the impression that they will return soon after the rebellion is crushed and wiped entirely (Dabla, 2014), which even today seems a faraway possibility. As Co-ordination of Democratic Rights Organisations (CDRO, 2016) expressed in its recently issued statement that:

while Kashmiri society bears blame for not making them [pandits] feel secure and safe the greater blame is that of Governor Jagmohan and VP Singh Government in New Delhi, which pushed the Kashmiri Pandits to migrate and by transporting them to Jammu and beyond rather than protecting them where they lived and worked. For 27 years in the name of ‘national security’ J&K has been reeling under dictatorship of the central government. And despite the enormous force at their command, they have failed to enable return of the Kashmiri Pandits.

Altogether, the impact of the secessionist insurgency in Kashmir and the famed migratory movement of Kashmiri Pandits – typically portrayed in nefarious politico-religious designs – has been negative and disintegrative, though it was their collective community decision. Concomitantly, this has led to the different perceptions vis-à-vis Kashmiris’ in Indian polity and crop up at times with scapegoated and stereotyped practices towards Kashmiris particularly those working or studying in different parts of India. Indeed, presently there has been somewhat similar cases with immigrants throughout the world and the latest United States’ immigration policies after Donald Trump became the president, are specific examples in this stance.

Whilst globalism stresses for multicultural interactions, security policies nevertheless rely on, and perpetuate, a fear of “outsiders”, non-citizens, or “foreigners” as threats to a nation’s social and cultural cohesion (Dobrowolsky, 2007). This may lead to a number of practices such as racial profiling and arbitrary detention, immigration controls etc. Relatively Muslim diaspora suffered most under such policies.

As such, the political dimensions of migration and the consequent need to understand its repercussions have started to become more pronounced globally. In this context, an effort has been attempted in the present study to know about how secure labour emigrants from Kashmir feel at their destination places?

Table-8
Perceptions of Labour Emigrants about Security at Destination Place

	Labour Migrants		Total %
	International %	Inter-state %	
Feel secure	81.57	30.61	45.86
Don't feel secure	03.94	53.08	38.38
Slightly insecure	11.84	12.92	12.59
Can't say	02.63	03.37	03.14
Total	100	100	100

Analysis of data presented in Table (8) shows that majority of labour emigrants (45.86 percent) from Kashmir are satisfied and feel secure at their destination places. But, there is also an appreciable percentage (38) who aren't satisfied and feel insecure at their destination places. In fact, if labour emigrants, who feel slightly insecure, are also added, then over 50 percent of them feel insecure at their destination places. Nevertheless, such fears and apprehensions are more so in the case of inter-state labour emigrants (53.08%) and just 3.94 percent international labour migrants revealed that they feel insecure at their destination places, whilst 11.04 percent of them feel slightly insecure, which is expected when outside one's home country, especially in initial period of time. Hence, it is altogether with interstate labour emigrants (nearly 66%), particularly the young labourers, who feel insecure. And there are many reasons why? A bit of suspicion could land a Kashmiri in jail. Indeed, for quite some time now, there has been increasing sense of reluctance among conflict-torn Kashmiri young people to travel to other parts of India for jobs or education, mainly due to fear from the ultra-nationalist groups like RSS and Shiv Sena, who are busy blaming Kashmiris for national security and habitual to say that 'if you are a Kashmiri, you are a Muslim, you are pro-Pakistani and you have to be dealt with accordingly' (Punjabi, 1991: 84).

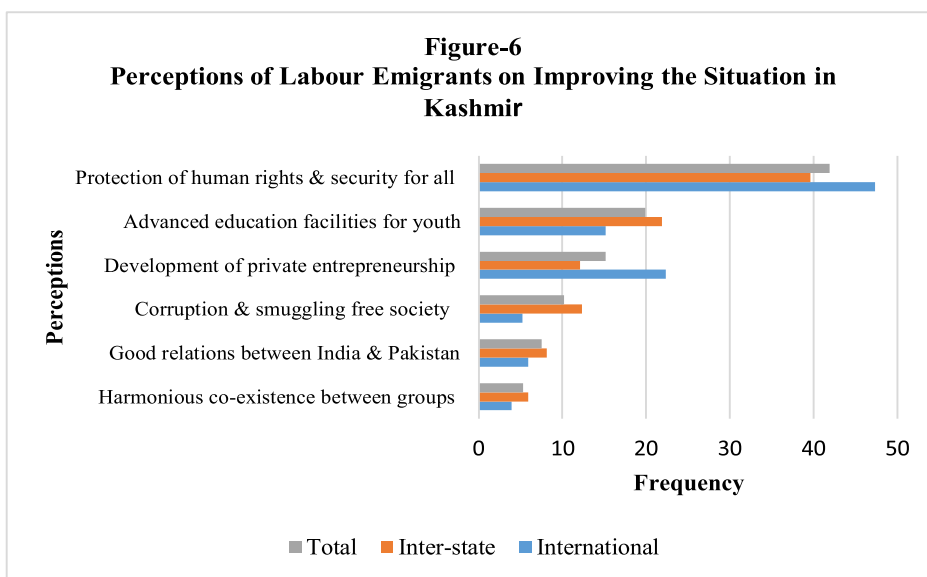
In recent years, there have been number of incidents of harassment against Kashmiris in many parts of the country. For example, Saliq and Stevens (Hindustan Times, 12 April 2016) reports that between February 2013 and April 2016, there were about 30 incidents of physical attacks on Kashmiri young people studying in various colleges and universities in different states of India. Since the onset of latest turmoil, which started in July 2016, such incidents escalated and there were number of such attacks on Kashmiri people in different states of India such as Delhi, Rajasthan, Uttar Pradesh, Madhya Pradesh and Haryana.

Hence, Kashmiris are typically under intensive surveillance of secret security agencies across the country and this increases their apprehension and anxiety. Outcomes of such growing fear that Kashmiris experience outside the valley may be larger, negative and disintegrative. In essence, the increased

frequency of interactions in the fields of education and jobs that should have been capitalised to connect Kashmiri youth with mainstream Indian society, but unfortunately given the activities of ultra-nationalist groups, it has so far proved counterproductive, leading to hate-reproduction and trust deficit among the people of Kashmir vis-à-vis Indian State.

There is a good volume of thought on the social remittances (ideas, practices, skills, identities & networks) and cultural remittances (emotional attachments) that labour migrants carry with them to their destination places or back home on their return. And we argue that the feelings of labour migrants about their in/security at destination places may also fall under the preview of these remittances. It is like if a labour migrant feels insecure at his destination due to some harassment or verbal or physical attack, back home he is more likely to have imprints of these experiences and may possibly behave with immigrants that way.

Therefore, the set of interactions and confrontations that labour migrants experience at their destination may have lot more bearing on their behaviour back home. And such actions may not only pertain to socio-cultural domains, rather as demonstrated above may extend to political fields as well. Nonetheless, generalising on such footings may be sweeping and being pessimistic. There are many other connotations that labour migrants remit back home and are instilled with ambitions to see the back home political and social stability.



Majority (41.92%) of Kashmiri labour emigrants consider protection of human rights and security for all the main requisite for the social and political

stability in Kashmir valley, followed by 19.88 percent of them, who wish that advanced education facilities are made available and accessible to young Kashmiris, so they become equipped to compete in the changing labour market. While 15.15 percent Kashmiri labour emigrants stress that development of private entrepreneurship must be taken cognisance of by concerned stakeholders, 10.23 percent of them underlined that Kashmiri society needs to be made corruption and smuggling free. Comparing their perceptions according to their destination, for international labour emigrants, protection of human rights (47.36%) and development of private entrepreneurship (22.36%) loomed larger. Although for interstate Kashmiri labour emigrants, 'protection of human rights (39.60%) is the first priority, however, their second priority is advanced education facilities for young Kashmiris.

Altogether this shows the instance of "living apart together" (Stoilova, 2017) specifically considering the case of Kashmiri international labour emigrants, because though staying in foreign peaceful lands, they are not less concerned about the insufficient level of democratisation, unsatisfying observance of human rights, economic underdevelopment and government's inability to adopt transparent and corruption free mechanisms in the development process in Kashmir. They expect from the government to focus more on these issues in Kashmir and frequently voiced demands towards the government coincide with people's perception of the biggest problems of Kashmiri society, which as mentioned above include human rights violation, unemployment, lack of advanced education facilities and corruption.

Hence, Kashmiri labour emigrants realistically see the existing social problems and identify areas to which concerned stakeholders should primarily direct their efforts in governing a society troubled with conflict and numerous development difficulties. As such the importance of labour emigrants' remittance as a source of development at household level, extends rather to community and political fields as well. These evidences indicate that besides remitting and transferring money, skills, and technologies, labour emigrants also help transfer and remit democratic values, peace-orientations, inculcates modern norms and perceptions etc. thereby serving as a 'bottom up' source of development (Jones, 1998). But this important phenomenon needs to be explored even more extensively, rigorously and in a longitudinal manner for maximising the benefits of labour flows and more positive effect of remittances on the regional incidence of poverty and across the lengths and breadths of India. For that, a programme for ongoing research and re-evaluation of labour markets and labour migratory movements in view of globalisation is needed in order to fully understand the complexities and patterns of inter-state, intra-state and international labour migration in the country.

Policy Inferences

The effects of remittances arising from labour migration on the recipient South Asian economies, especially India are well established in the migration research studies. As demonstrated in our foregoing, remittances significantly affect annual income with direct consequences on poverty reduction, helping receiving households to overcome credit constraints and smoothing consumptions and increasing spending on food and housing-related expenditures. Nevertheless, to boost this process with a stronger poverty alleviating effects, there are many factors that need to be taken care of, such as productive use of remittances etc. This won't happen on its own. Policy makers, regulators, and other stake holders shall have to come up with certain concrete efforts in this respect. On the basis of the review and analysis in present study, we suggest some measures, which are debate oriented and need significant consideration.

Firstly, formal financial systems must liberalise their policies vis-à-vis remittances transfer, cut down complex bureaucratic procedures, with positive interest rates, a stable and realistic exchange rates, which could attract labour migrants to remit through formal remittance channels.

Secondly poor and low-income populations in the region must be imparted with financial literacy, so that the labour migrants from these sections may be able to take full advantage of technology-based remittance services as well as productively use remittances for long-term benefits.

Thirdly, for a viable and strategic economic integration with other regions of the world, Indian government need to fully prevent the system of illegal migration. Labour migration is a real form of social and economic interaction between India and other regions such as Middle East, West Asia, Europe etc. and promotes consolidation (integration) of the States. However, for maximising the mutual benefits and for the protection of the rights of citizens abroad, there is a need for consolidation vis-à-vis the migration policy rather regulating it in individualised interests. Such accentuation would lessen the chances of corruption, undocumented migration and politicizing the issues of immigration.

Fourthly, labour migration could be a real form of social, economic and cultural interaction and integration within the country as well – between the mainstream India society and politically sensitive regions like Kashmir. As the presence of Kashmiri labour emigrants and students is increasing continually across different parts of the country, however, to capitalise this process to cultivate a natural bond between people, a lot needs to be done on the part of Central government to maintain secularity, multicultural orientation among general masses and security for all across the nation. Because, Kashmiris need a feeling of security and sense of 'oneness' instead putting them under intensive surveillance and giving them a sense of 'otherness'.

Finally, in the context of Kashmir, which has a precarious political character with secessionist insurgency, emigration of Kashmiri young people for jobs and education could serve as a 'safety valve' in conflict management. Therefore, increased avenues of awareness about oversea jobs and scholarships needs to be created, so that young Kashmiris' get a chance not only to earn their livelihood, rather to exist in the conflict situation and avoid themselves fall prey to political thugs.

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DYNAMICS OF DEPRIVATION IN TWO VILLAGES OF HARYANA: A CASE STUDY OF RURAL JIND

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Abstract: Poverty and deprivation are multidimensional concepts; the well-being of a nation depends upon the removal of these deprivations from each dimension. There are various attempts to measure poverty at the national level in India. This study focusses specifically on Haryana which is one of the wealthiest states of India. Haryana is an agrarian state and the majority of the population is occupied in agriculture and allied activities. Since income-based poverty is low in Haryana as compared to the national average, the study is an attempt to see the actual level of living as well as deprivation in one of the backward districts of Haryana through a case study of two villages. The paper will investigate deprivation in multiple dimensions i.e. education, health, and standard of living in the Jind district of Haryana. This study is based on primary data which was collected from 161 households through simple random sampling method. Monthly per capita income Rs. 1127.82 for rural Haryana, as proposed by the Rangarajan committee is used for measuring income-based poverty and Alkire and Foster methodology is used for multidimensional poverty analysis. The current research finds that the percentage of multidimensional poor is more than double as compared to income-based poor in both of the villages and all three dimensions (education, health, and standard of living) have almost the same contribution in multidimensional poverty index.

Keywords: Multidimensional Poverty, Income Poverty, Deprivation, Jind.

Introduction

Poverty is still a crucial and unresolved problem even after the tremendous growth of the world economy in the last century. No nation can imagine balanced and sustainable development without the elimination of poverty. In the words of

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Nobel laureate Amartya Sen, “Development requires the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance or over activity of repressive states. Despite unprecedented increases in overall opulence, the contemporary world denies elementary freedoms to vast numbers-perhaps even the majority-of people” (Sen, 1999, pp 3-4). There is a need for a targeted policy orientation towards elimination of poverty and deprivation in any sense. In this regard eminent economist Mahbub-ul-Haq suggested, “Development goals must be defined in terms of progressive reduction and eventual elimination of malnutrition, disease, illiteracy, squalor, unemployment and inequalities. We were taught to take care of our GNP as this will take care of poverty. Let us reverse this and take care of poverty as this will take care of the GNP” (Mahbub ul-Haq, 1971, pp 6).

The definition and measurement of poverty is still a debatable question among economists and researchers. Some researchers define poverty in economic terms as minimum daily expenditure whereas others suggest that it reflects deprivation not only in economic dimension but socio-cultural and political dimensions also. Dandekar (1981) defined poverty in terms of a definite level of income or expenditure which is needed to fulfil the basic needs of life. Economic measures are not considered sufficient measurement of poverty because the availability of minimum income does not provide the guarantee for basic amenities of life (nourishing food, better education, better health, availability of toilet, availability of house, clean water, etc.). Poverty is a cause as well as the effect of some socio-economic problems such as hunger, squalor, malnutrition, mental and physical diseases (Peerzade, 1997). It is a real fear for poor, non-poor, and for the city and these poor people are habitual of their poverty to some extent (Almy, 1920). Hence, poverty is a multidimensional concept which represents the situation of those people who are living in deprivation of some important aspects of life.

In India, there is 21.2 percent population is below the poverty line as per the income poverty line whereas 27.9 percent population is multidimensional poor and 19.3 percent population falls in the category of severe multidimensional poverty in 2015-16 (UNDP 2020). There are huge regional differences of poverty extent among various states of India, for example, 16 percent of people are multidimensional poor living in Kerala, and 81 percent of people in Bihar state are multidimensional poor (Alkire and Santos, 2010). As per a recent report of UNDP, 84 percent of multidimensional poor people live in rural areas in the world are in South Asia, 465 million multidimensional poor live in rural areas (UNDP 2020). Various deprivations are interlinked and poor education and health harms the economic well-being of a nation and poverty reduction. Alternatively, good health promotes the reduction of dropout rates and increasing

enrolment ratios, on the other hand, improvement in education facilitates the people to have better health (Ali and Ahmad, 2013).

Haryana is one of the prosperous states of India where per capita income at constant prices is Rs 1,80,026 and is nearly double to the national average income which is Rs 96,563 in 2019-20. In Haryana, economic share of the primary sector in state GDP is 17 percent, the secondary sector is 33 percent, and the service sector is 50 percent (Economic Survey Haryana 2019-2020). However, the majority of the population in Haryana directly or indirectly is dependent on the agriculture sector and 65 percent population lives in rural areas. The state sometimes is also in discussion due to its skewed sex ratio, gender inequality, social discrimination. Haryana is also known for its rural prosperity as the agriculture sector is very productive; hence materially it is said to be a well-off state. However, there is a need to analyse whether this prosperity is percolated in terms of better health, education, and standard of living or not. Hence the study is an attempt to survey households of two randomly selected villages in the Jind district of Haryana to see the actual level of living and deprivation in some important dimensions.

The Jind district is one of the 22 districts of Haryana state that came into existence in 1966, and it is part of Hisar division. The total population of the district is 1,334,152 in which 713,006 are males and 621,146 are females and the majority of the population lives in villages (77.1% people live in rural areas and only 22.9% population lives in urban areas). The sex ratio of the district is 871 and the literacy rate is 71.4 percent in which male literacy is 80.8 percent and female literacy is 60.8 percent.

Research Methodology

The present study analyses income based poverty, multidimensional poverty, and level of deprivation in some basic indicators i.e. income, nutrition level, child mortality rate, kitchen facility, toilet facility, bathroom facility, safe drinking water, safe cooking fuel, level of adult education in male and female in rural Jind district. Two villages Malvi and Jalalpur are randomly selected for the study. Malvi village is situated in Julana tehsil of Jind district and it is 10 km from the sub-district headquarters Julana and 35 km away from district headquarters Jind whereas Jalalpur Kalan is situated in Jind tehsil of the district and it is 5 km away from the district headquarters Jind.

A sample size of 161 households was selected through simple random sampling which comprises 10 percent of total households in these villages. A detailed information on poverty was collected through questionnaire method on various indicators. The income poverty line of monthly per capita income Rs. 1127.82 proposed by the Rangarajan committee (Planning Commission, 2014, pp 64) is applied for income-based poverty whereas Alkire and Foster methodology

(Alkire and Foster, 2011) is used for multidimensional poverty analysis. The latter method measures poverty at the household level in dimensions of education, health, and standard of living and each person is allocated a deprivation score according to household deprivation in each of the ten indicators (school attainment, school attendance, nutrition, child mortality, electricity, drinking water, sanitation, cooking fuel, flooring, and assets). A household is considered multidimensional poor if it has total 33.3 percent or more deprivation in all indicators.

Measurement Techniques and Indicators

Multidimensional poverty measures the deprivation of only poor people (which has a minimum number of dimensions failures), whereas deprivation measures the dimensions deficiency of all households (Ray and Sinha, 2011). So, this study measures the multidimensional poverty (education, health, and standard of living dimensions) as well as the level of deprivation. It further compares the multidimensional poverty and simple measure of economic poverty. For measurement of the MPI, Alkire and Foster methodology is used which was proposed by UNDP. The following indicators are calculated for analysis and a particular household is declared deprived in different dimensions on the following basis:

- **School Attainment:** If a household member has not completed at least six years of schooling.
- **School Attendance:** If a school-going age child (6-14 years) is not going to school.
- **Nutrition:** If a household member is malnourished. The body mass index is calculated for this indicator.
- **Child Mortality:** If a child (0-5 years) died in the household during five years span prior to the survey.
- **Drinking-Water:** If clean drinking water is not available in the household or source of clean drinking water is located more than 30 minutes away by walking.
- **Electricity:** If electricity is not available in the house.
- **Sanitation:** If toilet is not available in the household or toilet is shared with other households.
- **Cooking Fuel:** If the household is using dirty cooking fuel (Dung cake, charcoal, wood).
- **Floor:** If the house has dirt, dung, or sand floor.

- **Assets:** If the household not having at least one asset related to access to information (TV, Radio, Mobile and Telephone), not having at least one asset related to access to mobility (truck, tractor, car, bike, motorbike, animal cart, and motorboat) and not having at least one asset related to livelihood (refrigerator, arable land, and livestock).

Multidimensional Poverty is measured on the basis of poverty cut-off and households are considered poor if the value of his/ her deprivation score is equal to or more than 33.3 percent that is equal to 1/3 of weighted indicators i.e. deprivation score $\geq$ 33.3 percent. After measuring the number of multidimensional poor, the researchers calculated the head-count ratio or incidence of poverty that is the percentage of multidimensional poor people in the total population.

$$H = \frac{q_0}{n}$$

Where H is the incidence of poverty, q_0 is the number of multidimensional poor people and n is the total population.

But the head-count ratio only shows the percentage of multidimensional poverty, therefore this methodology measures the level of depth of deprivation of poor households by **Intensity of Poverty (A)** which represents the proportion of the weighted component indicators in which, on an average, poor people are deprived. For poor households, only the deprivation scores are summed and divided by the total number of poor people.

$$A = \sum_i^q \frac{c_i}{q}$$

where i = ith poor household, c = Deprivation score of ith poor household and q = number of multidimensional poor.

With the help of the head-count ratio and intensity of poverty, the **Multidimensional Poverty Index (MPI)** is measured. It is the product of multidimensional poverty headcount ratio, and the intensity of poverty.

$$MPI = H * A$$

Where H is the head-count ratio, and A is the intensity to poverty. With this, there was measurement of the percentage of **contribution of health, education, and standard of living** dimension in MPI.

$$\text{Contributor } j = \frac{\sum_i^q c_j}{n} / MPI$$

Where j is the selected dimension (education, health, and standard of living), q is the number of multidimensional poor, c is the deprivation score of poor households in j dimension.

Results and Discussion

The results and findings of the analysis of poverty and deprivation in rural Jind are given below:

General Profile of Respondent Households

Total 764 people are part of the study out of which 424 are males (55.5%) and 340 are females (44.5%). There are 138 households who are above poverty line cardholders (85.7%) and the remaining 23 are below poverty line cardholders (14.3%). Further, it is analysed that 15 percent households earn less than fifty thousand rupees, 26 percent earn fifty thousand one to one hundred thousand, 28.6 percent earn one hundred thousand one to two hundred thousand rupees, 6.2 percent earn two hundred thousand one to three hundred thousand, and three hundred thousand one to four hundred thousand and 18 percent households earn more than four hundred thousand rupees annually. A total of 261 people have participated in labour force out of which the majority of people are involved in agricultural activities whereas 26.4 percent of people are employed in the organized sector (government or private job). In Malvi village, majority of the population are engaged in agricultural activities (57%) followed by daily wage labourer (14%), in addition to that only 17 percent people have a permanent source of income (whether government job or private job) whereas in Jalalpur Kalan majority of the population engaged in organised sector (38% government employees and 8.6% are private employees) followed by daily wage labourers (26%), farmers (16%), and other (8.6%) (see Table-1).

Education Dimension

The deprivation in the education dimension is measured through school attainment and school attendance variables. Out of 764 persons, 28.1 percent of people have never gone to school; among them 13.6 percent are males and 45.2 percent are females. Further, 1.2 percent people are able to read and write but have not completed five years of schooling, 8.6 percent have completed primary education, 10.4 percent have completed middle education, 20.8 percent have completed the secondary examination, 18.2 percent have completed the senior secondary examination and only 10.1 percent and 2.7 percent are graduate and above graduate respectively which shows the level of education is low in the district. The analysis presents a clear cut picture of gender disparities in the education dimension. The results of two villages show that, in Malvi village, 28.4 percent of people are illiterate where 15.6 percent are males and 42.9 percent are females and the level of higher education is low (9.6% are graduate and 3.8% are above graduate). In Jalalpur Kalan village 27.5 percent of respondents are illiterate where male illiteracy is only 9.8 percent whereas female illiteracy is 50 percent. The level of higher education is low (11% are graduates and only 0.5% are above graduate) in the village. In most of the categories, female education is

poor as compared to males. Women mentioned that due to social and family restrictions they were not allowed to attain the education (see Table- 2).

The study also measures the enrolment of children (6-14 years) and the type of school in which these children are studying in Jind district. It is pertinent to mention that all school-going age children (between 6 to 14 years age group) are going to school and the majority of children are going to the government school at their native village (see Table-3).

Health Dimension

The study also measured health deprivation based on nutrition level among males and females and child mortality in Jind district. The result shows that 18.6 percent of total respondents are malnourished in which 15.1 percent are males and 23 per cent are females. In Malvi village, 19.8 percent of total respondents are malnourished out of which 15.8 percent are males and 24.7 percent are females. In Jalalpur Kalan 16.1 percent of people are malnourished in which male malnutrition is 13.8 percent and female malnutrition is 19.3 percent. Gender disparities are once again visible here as a result of health deprivation that is higher among females as compared to males (see Table-4). The study also shows that 6.2 percent of households lost their child between age 0-5 years. In Malvi and Jalalpur Kalan village child mortality (0-5 years) at the household's level is 3.8 per cent and 10.7 percent respectively (see Table 7).

Standard of Living dimension

The deprivation in standard of living is measured through six indicators. As per the first indicator housing, a total 64.6 percent households live in pucca houses and 27.3 per cent households live in semi pucca (some part of their house is raw and some part is cemented) houses and 8.1 per cent live in kuccha houses. Whereas 72.7 per cent of households have proper ventilation and 27.3 per cent have improper ventilation in their houses. Both of the villages show a similar picture where the majority of households live in pucca houses and having proper ventilation in their houses followed by semi- pucca houses and kuccha houses. The result reveals that only 72 per cent of households have kitchen facilities and the remaining 28 per cent households don't have a separate kitchen and they used their living room like a kitchen. Further bathroom facility is available to 81.4 per cent houses. In Malvi village 73.3 per cent of households having separate kitchen facilities, and 83.8 per cent having bathroom facilities. In Jalalpur Kalan 69.6 per cent of households have a separate kitchen, and 76.8 per cent have a bathroom in their houses (see Table-5).

More than 90 per cent households are deprived of computer and air conditioner followed by tractor/car (83.2%), motorcycle/scooter/Scotty (53.4%), washing machine (42.2%), refrigerator (31.1%), television (19.3%), mobile/phone (1.9%) and no one is deprived of cooler/fan. In Malvi village,

every household has a cooler/ fan whereas 81.9 per cent households are deprived of four-wheel vehicles like car/tractor, 50.47 per cent households are deprived of two wheels vehicles like motorcycle/Scootty/scooter, 40 per cent, 32.3 per cent, and 20.9 per cent households deprived of the washing machine, refrigerator and television/ radio respectively. In Jalalpur Kalan also, the result shows almost the same pattern where the majority of households are deprived of computer followed by an air conditioner, tractor/car, motorcycle/scooter/Scootty, washing machine, refrigerator, television/radio, mobile/phone and no one is deprived of cooler/fan (see Table-6).

The result reveals that cooking fuel is the most deprived indicator (90.7% households are using dirty cooking fuel), water (53.4%), nutrition (52.2%), assets (33.5), sanitation (22.4%), housing floor (16.8%), child mortality (6.2%) and no one is deprived of school attendance and electricity. In both of the villages, majority households are deprived of cooking fuel (89.5% in Malvi and 92.9% in Jalalpur Kalan). In Malvi 81.9 per cent of households do not have availability and accessibility to safe drinking water in their houses and bring it from far off places from their houses whereas in Jalalpur Kalan safe drinking water is available to each and every house. Both of the villages show almost the same picture in school attainment, and flooring indicators but Malvi village is highly deprived in nutrition and sanitation (toilet facilities) whereas Jalalpur Kalan is more deprived in child mortality and assets (see Table-7)

Poverty Estimates

The study also presents deprivation scores of households according to all dimension of MPI in different categories like non-poor (deprivation score between 0-20), near to poverty (deprivation score between 20.1-33), moderate poor (deprivation score between 33.1-50), and extremely poor (deprivation score between 50.1-100). The results find that only 16.8 per cent households are non-poor, 24.2 per cent households are near to poverty or vulnerable to poverty and these households have high chances of falling in the vicious trap of poverty in the future, 38.5 per cent households are moderate poor and 20.5 per cent households are extremely poor. In Malvi village majority people are moderate poor (47.6%), 20 per cent are extremely poor, 16.2 per cent are not poor and 16.2 per cent are near to poverty whereas in Jalalpur Kalan majority of the population is near to poverty (39.3%) followed by poor and extremely poor (both are 21.4% separately) and 17.9 per cent are non-poor (see Table-8).

The multidimensional headcount ratio is the percentage of people with 33.3 per cent or more deprivation scores at the individual level whereas the Multidimensional Poverty Index (MPI) is a product of the multidimensional headcount ratio and average deprivation score of multidimensional poor people. The analysis shows that only 22.9 per cent people are income-based poor whereas 60 per cent people are multidimensional poor and an average poor is 46.3 per

cent deprived and the value of the Multidimensional Poverty Index (MPI) is 27.8 per cent. All the dimensions have almost the same contribution (education dimension has 35% contribution, the health dimension has 33% contribution and standard of living dimension has 32% contribution) in multidimensional poverty index. In Malvi 27.6 per cent people are income poor but 67.1 per cent people are multidimensional poor and an average poor person is 45.6 per cent deprived, the value of the multidimensional poverty index is 30.7 whereas in Jalalpur Kalan 13.3 per cent people are income-based poor but 45.5 per cent people are multidimensional poor and an average poor person is 48.1 per cent deprived and multidimensional poverty index is 21.9. The result reveals that Malvi is a poor village in terms of income as well as multidimensional context but deprivation among poor people is high in Jalalpur Kalan. Multidimensional poverty is much higher than income poverty in both of the villages (see Table-9).

Summary and Conclusion

The majority of rural respondents are engaged in agricultural activities and only 26.4 per cent people are employed in organised sector (government or private job). Thirty per cent respondents are either illiterate or have not completed five years of schooling, only 12.8 per cent have completed higher education. There is high level gender disparities present in education dimension, and social factors hampering women to attain education. There are hundred per cent enrolments of school-going age children in schools which indicate a positive picture of government efforts in the education sector.

Nearly 20 per cent people are underweight but the prevalence of malnutrition among women is much higher which once again indicate gender inequality in the health dimension also. More than 35 per cent of households either live in kuccha houses or semi pucca houses (some part of their house is raw and some part is confirmed). The study also reveals that 28 per cent households don't have a separate kitchen and use their living room as a kitchen. Open defecation is prevalent among 18 per cent households, there are two significant causes of the absence of toilet facilities in their houses 1) they cannot bear the cost for making toilets, and 2) they do not have space for the toilet. Concerning durable goods most of the households deprived in computer and air conditioner, followed by four-wheeler vehicles (tractor and car) and two-wheeler vehicles (cycle, scooter, and Scotty). Fan or cooler is available in all households and most of them have mobile and phone except 1.9 per cent households.

In terms of deprivation among all indicators, the majority of the households uses dirty fuel (either only dirty cooking fuel or mixed cooking fuel i.e. both dirty as well as clean cooking fuel) and there are three important causes of using dirty fuel 1) majority of respondents said they cannot afford LPG for regular uses and all-purpose, they use dirty as well as a clean fuel, 2) some respondent said that they cannot afford LPG or electrical stove so, they use only

dirty fuel and 3) they use dirty fuel because they like the food that is prepared by wood or dung cake. In Malvi village, more than 80 per cent of households don't have availability and accessibility of safe drinking water in their houses and bring it far off palaces from their houses whereas in Jalalpur Kalan safe drinking water is available to every house. Both the villages show almost a similar picture in case of school attainment and flooring indicators but Malvi village is highly deprived in nutrition and sanitation (toilet facilities) whereas Jalalpur Kalan is more deprived in child mortality and assets. While looking into another major indicator i.e. individual poverty, the results reveal that the percentage of multidimensional poverty is more than double and an average poor person is 46.3 per cent deprived and the value of the Multidimensional Poverty Index (MPI) is 27.8 per cent and all dimensions have almost the same contribution (each dimension have more than 30 per cent contribution) in MPI. Malvi is a poor village in terms of income as well as multidimensional context but deprivation among poor people is high in Jalalpur Kalan. In the case of household poverty, 59 per cent households are multidimensional poor and nearly 39 per cents are moderately poor whereas 20 per cents are extremely poor and these extremely poor people are more than 50 per cent deprived whereas about 25 per cent households are near to poverty and these households have high chances of falling in the trap of poverty in future.

The case study of these two villages raises some important and thought-provoking concerns about the economic development scenario of a prosperous state like Haryana as other issues like people are still going for open defecation, dirtier cooking fuel is still prevalent as more than 90 per cent households are using dirty fuel, and huge gender disparities exist based on education and health sectors are predominant problems. More than 50 per cent respondents do not have access to pure drinking water. However, one of the positive construction seen is that all children of school-going age are attending schools and all households have the accessibility to electricity. The study suggests that only income measures do not represent real picture of poverty and deprivation in any area. The policy-makers should focus on other areas also while ensuring well-being of people. The study suggests that focus should more on clean cooking fuel, education, increase nutrition and basic facilities, availability and accessibility to safe drinking water in the district.

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Table-1
General Profile of Respondent Households in the Two Villages

Sr. No.	Gender	Malvi		Jalalpur Kalan		Total	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	a) Male	279	54.7	145	57.1	424	55.5
	b) Female	231	45.3	109	42.9	340	44.5
	c) Total	510	100	254	100	764	100
2.	Type of Ration Card						
	a) APL	91	86.7	47	83.9	138	85.7
	b) BPL	14	13.3	9	16.1	23	14.3
	c) Total	105	100	56	100	161	100
3.	Annual Income (in Rs.)						
	Less than 50,000	19	18	5	8.9	24	15.0
	50,000-1,00,000	34	32	8	14.3	42	26.0
	1,00,000-2,00,000	22	21	24	42.9	46	28.6
	2,00,000-3,00,000	5	5	5	8.9	10	6.2
	3,00,000-4,00,000	7	7	3	5.4	10	6.2
	More than 4,00,000	18	17	11	19.6	29	18.0
4.	Occupation						
	Daily wage labourer	25	14	21	26.0	46	17.6
	Agriculture labourer	4	2	0	0	4	1.5
	Farmer	99	55	13	16.0	112	43.0
	Government Job	14	7.5	7	8.6	21	8.0
	Private employee	17	9.5	31	38.3	48	18.4
	Small shopkeeper	17	9.5	2	2.5	19	7.3
	Businessman	3	2	0	0	3	1.1
	Other	1	0.5	7	8.6	8	3.1
	Total	180	100	81	100	261	100

Source: Author's calculation

Note: 1) Occupation of those people is calculated which are participant in labour force.

2) Other category includes truck driver, auto driver, private bus driver and conductor.

Table-2
Education Profile of Respondents in Jind District (in per cent)

Sr. No.	Adults Education	Malvi			Jalalpur Kalan			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1.	Illiterate	15.6	42.9	28.4	9.8	50.0	27.5	13.6	45.2	28.1
2.	Literate	1.9	0.5	1.3	0.9	1.1	1.0	1.5	0.7	1.2
3.	Primary (upto 5 th)	11.4	8.2	9.6	5.4	6.8	6.0	9.3	7.7	8.6
4.	Middle (upto 8 th)	11.4	9.2	10.1	10.7	10.2	10.5	11.1	9.6	10.4
5.	Matric (upto 10 th)	20.9	21.2	21.5	25.0	14.8	20.5	22.3	19.1	20.8
6.	Senior secondary (upto 12 th)	22.3	8.2	15.7	32.1	11.4	23.0	25.7	9.2	18.2
7.	Graduation	12.8	6.0	9.6	15.2	5.7	11.0	13.6	5.9	10.1
8.	Above graduation	3.8	3.8	3.8	0.9	0	0.5	2.8	2.6	2.7

Source: Author's calculation

Note: 1) More than 14 years old people considered as adults

2) Literate people are those who have gone to school but have not completed 5 years of schooling

Table-3
Enrolment of Children's (6-14 years) in Jind District (in per cent)

S. no.	Enrolment of Children's	Malvi	Jalalpur Kalan	Total
1.	a. Going to School	100	100	100
	b. Not going to school	0	0	0
2.	Type of School they are Going	Malvi	Jalalpur Kalan	Total
	a. Government school	55.6	54.5	55.3
	b. Private School	44.4	45.5	44.7

Source: Author's calculation

Table-4
Malnourishment (Underweight) Among Respondents (in per cent)

S. no.	Gender	Malvi	Jalalpur Kalan	Total
1.	Male	15.8	13.8	15.1
2.	Female	24.7	19.3	23.0
3.	Total	19.8	16.1	18.6

Source: Author's calculation

Table-5
Types of Houses, Ventilation of Houses and Availability of Kitchen, and Bathroom facilities in Households (in per cent)

S. no.	Households conditions	Malvi	Jalalpur Kalan	Total
1.	Kuccha house	11.4	1.8	8.1
2.	Pucca house	63.8	66.1	64.6
3.	Semi- pucca house	24.8	32.1	27.3
4.	Proper ventilation	74.3	69.6	72.7
5.	Availability of kitchen	73.3	69.6	72.0
6.	Availability of bathroom	83.8	76.8	81.4

Source: Author's calculation

Table- 6
Deprivation in Durable Goods (in per cent)

Sr. No.	Durable Goods	Malvi	Jalalpur Kalan	Total
1.	Television/Radio	20.9	16.1	19.3
2.	Mobile/Phone	1.9	1.8	1.9
3.	Refrigerator	32.3	28.6	31.1
4.	Cooler/Fan	0	0	0
5.	Washing machine	40	46.4	42.2
6.	Tractor/Car	81.9	85.7	83.2
7.	Motor cycle/Scooter/ Scotty	50.47	59.0	53.4
8.	Computer	99.04	91.1	96.3
9.	Air Conditioner (A.C.)	99.04	84.0	93.8

Source: Author's calculation

Table-7
Overall Deprivation in MPI Indicators among All Households (in per cent)

Sr. no.	Indicators	Malvi	Jalalpur Kalan	Total
1.	School attainment	76.2	73.2	75.2
2.	School attendance	0	0	0
3.	Nutrition	59.0	39.3	52.2
4.	Child mortality	3.8	10.7	6.2
5.	Electricity	0	0	0
6.	Water	81.9	0	53.4
7.	Sanitation	24.8	17.9	22.4
8.	Floor	17.1	17.9	16.8
9.	Cooking fuel	89.5	92.9	90.7
10.	Assets	18.1	62.5	33.5

Source: Author's calculation

Table-8
Households Deprivation Score According to Various Deprivation Categories (in per cent)

Sr. no.	Deprivation categories	Malvi	Jalalpur Kalan	Total
1.	0-20	16.2	17.9	16.8
2.	20.1-33	16.2	39.3	24.2
3.	33.1-50	47.6	21.4	38.5
4.	50.1-100	20.0	21.4	20.5

Source: Author's calculation

Note: 1) Deprivation score between 0-20 present non-poor.

2) Deprivation score between 20.1-33 present percentages of households who are near to poverty.

3) Deprivation score between 33.1-50 present percentages of households with moderate poverty.

4) Deprivation of households between 50.1-100 present percentages of households in extreme poverty.

Table-9
Multidimensional Poverty Index and Deprivation Score (in per cent)

Sr. No.	Multidimensional poverty	Malvi	Jalalpur Kalan	Total
1.	Income Poverty	27.6	13.3	22.9
2.	Multidimensional Head Count Ratio (H)	67.3	45.5	60
3.	Intensity of Poverty (A)	45.6	48.1	46.3
4.	Multidimensional Poverty Index (MPI)	30.7	21.9	27.8
5.	Contribution of Deprivation	Malvi	Jalalpur Kalan	Total
	a) Education	35.5	34	35
	b) Health	33.0	33	33
	c) Standard of Living	31.5	33	32

Source: Author's calculation



SPATIO-TEMPORAL ANALYSIS OF GROUNDWATER IRRIGATION IN PUNJAB: EVIDENCE FROM MINOR IRRIGATION CENSUSES

Deepratan Singh Khara¹

Abstract: Punjab has always been the epitome of success of the green revolution in the country and expansion and development of groundwater played a prominent role in it. Though over the period, it achieved almost cent percent irrigation coverage of the state's crop land but only at the serious cost of depleting groundwater table, putting the sustainability of the state's agriculture into question. The focus of the paper is to understand the evolution and expansion of groundwater irrigation in the state through Minor Irrigation Censuses data (1986-87 to 2013-14). A perusal of the data reveals some interesting results relevant for the required policy framework on groundwater irrigation in the state of Punjab.

Introduction

Apart from hybrid seeds and chemically advanced manures and fertilisers, one of the prominent reasons for the unparalleled success of the green revolution in Punjab has been the adequate provision of irrigation facilities. Over the period of time the availability of assured irrigation has not only acted as safeguard against the gamble of monsoon but has also become essential input for the sustainable agricultural production. More than 60 per cent growth in agricultural productivity has been attributed to groundwater irrigation (Sekhri, 2011). With more than 99.9 per cent of crop land under irrigation, Punjab is the leading state in India in terms of irrigation coverage and intensity. There has been a revolutionary shift from large-scale surface water management to widespread groundwater abstraction for irrigation in the country especially in the northern part of Punjab (Sinha and Densmore, 2016; Ghuman and Sharma, 2018). Groundwater provides timely irrigation, leading to an increase in crop intensity and productivity (FAO, 2003).

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The technological development towards intensive agricultural practices and the subsequent policy directions led to adoption of water intensive rice-wheat crop rotation, resulting in massive development of groundwater irrigation in Punjab (Sarkar, 2011; Ghuman and Sharma, 2018). Initially, all these developments helped the country in attaining food security but over the years the sustainability of current agricultural practices of production have been called into question. Among the issues of stagnating yields, rising cultivation cost and declining profits, the well-known concern has been the increasing levels of groundwater mining due to groundwater irrigation in the state of Punjab. The depleting water table in the state especially in the prominent rice belt region of central Punjab is threatening the sustainability of agriculture in Punjab (Sarkar, 2011; Ghuman and Sharma, 2018). Thus, it is important to understand the nuances of development of groundwater structures in the Punjab through Minor Irrigation (MI) Census.

The Ministry of Water Resources, River development and Ganga Rejuvenation (MoWR) conducts a Census of Minor Irrigation (MI Census) structures. The first MI census was conducted in 1986-87, followed by second, third, fourth and fifth in 1993-94, 2000-01, 2006-07, 2013-14 respectively (MoWR 2017). Any irrigation structure having a command area of less than 2000 hectares is referred to as Minor Irrigation (MI) structure. There are five types of MI structures that the census enumerates Dug-Wells (DWs)¹, Shallow Tube-wells (STWs)², Deep Tube-wells (DTWs)³, surface flow systems⁴ and surface lift system⁵ (MoWR 2017). The fifth MI census introduced a new category- Medium Tube-wells (MTWs)⁶ which has been created by bifurcating the STW category into STW and MTW based on the depth of the scheme, thus for comprehensive analysis the STWs and MTWs have been combined under STWs. These structures are further classified under two categories; the groundwater and the surface water structure. The groundwater structures (dug-wells, shallow tube-wells and deep tube-wells) of Punjab have accounted for more than 99 per cent of all MI structures over subsequent MI censuses. These also account for the entire groundwater irrigation in Punjab.

Thus, the primary focus of this paper is to examine and understand the evolution of groundwater irrigation systems in the state of Punjab since 1986. This aspect of Punjab agriculture is timely and policy relevant for many reasons. Firstly, even with the presence of perennial rivers like Satluj, Beas and Ravi along with a vast network of canals in Punjab, area under groundwater irrigation surpassed the area under surface water irrigation over the period of time (Ghuman, 2017). Secondly, the continuous demand of groundwater for irrigation has escalated the groundwater irrigation draft by more than 50 per cent from 30.3 billion cubic metre (BCM) to 67.5 BCM between 2004 to 2017 period (CGWB, 2018). More importantly the unavailability of timely canal water for irrigation especially for the tail end users has made the majority of the resource poor farmers of the state completely dependent on the groundwater for irrigation

purposes. Thus, the change in the accessibility and availability of groundwater over the period of time can provide insight for the required policy framework for adoption of relevant strategies for the sustainable usage. Thus, this study undertakes to focus on this critical segment of Punjab's agriculture by using MI census data of the last three decades.

Data and Methodology

In order to have a comprehensive understanding of the development and expansion of groundwater irrigation, the districts of Punjab have been classified into three agro-climatic regions; (i) North East Region (NER) (ii) Central Plain Region (CPR) (iii) South West Region (SWR) based on the soil-crop-climate classification (Kaur, 2011; Ghuman and Sharma, 2018) and stages of groundwater development (Table 1). Presently Punjab state has 22 districts as 11 new districts were demarcated in the state over a period of time. To make the comparison feasible, these districts have been merged with the parent districts to retain the original 11 districts (Table 1). The data used in this paper has been obtained from the five rounds of MI Census. In order to have meaningful integrated analysis for all climatic regions, certain selected data variables pertaining to groundwater structures have been used in the study.

Table-1
Distribution of districts in different agro-climatic regions

Districts	Climatic Regions	Rainfall (mm)	Water and soil type	Stage of groundwater development (%)*
Gurdaspur, Hoshiarpur, Roopnagar	North	748	Sub mountainous aka Kandi region	119
Amritsar, Sangrur, Jalandhar, Patiala, Kapurthala, Ludhiana	Central Plain	514	Sweet water region	194
Ferozpur, Bathinda	South West	331	Brackish water region	123

Source: Ghuman and Sharma 2018; Kaur 2011

Note: *CGWB 2018

Findings

Groundwater Structures Continue to Dominate

In all the five rounds of MI census from 1986-87 to 2013-14, groundwater structures in Punjab constituted more than 99 per cent of all MI structures (table 2). It is interesting to note that both groundwater and surface schemes have registered consistent growth from 1986 to 2006 but have recorded decline in 2013. The decrease in the surface water schemes can be attributed to the shift towards groundwater based intensive irrigation, which is more accessible and flexible as per agricultural requirements (Nelson et. al., 2014). In the case of groundwater schemes, one of the prominent reasons for its decline is the fall in area under crop as a consequence of the rapid urbanisation of rural areas.

Secondly the continuous fall in the water levels have escalated the number of tube-wells becoming defunct and making installation of new tube-well a costly affair especially for the farmers with small and marginal landholding (Ghuman and Sharma, 2018; MI Census, 2017).

Table-2
Groundwater and Surface Water Schemes and Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

	Groundwater schemes (Wells/Tube Wells)				Surface water schemes			
	Structures	IPC	IPU	IPUPC%	Structures	IPC	IPU	IPUPC%
Punjab								
MI1 (1986-87)	803629 (99.94)	4163640	4121250	98.98	517 (0.06)	6555	4385	66.90
MI2 (1993-94)	960272 (99.88)	6686419	6138013	91.80	1156 (0.12)	22330	12979	58.12
MI3 (2000-01)	1080038 (99.84)	6287156	5747618	91.42	1695 (0.16)	17977	17611	97.96
MI4 (2006-07)	1178272 (99.76)	7350976	6522336	88.73	2834 (0.24)	31664	31664	100.00
MI5 (2013-14)	1118723 (99.80)	7621178	6237826	81.85	2196 (0.20)	23722	23412	98.69
North east region								
MI1 (1986-87)	124858 (15.54)	703925	650246	92.37	192 (37.14)	4597	2593	56.41
MI2 (1993-94)	139719 (14.55)	897335	784845	87.46	389 (33.65)	12936	4084	31.57
MI3 (2000-01)	167990 (15.55)	832088	797296	95.82	813 (47.96)	11121	11102	99.83
MI4 (2006-07)	168633 (14.31)	840313	805741	95.89	1097 (38.71)	10850	10850	100.00
MI5 (2013-14)	170706 (15.26)	844701	829739	98.23	353 (15.26)	10216	10066	98.53
Central plain region								
MI1 (1986-87)	452867 (56.35)	2449558	2413599	98.53	271 (52.42)	1425	1372	96.28
MI2 (1993-94)	549887 (57.26)	3888160	3551877	91.35	734 (63.49)	9136	8645	94.63
MI3 (2000-01)	679170 (62.88)	4128707	3699951	89.62	882 (52.04)	6956	6509	93.57
MI4 (2006-07)	755225 (64.10)	4721146	4389168	92.97	1722 (60.76)	14752	14752	100.00
MI5 (2013-14)	696317 (62.24)	4177705	3811562	91.24	1843 (83.93)	13506	13346	98.82
South west region								
MI1 (1986-87)	225904 (28.11)	1057405	1010157	95.53	54 (10.44)	533	420	78.80
MI2 (1993-94)	268551 (27.97)	1912057	1801291	94.21	33 (2.85)	258	250	96.90
MI3 (2000-01)	232878 (21.56)	1326361	1250371	94.27	0 (0.00)	0	0	0.00
MI4 (2006-07)	254414 (21.59)	1789504	1333489	74.52	15 (0.53)	6062	6062	100.00
MI5 (2013-14)	251650 (22.49)	2598775	1596525	61.43	0 (0.00)	0	0	0.00

Source: MI Census (various rounds)

Note: Figures in parenthesis indicate percentage

Over the period of time the irrigation potential created (IPC)⁷ and irrigation potential utilisation (IPU)⁸ have registered growth under groundwater schemes whereas in case of surface water schemes there has been a fluctuating trend. It is worth mentioning that in the case of groundwater schemes there has been a steady decline in the utilisation of IPC but opposite to the trend in case of surface water schemes. The reason for this fall in utilisation of IPC in case groundwater is increase in conjunctive use of canal water along with groundwater in some districts of Punjab resulting in lower utilisation of irrigation potential of tube-wells (MI Census, 2017). It can be observed that there has been a consistent rise of groundwater schemes in the NER whereas both CPR and SWR exhibited a fluctuating trend from 1986-2013.

It is significant to note that out of total distribution of groundwater schemes in the state, there has been tremendous increase in the share of the CPR also known as the rice belt region of the state (Ghuman and Sharma, 2018), whereas in case of SWR and NER it has fallen and remained same respectively over the period. Though both NER and CPR regions have attained more than 90 percent utilisation of IPC under groundwater schemes but there has been drastic fall in the SWR since 2000. The reason for such decrease can be attributed to the prevalence of brackish groundwater in the upper layers of water table as well as availability and accessibility to the canal water in the region (Ghuman and Sharma, 2018; Shah and Kulkarni, 2013).

Transition from Wells to Tube Wells

As it is evident that MI in Punjab is predominantly about groundwater, the rest of paper deals only with groundwater structures. The increased pressure to enhance agriculture performance led to expansion of groundwater irrigation. The change in well structures overtime reflects the dire pressure on groundwater for irrigation and also shows the consequential decline in groundwater table in the state (Ghuman and Sharma, 2018). Thus, composition of Punjab across all five MI censuses from 1986 to 2013 have shown a prominent trend of shift from manually or mechanically operated open dug-wells to electric and diesel based shallow and deep tube-wells (Table 3). It should be noted that since the beginning of the 21st century there has been absolute decline in the dug-wells in Punjab. Though there has been a consistent rise in the number of shallow and deep tube wells from 1986 to 2000 but after 2000 there has been tremendous growth in the number as well as the share of deep tube-wells. The fast replacement of dug-wells with shallow tube-wells from 1986 to 2000 and of shallow tube-wells with deep tube-wells from 2006 onwards has been partly due to the lowering of groundwater table and partly because of increased number of tube-wells within the vicinity, thus both resulting in the intense competition amongst the neighbours to deepen the tube-well.

All the regions have shown the similar growth trend in the number of shallow tube-wells till 2006 and of deep tube-wells from 2006 onwards. After 2006 the share of the shallow tube-wells decreased and that of deep tube-wells increased in both CPR and SWR respectively whereas it remained the same in NER. It is worth mentioning that in 2013 the share of deep tube-wells in CPR has been reported to be more than 50 percent of the total tube-wells in the region, which majorly accounts for growing pressure on groundwater in the area. The prominent reason for the rise in the number of deep tube-wells in SWR is according to the shift in the cropping pattern from cotton to paddy in kharif season (Ghuman and Sharma, 2018) raising the demand for the groundwater.

Table-3
Distribution of dug-wells, shallow tube-wells and deep tube-wells

Schemes	Dug-well	Shallow Tube-Well	Deep Tube-Well	Groundwater Schemes
Punjab				
MI1 (1986-87)	7035 (0.88)	795417 (98.88)	1177 (0.15)	803629 (99.94)
MI2 (1993-94)	11671 (1.22)	944209 (98.33)	4392 (0.46)	960272 (99.88)
MI3 (2000-01)	2931 (0.27)	1067117 (98.80)	9990 (0.92)	1080038 (99.84)
MI4 (2006-07)	0 (0.00)	861949 (73.15)	316323 (26.85)	1178272 (99.76)
MI5 (2013-14)	0 (0.00)	633344 (56.61)	485379 (43.39)	1118723 (99.80)
North East region				
MI1 (1986-87)	5745 (4.60)	118724 (95.09)	389 (0.31)	124858 (99.85)
MI2 (1993-94)	3694 (2.64)	135258 (96.81)	767 (0.55)	139719 (99.72)
MI3 (2000-01)	2386 (1.42)	160877 (95.77)	4727 (2.81)	167990 (99.52)
MI4 (2006-07)	0 (0.00)	144841 (85.89)	23792 (14.11)	168633 (99.35)
MI5 (2013-14)	0 (0.00)	144818 (84.83)	25888 (15.17)	170706 (99.79)
Central Plain region				
MI1 (1986-87)	1290 (0.28)	450791 (99.54)	786 (0.17)	452867 (99.94)
MI2 (1993-94)	6196 (1.13)	542205 (98.60)	1486 (0.27)	549887 (99.87)
MI3 (2000-01)	449 (0.07)	673458 (99.16)	5263 (0.77)	679170 (99.87)
MI4 (2006-07)	0 (0.00)	489178 (64.77)	266047 (35.23)	755225 (99.77)
MI5 (2013-14)	0 (0.00)	320532 (46.03)	375785 (53.97)	696317 (99.74)
South West region				
MI1 (1986-87)	0 (0.00)	225902 (99.99)	2 (0.00)	225904 (99.98)
MI2 (1993-94)	1781 (0.66)	266746 (99.33)	24 (0.01)	268551 (99.99)
MI3 (2000-01)	96 (0.04)	232782 (99.96)	0 (0.00)	232878 (100)
MI4 (2006-07)	0 (0.00)	227930 (89.59)	26484 (10.41)	254414 (99.99)
MI5 (2013-14)	0 (0.00)	167994 (66.76)	83656 (33.24)	251650 (100)

Source: MI Census (various rounds)

Note: Figures in parenthesis indicate percentage

Ownership of Tube-wells on the Basis of Land Size Holding

The ownership status of wells and tube-wells have always been a prominent part of discussion in the irrigation economy especially in developing countries like India. The major development of groundwater irrigation in Punjab happened under the aegis of private investment of farmers (Sarkar, 2011). It is important to understand that though there has been an increase in the number of private tube-wells, the distribution of these varies among different categories of the farmers based on their land size. As it is a well-known fact that access to good quality reliable groundwater irrigation not only reduces the risks of rainfed agriculture but also reduces the cost and increases the quantum of production but equity in access to the resource is the most important aspect of production (Dhawan, 1987; Sarkar, 2011). The right to access groundwater should be equal for all as it is a common pool resource. However, in general this right is attached to land rights, which make the landowners de facto owners of the groundwater pumped out by water extraction machines fitted onto their land thus creating inherent inequality in groundwater accessibility (Sarkar, 2011). Thus, the increased number of tube-wells over the period of time begets the question of distribution of tube-wells among farmers of different land size groups.

Fluctuations in the share of tube-well ownership among different size landholding farmers can be observed over the period (Table 4) but it is important to note that medium category farmers (2-10 ha) dominated in all five rounds of MI Censuses and have recorded consistent surge between 1986 to 2013 period. The share of marginal (0-1 ha), small (1-2 ha) and large category farmers owning tube-well reduced by 9 percent and 12 percent and 3 percent respectively, furthermore the share of medium category farmers increased by 24 percent during the 1993 to 2013 period. It must be noted that farmers with small and medium landholdings have major share control (more than 90%) over the groundwater extraction machines in the state even though the share of farmers with small landholding has fallen over the period. All the regions have exhibited the similar trend with farmers with medium category farmers having maximum share of owning tube-wells. This trend of distribution share of the tube-wells among farmers with different size of landholding especially with steady decline in the share of small and marginal confirms to the fact that surging cost of owning and maintaining tube-well has been highly skewed against the resource poor farmers (Ghuman and Sharma, 2018; Kumar and Saleth, 2018). The increasing phenomenon of land fragmentation and nuclear family concept has led to significant drop in the share of ownership of tube-wells of large landholding farmers, as consequence there has been a major shift of farmers with large landholding to the medium or small landholding size category.

Table-4
Percentage distribution of ownership of wells and tube-wells according to owner's size of landholding

Region	Land size	Marginal (0-1 ha)	Small (1-2 ha)	Medium (2-10 ha)	Large (> 10 ha)
Punjab	MI1 (1986-87)*	2.9	10.0	87.2	NA
	MI2 (1993-94)	11.4	20.2	60.9	7.5
	MI3 (2000-01)	8.2	18.2	65.9	7.7
	MI4 (2006-07)	2.3	7.7	84.3	5.7
	MI5 (2013-14)	2.4	8.2	84.8	4.6
North East Region	MI1 (1986-87)*	6.7	23.7	69.6	NA
	MI2 (1993-94)	14.5	27.7	54.0	3.9
	MI3 (2000-01)	12.6	25.8	58.3	3.3
	MI4 (2006-07)	5.7	12.4	79.5	2.4
	MI5 (2013-14)	5.2	12.3	79.3	3.3
Central Plain Region	MI1 (1986-87)*	2.0	7.6	90.3	NA
	MI2 (1993-94)	9.1	18.6	65.1	7.2
	MI3 (2000-01)	6.7	16.9	69.8	6.6
	MI4 (2006-07)	1.9	7.5	85	5.7
	MI5 (2013-14)	2	8.1	85.6	4.3
South West Region	MI1 (1986-87)*	5.9	16.3	77.8	NA
	MI2 (1993-94)	14.6	19.7	55.8	9.9
	MI3 (2000-01)	8.8	16.7	62.2	12.4
	MI4 (2006-07)	1.2	5.6	85.8	7.4
	MI5 (2013-14)	1.4	6.2	86.4	6

Source: MI Census (Various Rounds)

Note: *1986-87 has only partial information only on dug-wells and shallow tube-wells by size of land holding and has no information regarding the deep tube-wells.

The Increasing Horse Power

The shift in the groundwater structure from dug-well to shallow tube-well to deep tube-well is generally accompanied by the change in the Horse Power (HP) of the water extraction machine. This information is important as the declining water table necessitates shifting from low power to high power along with deepening of the tube-wells (Ghuman and Sharma, 2018). There has been a consistent increase in the share of higher horse power tube-wells of more than 6 HP in case of dug-well and shallow tube-well over the period (Table 5). It is worth mentioning that there has been a 29 percent increase in the share of tube-wells with more than 10 HP from 1993 to 2013. Similarly, in case of deep tube-wells there has been a consistent increase in the tube-wells with higher HP and it is interesting to note that more than 52 percent of deep tube-wells in the state are of power more than 12 HP in 2013.

Table-5
Percentage of distribution of tube-wells according to horse power

Region	Horse power	Digswell and shallow tube well						Deep tube well			
		0-2	2-4	4-6	6-8	8-10	Above 10	0-6	6-12	12-18	Above 18
Punjab	MI2 (1993-94)	1.4	20.3	43.9	29.1	2.3	2.7	38.7	23.1	12.0	26.1
	MI3 (2000-01)	0.8	21.1	43.6	28.2	3.9	2.0	41.8	24.9	17.5	15.7
	MI4 (2006-07)	0.1	10.6	25.1	8.7	32.4	23.1	10.7	52.8	29.8	6.6
	MI5 (2013-14)	0.3	8.9	22.2	31.1	6.3	31.3	5.8	42.1	34.1	18.0
	MI2 (1993-94)	3.3	46.6	35.8	11.2	1.0	1.5	74.4	12.1	11.2	2.3
North East Region	MI3 (2000-01)	1.3	52.4	29.0	15.2	1.3	0.6	51.8	27.1	16.2	4.9
	MI4 (2006-07)	0.0	43.3	24.9	6.6	23.5	1.7	28.2	64.0	4.7	3.1
	MI5 (2013-14)	0.4	27.0	26.1	28.4	12.5	5.6	12.5	68.2	14.4	4.8
	MI2 (1993-94)	1.6	20.3	51.2	24.1	1.5	1.1	53.6	25.9	15.2	5.3
	MI3 (2000-01)	0.8	17.6	50.3	26.8	3.5	0.9	38.8	24.6	26.8	9.7
Central Plain Region	MI4 (2006-07)	0.0	6.2	21.4	10.2	34.2	27.9	8.2	50.9	33.6	7.3
	MI5 (2013-14)	0.2	3.8	12.8	38.2	3.4	41.6	3.2	37.7	37.8	21.2
	MI2 (1993-94)	0.3	7.4	25.7	36.8	3.5	5.3	33.3	0.0	4.2	62.5
	MI3 (2000-01)	0.2	13.9	33.4	38.6	6.4	6.2	0.0	0.0	0.0	0.0
	MI4 (2006-07)	0.2	2.7	33.1	6.7	33.2	24.1	21.4	61.6	13.5	3.5
South West Region	MI5 (2013-14)	0.5	2.8	36.6	20.0	6.4	33.8	15.5	53.3	23.3	7.9

Source: MI Census (Various Rounds)

Similarly, in all regions there has been a steady rise in the number of shallow tube-wells with higher power especially tube-wells with power more than 10 HP, with maximum increase in the central plain region. Likewise, in case of deep tube-wells there has been a maximum increase of 14 percent in the share of tube-wells with power more than 18 HP in central plain region followed by south west and north east regions respectively. This surge in the tube-wells with high

power especially in the central plain region is indicative of the fact of increased mining of groundwater for irrigation resulting in the highest stage of groundwater development of 194 percent in the state. Whereas in case of the south west region the rise in number tube-wells with high power, can be attributed to the change of cropping pattern cotton to rice (Ghuman and Sharma, 2018). Another prominent reason for expansion of high- powered deep tub-wells in SWR is the presence of brackish water in the upper layers of water table, inhibiting the crop yield and production (Shah and Kulkarni, 2013) thus necessitates the demand for fresh water from deeper depths. From the year 2010 to 2017 there has been a significant rise in the tube wells with higher HP in Punjab, as the number of tube wells with power 10-20 HP increased by 52.3 percent and tube wells with power 20 HP or above increased by 33.3 percent (Ghuman and Sharma, 2018).

Hours of Working

Table-6
Percentage distribution of tube-wells according average hours
of Pumping per day

Region	Average hours	0-4	4-8	8-12	12-16	16-20	20-24
Punjab	MI1 (1986-87)	0.00	0.00	88.89	11.11	0.00	0.00
	MI2 (1993-94)	5.58	45.08	47.42	1.15	0.35	0.42
	MI3 (2000-01)	5.28	84.46	9.75	0.37	0.12	0.03
	MI4 (2006-07)	0.78	35.28	63.86	0.08	0.01	0.00
	MI5 (2013-14)	1.40	65.14	32.83	0.55	0.05	0.03
North East Region	MI1 (1986-87)	0.00	0.00	100.00	0.00	0.00	0.00
	MI2 (1993-94)	5.24	45.59	46.13	1.62	0.51	0.92
	MI3 (2000-01)	7.90	82.70	8.82	0.44	0.09	0.04
	MI4 (2006-07)	3.27	37.69	58.68	0.32	0.03	0.00
	MI5 (2013-14)	4.42	62.24	30.27	2.86	0.09	0.12
Central Plain Region	MI1 (1986-87)	0.00	0.00	100.00	0.00	0.00	0.00
	MI2 (1993-94)	4.90	37.20	56.19	1.08	0.32	0.31
	MI3 (2000-01)	4.75	87.16	7.65	0.30	0.13	0.02
	MI4 (2006-07)	0.09	38.33	61.56	0.02	0.00	0.00
	MI5 (2013-14)	0.52	74.04	25.30	0.10	0.03	0.01
South West Region	MI1 (1986-87)	0.00	0.00	50.00	50.00	0.00	0.00
	MI2 (1993-94)	7.16	60.94	30.15	1.05	0.33	0.37
	MI3 (2000-01)	4.93	77.84	16.54	0.54	0.09	0.05
	MI4 (2006-07)	1.16	24.61	74.10	0.12	0.01	0.00
	MI5 (2013-14)	1.79	42.47	55.41	0.24	0.07	0.03

Source: MI Census (Various Rounds)

The irrigation pattern and state of water level is also dependent on the average hours of pumping in a day in the given season. The agriculture production, water

use and energy consumption are strongly interconnected (Gill and Nehra, 2018). Table 6 depicts that over the period of time there has been an increase in the average pumping hours from 0-4 hours to 4-8 hours which is indicative of increase in intensive irrigation in the peak seasons as well as lowering of groundwater, as more pumping time is required for the irrigating the same field. The separation of agriculture electricity feeders and rationing of electricity supply hours along with rising prices of diesel have resulted in decrease in the average pumping hours less than 12 hours. Till the 1990s farmers of Punjab used to receive 16-20 hours of electricity a day (Mukherji et. al., 2013). In the case of regions more than 60 percent and 70 percent of tube-wells have an average 4-8 hours of pumping in the NER and CPR respectively whereas in case of SWR more than 55 percent of tube-wells have 8-12 average pumping hours. The average hours of pumping operations are often dependent on the relative depth of the water table as well as of the tube-wells, as the depth of water increases, the cost of extraction of subsoil water, for both installation and energy of groundwater structure also increases putting small and resource poor farmers in dire straits (Ghuman and Sharma, 2018).

Season-wise Total Number of Hours of Pumping

The two most important crop seasons of the north-west region of the country are Kharif which begins with the onset of monsoon (June to October) and Rabi (October to March). In Punjab, Rice and wheat are the prominent kharif and rabi crops respectively. The institutional arrangement of supply and demand incentives like provision of cheap electricity, subsidised inputs and procurement of full quantity of the produce at the stipulated price culminated in promoting rice-wheat monoculture and reduction in the area under other important crops. Being comparatively water intensive, the rice-wheat crop cycle demands a greater number of irrigations resulting in increased hours of pumping operations (Ghuman and Sharma, 2018; Gill and Nehra, 2018).

It is interesting to note that though there has been a rise in the average pumping hours per day whereas the total hours of pumping operations (Table 7) of number of tube-wells in the respective seasons have declined between 2006 to 2013. In the kharif season the number of tube-wells operating for more than 800 hours has been reduced by 8 percent over the period. This lowering of the total operating hours of majority of tube-wells can be attributed to implementation of the Punjab Preservation of Sub Soil Water Act of 2009 (discussed later in paper), which limits the provision of the electricity during the kharif season. Likewise, in rabi season there has been not much change in the total number of hours of pumping operation over the period. It is worth mentioning that in SWR the number of tube-wells operating for more than 800 hours of pumping by more than 9 percent for kharif season whereas other two regions recorded decline in the same. In the case of rabi season there has not been much change among the

regions over the time. Thus, the gradual rationing in the supply of electricity to the agriculture sector as well as increasing cost of water extraction due to lowering of water table are some of the major factors affecting the total hours of pumping operations in Punjab.

Table-7
Percentage distribution of tube-wells according to total hours of pumping

Kharif Season	MI4 (2006-07)				MI5 (2013-14)			
Regions	Punjab	NER	CPR	SWR	Punjab	NER	CPR	SWR
<200 hours	4.06	12.42	1.52	6.04	6.77	11.54	5.46	7.16
200-400	12.20	23.06	7.86	17.86	17.40	20.25	18.12	13.49
400-600	30.75	31.53	29.25	34.71	37.31	19.59	42.26	35.64
600-800	33.52	12.46	38.97	31.30	27.65	32.82	27.70	24.02
800-1000	12.69	19.33	12.78	8.01	7.86	9.34	5.12	14.42
>=1000	6.79	1.19	9.62	2.08	3.01	6.46	1.34	5.26
Rabi Season	Mi4 (2006-07)				MI5 (2013-14)			
Regions	Punjab	NER	CPR	SWR	Punjab	NER	CPR	SWR
<200 hours	70.51	65.29	68.70	79.34	87.37	77.99	89.31	88.36
200-400	26.61	27.73	28.69	19.72	8.95	15.25	7.17	9.61
400-600	2.57	5.12	2.59	0.83	2.87	3.04	3.32	1.54
600-800	0.19	1.11	0.02	0.09	0.49	2.21	0.12	0.33
800-1000	0.07	0.47	0.00	0.02	0.20	1.03	0.04	0.09
>=1000	0.05	0.29	0.00	0.01	0.12	0.49	0.04	0.07

Source: MI Census (Various Rounds)

Changes in Groundwater Level

It is important to mention that factors such as weather conditions, especially the frequency and intensity of rainfall during the crop season, type of soil, methods of irrigation (flooding, drip, sprinkle etc.) and other management techniques like zero tillage or direct sowing have strong influence over the total hours of pumping operation as well as on the depth of water table (Gill and Nehra, 2018). However, over the period of time the institutional arrangement of provision of free or highly subsidised supply of electricity has resulted in the unabated mining of the groundwater (Ghuman and Sharma, 2018; Gill and Nehra, 2018). Between 1975 to 2005 period most of the farmers in Punjab deepened their tube-wells six to eight times (Romana, 2006). As the data depicts (Table 8) that there has been an increase in the depth of tube-wells in the state. More than 72 percent of tube-wells reported to be under 90 meters in 2006 whereas in 2013 more than 42 percent of tube-wells reported to have depth more than 90 meters. It is worth mentioning that there has been a substantial increase of 12 percent and 7 percent in the number of tube-wells with depth more than 90 meters in CPR and SWR respectively. The mean depth of the tube-wells in the CPR has increased by more

than 24 meters from 1970 to 2013 (Ghuman and Sharma, 2016). This rise in the number of tube-wells with deeper depth is reflective of groundwater stress in the state and has resulted in rise of both the recurring and non-recurring costs of abstracting subsoil water thus, putting additional financial burden on already resource poor farmers of the state. The shift to submersible motors from centrifugal motors over the period is another consequential and pertinent development caused due to the lowering of the water table in the state (Ghuman, 2017).

Table-8
Percentage distribution of tube-wells according to depth

Regions	Punjab		North east region		Central plain region		South west region	
Depth of tube- wells (in meters)	MI4 (2006-07)	MI5 (2013-14)	MI4 (2006-07)	MI5 (2013-14)	MI4 (2006-07)	MI5 (2013-14)	MI4 (2006-07)	MI5 (2013-14)
0 to 20	5.94	11.92	9.66	25.38	0.96	3.18	18.27	24.47
20 to 40	24.67	14.82	49.42	28.45	15.85	5.91	34.46	27.64
40 to 60	15.19	15.00	14.82	26.15	14.59	14.66	17.20	8.27
60 to 70	27.35	15.74	12.00	4.86	33.37	22.50	19.66	6.39
70 to 90	12.31	20.14	5.84	7.95	16.60	23.69	3.86	19.62
90 to 110	11.37	15.56	6.94	5.11	14.93	22.33	3.74	5.89
110 to 130	1.88	4.13	0.98	1.43	1.97	5.57	2.21	2.41
130 to 150	0.74	1.35	0.13	0.42	0.98	1.06	0.43	2.68
>150	0.54	1.33	0.22	0.25	0.74	1.11	0.16	2.64

Source: MI Census (Various Rounds)

Constraints Regarding Groundwater Schemes

Over the period, there has been growth in the irrigation potential created by groundwater schemes, but utilisation of the same has not been 100 percent over the period of 1993 to 2013 due to certain constraints associated with the groundwater structures. These include non-availability of adequate power, mechanical breakdowns, less water discharge, and other unspecified reasons. It is important to note that over the period of time, as data suggests (Table 9) there has been reduction in the number of tube wells facing any constraints. The prominent constraint has been the inadequate availability of power followed by other reasons which though not explicitly mentioned, but possibly include high pump cost (Mukherji et. al., 2013). Likewise, trends can be observed in all the regions as well. Thus, lowering of the water table along with energy constraints have emerged major challenges facing the groundwater irrigation economy in Punjab.

Table-9
Percentage distribution of tube-wells facing constraints and types of constraints

Constraints	% Tube wells facing constraint	Non- availability of adequate power	Mechanical breakdown	Less discharge of water	Others
Punjab					
MI2 (1993-94)	100.00	64.75	2.13	0.48	32.64
MI3 (2000-01)	34.56	66.13	6.44	3.49	23.94
MI4 (2006-07)	27.73	0.00	0.00	0.00	100.00
MI5 (2013-14)	0.61	55.11	29.24	11.15	4.50
North East region					
MI2 (1993-94)	100.00	57.14	2.00	1.06	39.81
MI3 (2000-01)	19.23	96.02	0.11	1.24	2.64
MI4 (2006-07)	8.75	0.00	0.00	0.00	100.00
MI5 (2013-14)	0.29	60.88	38.32	0.00	0.80
Central Plain region					
MI2 (1993-94)	100.00	62.35	2.16	0.20	35.28
MI3 (2000-01)	38.61	60.58	4.22	4.71	30.49
MI4 (2006-07)	21.69	0.00	0.00	0.00	100.00
MI5 (2013-14)	0.49	67.54	19.24	11.45	1.77
South West region					
MI2 (1993-94)	100.00	73.58	2.12	0.75	23.55
MI3 (2000-01)	33.78	72.37	16.46	0.37	10.81
MI4 (2006-07)	58.24	0.00	0.00	0.00	100.00
MI5 (2013-14)	1.16	39.64	39.33	12.72	8.32

Source: MI Census (Various Rounds)

Legislative Steps and Developments towards Groundwater Management

The first State Water Policy was adopted in May 1997 on the lines of National Water Policy 1987 (NWP-1987). It was reviewed and updated in 2002 to tackle the various challenges in management of utilisation of its water resources (TERI, 2015). So, in 2008 there was the first draft of State Water Policy in 2008, which envisioned efficient and judicious distribution and use of water for various purposes. Likewise, the Punjab Groundwater (Control and Regulation) Act, 1998 was prepared as a model bill to regulate indiscriminate extraction of groundwater and was submitted to the Punjab State Water Resource Committee. The committee found the draft not in the larger interest of farmers (CGWB). Further in March 2009, the Punjab legislative assembly passed the Punjab Preservation of Sub Soil Water Act 2009 to save groundwater by prohibiting sowing and transplanting paddy before specified dates in kharif season. Though this act has been successfully implemented but the desired results are yet to be achieved as the state's water table especially in the Central Plain region has been continuously declining over the period. In the wake of an alarming decline in water table, the 13th Finance Commission made setting up of water regulatory authority

obligatory for all the states and Punjab has yet to formulate its groundwater policy and enact groundwater Act (Ghuman and Sharma, 2017).

Potential Measures and Instruments for Promoting Sustainable use of Groundwater

There is an urgent need to have a focused approach for effective intervention to tackle the social, economic and ecological consequences of groundwater mining in Punjab which requires an adequate policy framework to promote and regulate the conjunctive and optimum use of surface and subsurface water especially for irrigation. It is important to promote and increase on-farm irrigation efficiency by faster adoption of water saving techniques like laser levelling and happy seeder which can save 0.99 million hectares meter (mhm) and 1.01 mhm of irrigation waters respectively along with the lined pucca channels (Sidhu et. al., 2010; Ghuman and Sharma, 2016; Larson et. al., 2016). The status of adoption of micro irrigation can be judged from the fact that as per fifth MI Census 2013-14, less than 1 percent of the farmers opted for sprinklers and drip-based irrigation systems in the state (MI Census 2013-14). The possible explanation for the low response to such technological developments could be the lack of awareness regarding the benefits and outcomes of such technologies. Thus, resource conservation technology and micro irrigation measures should be promoted more comprehensively for the faster adoption. The agriculture extension services play a pivotal role in adoption of such technological interventions, such services need to be regularised and updated in a timely manner in order to have the desired outcomes. Participatory groundwater management (like Pani Panchayat model of Odisha) should be encouraged through water management associations at the village levels.

It is pertinent to mention that one of the sources of improvement of water table and supply of water for irrigation is the in-situ rainwater conservation through construction of water harvesting structures but lack of awareness regarding the same has inhibited farmers of the state in adopting it (Ghuman and Sharma, 2018). There is a need to promote the recycling of waste water and use it for irrigation purposes, as certain experiments in the SAS Nagar district have shown some promising results. More than 250 hectares of land is being irrigated using the treated wastewater and rendered a new lifeline to the district's dwindling agriculture (*Indian Express*, 2019). Although the share of public tube-wells in the state has been dismally low, there is a need to adopt a public tube-well system under the cooperative arrangement. As it will not only provide access to the groundwater irrigation for the marginal and poor farmers but will also prevent over extraction of the groundwater in the state (Sekhri, 2011).

There is an urgent need to rationalise the availability of free power to the agriculture sector as it majorly benefited the large and resource rich farmers whereas the small and resource poor farmers are not able to gain much (Ghuman

and Sharma, 2018; Singh, 2013; Sarkar, 2011). Thus, there is a need to limit the availability of power subsidy only to the farmers with small and marginal landholding. Lately Punjab State Power Corporation Limited (PSPCL) has introduced a direct benefit transfer scheme “Pani Bachao Paise Kamao” (save water, earn money) in 2018 in partnership of JPAL on pilot basis to study the impact of monetary compensation to the farmers who reduce their agricultural power consumption. It is worth noting that by April 2019 around INR 1.47 million has been paid to more than 950 farmers which has resulted in saving 3 lakhs units (kWh) of electricity (PSPCL, 2019). The Punjab govt. has decided to initiate the second phase of the scheme covering 250 agriculture electricity feeders across the state (PSPCL, 2019). This scheme incentivises the farmer to use groundwater judiciously as well as to generate additional source of income by rational utilisation of agricultural power.

Crop diversification has always been considered as a panacea for the problem of water depletion in the state. Both the state and central government have undertaken certain interventions for the promotion of crop diversification. A couple of committees (Johl, 1986 and 2002) strongly recommended diversification of 1.2 million hectares under paddy to alternative crops as a solution to arrest the declining water table (Ghuman and Sharma, 2017). The Government of India in 2013-14 provided an amount of INR 500 crores under ‘Rashtriya Kisan Vikas Yojana’ for Crop Diversification Program in original Green Revolution States of Punjab, Haryana and Uttar Pradesh to divert 280 thousand hectares area of water guzzling crop i.e. paddy to alternate crops for the kharif season for the year 2013-14 (Govt. of India, 2014). The diversification into alternate cropping patterns requires the synchronisation of state government’s energy and central government’s price procurement policy, which will incentivise farmers to opt for other crops especially in the kharif season. Lastly, for the sustainable growth and development of the agriculture sector in the state it is pertinent to diversify the agriculture sector as well as rural economy in order to achieve the target of doubling the farmer’s income by 2022.

Conclusion

Before summing up, it is worth mentioning that though, over the period, the quality of MI census data has upgraded but still some areas have scope for improvement. For instance, the data on conjunctive irrigation water use is not available which will provide a holistic understanding of irrigation and water use patterns. Secondly in order to propose management strategies for irrigation there is need to replace the administrative demarcated state boundaries with the aquifer boundaries and combined with the groundwater level data as a basic unit of study. Thirdly, it is important to have quantifiable data on what prominent steps and initiatives have been taken by the farmers for sustainable usage of irrigation waters. However, in spite of these concerns MI censuses are a rich source of information

on Punjab's development and expansion of the groundwater sector, and should be used for informed policy choices. Thus, here we sum up the main conclusion that the five rounds of MI Census provide a greater insight into the dynamics of development of groundwater irrigation in Punjab. There has been evolutionary change in the expansion and working of the groundwater structures in Punjab and in its respective regions over the span of 27 years (1986-2013). The composition of the groundwater sector has undergone a major shift from dug-wells to shallow tube-wells and lately to deep tube-wells. Though more than 99 percent of tube-wells are privately owned with major share under the control of medium and large farmers. Increased hours of irrigation have lowered the water table in all the regions with correspondingly increase in the number of tube-wells with higher horsepower. The rapid increase in the depth of the tubewells over the period reflects the exacerbating situation of the groundwater table of the state. Thus, the comprehensive analysis of the state highlights the difference in the water situations across the regions in the state and reflects the importance of undertaking adequate policy measures to promote participatory and sustainable management of the precious resource of groundwater.

Endnotes

1. Dug wells are ordinary open wells of varying dimension dug or sunk from the ground surface into water bearing stratum to extract water for irrigation purposes. These are broadly masonry wells, kuchcha wells and dug-cum-bore wells.
2. A shallow tubewells consists of a bore hole built into the grounds with the purpose of tapping groundwater from porous zones. In sedimentary formations, the depth of a tubewell does not exceed 60-70 metres.
3. Deep tubewells usually extend to the depth of 100 metres or more and are designed to give discharge 100 to 200 cubic metres of water per hour. Their annual output is roughly 15 times that of an average shallow tubewell.
4. Surface flow system is permanent or temporary diversions constructed for utilising the flow of a stream or river.
5. In surface lift system pumps are installed and water from rivers and streams has to be lifted into the irrigation channels.
6. Till the fourth MI census, depth of STWs was up to 70 meters. In fifth census, depth of STWs has been limited to 35 meters while MTWs have depth in the 35-75 meters range.
7. Irrigation Potential Created (IPC) is total gross area proposed to be irrigated under different crops during a year by a scheme (Ground-water/Surface-water)
8. Irrigation Potential Utilised (IPU) is gross area actually irrigated during reference year out of the gross proposed area to be irrigated by the scheme during the year.

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POLITICS IN LADAKH AFTER THE FORMATION OF UNION TERRITORY

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Abstract: The research paper focuses on and aims at exploring the various dynamics of Ladakh politics. It seeks to analyse the nature of Ladakh politics as a part of the Jammu and Kashmir state, elucidated the nature of the reorganised polity of Ladakh and to examine the nature of Ladakh politics after the formation of UT. The study found that the ethno-religious assertion over time consolidated the binary politics (Muslim identity and Buddhist identity). The unfolding of two Hill Councils in the Ladakh region further cemented communal politics in Ladakh. More than one year after being granted the status of union territory (UT), Ladakh has been passing through a phase of anxiety. This research paper builds on easily accessible, existing literature on Ladakh. The study concludes that progressively more-generous autonomy arrangements could help in fulfilling the political aspiration of Ladakh and help in minimising binary politics and apprehensions.

Keywords: Ladakh Autonomous Hill Development Council, Union Territory, Sixth Schedule, Apex Body, Kargil Democratic Alliance, Political Mobilisation

Introduction

Ladakh was an independent kingdom until the invasion in 1834 by Gulab Singh's army, the Dogra ruler of Jammu, whose campaigns led to Jammu and Kashmir State's creation in 1846. established Ladakh Wazarat as administrative units, and it includes Leh, Kargil, and Skardo. The separation of Ladakh and Skardo occurred in 1947 due to the tragic partition of the Indian sub-continent. Since 1947, Ladakh has remained part of Jammu and Kashmir within the independent Republic of India. Ladakh constitutes two districts, namely Leh and Kargil. In the 1980s, the demand for union territory (UT) status was systematically asserted. After prolonged agitation for UT, as a compromise formula, the provision was made for LAHDC. The Hill Council for Leh was constituted in 1995. Kargil

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leadership initially refused to have a Hill Council, but it was ultimately formed there in 2002. The government of India changed its status to a Union Territory in 2019.

The population of Ladakh as per the 2011 census was 274,289, and it is also a very sparsely populated region. Leh and Kargil are the two districts of the Union Territory of Ladakh. Though generally represented as a Buddhist region, it has a larger Muslim population. As per the 2011 Census, Muslims formed 48.40 percent of the region's total population; Buddhists were 39.65 percent, and Hindus 12.05 percent. Leh is a Buddhist majority district (66.39% are Buddhists, 14.26% are Muslims, and 17.14% are Hindus), while is a Muslim majority district (76.87% are Muslims, 14.21% are Buddhists, and 7.34% are Hindus).

Nature of the Reorganised Polity of Ladakh

The Union Territory status has significantly changed the administrative structure with the UT administration and directorates' functioning. The UT status saw the appointment of many senior IAS and IPS officers. The Administration of Union Territory of Ladakh is the governing authority of the two districts of Ladakh, and a Lieutenant Governor leads the administration. He is appointed by the President of India, who acts on behalf of the Union Government. Ladakh is administered as a union territory without a legislative assembly under Article 240 (2) of India's constitution and the terms of the Jammu and Kashmir Reorganisation Act, 2019. The Lieutenant Governor is assisted by an advisor appointed by the Central Government. Ladakh is under the Jammu and Kashmir High Court jurisdiction, and law enforcement is the Ladakh Police's responsibility under the Ministry of Home Affairs' authority. Politically, the Ladakh is governed by the Ladakh Autonomous Hill Development Councils. In Ladakh, the most important locally elected representatives are the councillors of the Ladakh Autonomous Hill Development Councils (LAHDCs) of Leh and Kargil. As part of Jammu and Kashmir's erstwhile state, Ladakh was fairly represented in the state government. Apart from one Member of Parliament (MP), there were four MLAs and two MLCs, and a minister in the state government. And, as party members, they were also represented in various other bodies of the state. After the UT formation, it is only a single MP through whom people are connected for political decision-making. The new system provides centralised and remote administration (Chowdhary, Formation of the Union Territory of Ladakh, 2021).

Nature of Politics in Ladakh as a part of Jammu and Kashmir State

For a proper understanding of Ladakh politics' paradox, a summary of the political discourse of ethno-regional assertion in Ladakh will be useful at this point. A small group of Kashmiri Pandits in the 1930s has articulated the Ladakhi Buddhist community's political aspiration through various socio-religious organisations like Kashmir Raj Bodhi Maha Sabha Ladakh Buddhist Educational

Society and Young Men's Buddhist Association. These associations have submitted various memorandums to the Glancy Commission in the 1930s and 1940s to the *Maharaja* of the state. The memorandum detailed the backwardness of the region's Buddhists, emphasising the need for educational reform and eradicating social evils such as alcohol consumption, polyandry, etc. it is argued that the memorandums did not trigger any immediate action by the State Government. However, the Home Minister's office noted in a comment on the memo that there is no gain saying that educationally the Buddhists form backward community and this community has with its distinctive culture civilisation different from Hindu, Muslim Communities. Most of the requests are reasonable to deserve consideration. The Director of Education questioned discrimination on the ground of religion. The Home Ministry's office responded to this comment by emphasising that the Buddhists were truly backward in every sense and their requests should receive more favourable consideration. In the end, the memorandum was submitted to the *Maharaja* for orders with the recommendation that the proposals should receive sympathetic consideration when the funds permit. The identification of Buddhists as a separate community based on religion is acknowledged in various comments. Consequently, the label of backwardness is firmly attached to Buddhists in Ladakh despite the Director of Education's objections. In this context, the inclusive and secular identity of Ladakh was replaced by exclusive Buddhist identity, and later it has become the dominant discourse of Ladakh politics (Kristoffer, 1997).

After independence, the political discourse in Ladakh has more or less been regulated by Ladakh Buddhist Association, and it has always revolved around the issue of separation of Ladakh from Kashmir and argues for North East Frontier Administration type administration or Union Territory status. Similarly, the inter-regional politics in Jammu and Kashmir state has been revolving around the abrogation of article 370, opposition to the pre-1953, and separation from Kashmir. It has also consolidated non-antagonist relations between the Hindu-dominated districts of Jammu and the Buddhist-dominated district of Leh, the former demanding Union Territory status to Ladakh and the latter demanding a separate state for Jammu. It is argued that the discontent arises mainly from a deep-rooted feeling among the people of the backward and peripheral areas of both Jammu and Ladakh regions that their perception, aspirations, and demands are not reflected in the regional politics. This feeling has been further accentuated mainly due to the regional response being appropriated by the Rightist forces. It is this regional discontent that is manifested both in agitational politics as well as electoral politics of Ladakh and Jammu. Before the formation of the Union Territory of Ladakh, there have been frequent agitations in Ladakh regions. The Ladakh region's politics has been marked by continued discontent against the Kashmiri elite's power politics. Since the very beginning, the Ladakh Buddhist Association (LBA) has been pursuing agitational politics against the power centre

in Kashmir, with the demands ranging from more significant resources and power for Ladakh to separation of Ladakh from Kashmir (Rao, 2003).

Ladakh Buddhist Association has constructed a very exclusivist notion of Ladakhi identity, restricting it to the religious domain. For the Ladakh Buddhist Association, Ladakhi identity and Buddhist identities are the same things. Ladakh Buddhist Association asserts that the Ladakhi Muslims do not fit into the Ladakhi identity category because they are associated with religious ties with the majority population. On that assumption, the Ladakh Buddhist Association constructed an exclusive Buddhist identity as the real Ladakhi identity. The Ladakh Buddhist Association generally provokes the masses by making imaginary fears of demographic unevenness through conversions and a future Muslim-dominated Ladakh, and so on (Chosjor, *Beyond Kashmir Understanding Ladakh*, 2010:141-142). Due to this, the Ladakhi identity has been polarised into two identities -the Buddhist identity of Leh and the Muslim identity of Kargil, the former demanding autonomy from Kashmir and the latter identifying with Kashmiri politics. The latter did not share the LBA sentiments against Kashmiris, and they did not support their demand for the Union territory status for Ladakh. Kargil's inhabitants did not wish to irritate the Kashmiri leadership, although they did not support the valley's secessionist movement. Though Leh district has been complaining about Ladakh's neglect within J&K and holding Kashmir-based political parties and leaders responsible for that, Kargil has complained about its neglect within the Ladakh region. One of the Ladakh Buddhist Association's agitation features was Kashmiri Muslims' social boycott that was later extended to the Ladakhi Muslims. As a result, the gulf between the Buddhists dominated Leh and Muslim dominated Kargil increased. Communal polarisation has been a prominent feature of Ladakh's electoral politics. The deep communal divide between the Buddhists and the Muslims has been reflected in electoral politics.

Moreover, the Kargil district's socio-religious organisation asserted that the Ladakh region's Leh centric conception and the framework of inter-regional politics of Jammu and Kashmir politics have continuously been overshadowing Kargil's interest (Chowdhary, *Formation of the Union Territory of Ladakh*, 2021). The political discourse of the Kargil district has been articulated by the National Conference party's political leaders. Similarly, the Indian National Congress party's political leaders have formulated the political discourse of Leh district. The consequence of this politics is that Congress has successfully claimed the Buddhist-dominated Leh constituency in 1983 and 1987 while the National Conference has been winning the Muslim-dominated Kargil constituency in the same elections (Rao, 2003: 201-202).

Similarly, the Muslim political and religious leaders of Leh and Kargil districts countered the allegation and arguing the Ladakh Buddhist Association claim was a fabricated one and Ladakhis have suffered under the Kashmiri-

dominated Government of Jammu and Kashmir State. On October 8, 1989, the Government made its first concession, and the population of Ladakh was declared Scheduled Tribes; however, the Government appeared reluctant to consider the demand of Union Territory status to Ladakh. Tripartite talks were held between Ladakh Buddhist Association, Ladakh Muslim Association, Centre, and State on October 29, 1989. The Central Government and Jammu and Kashmir Government agreed to consider an Autonomous District Hill Council for the region, and in 1995 it was implemented in Leh (Beek M. V., 1998: 41-43).

Despite the establishment of the Hill Council, UT status's demand continued to be raised in Leh. Though initiated by the LBA, the demand formed the central point of Leh's electoral politics, with almost all Leh-based parties vociferously asserting this demand. In 2002, all Leh-based parties dissolved their local units to form the Ladakh Union Territory Front (LUTF). Though the LUTF could not last for a long time, the demand for UT status continued to dominate the electoral politics of Leh. Similarly, the political class of Leh and Jammu district opposed the pre-1953 constitutional position of the Jammu and Kashmir state. They asserted that the report's Kashmir-centric approach ignores the state's plural realities and undermines the regional aspiration. National Conference's reluctant attitude to incorporate the logic of internal devolution of power has led many in Ladakh and Jammu to think about opting out of the state. The demand for the state's division has become quite vocal in Jammu and Ladakh's political discourse. The Leh Autonomous Hill Development Council (LAHDC) has rejected the 'Autonomy Resolution' of the National Conference government and has passed a resolution demanding the union territory status for Ladakh. In Jammu, the demand for a separate statehood has found more significant widespread approval and organisational support. RSS and BJP have openly supported this demand (Chowdhary, *Autonomy Demand: Kashmir at Crossroads*, 2000).

The RSS demand for bifurcation has created a wave of optimism in the Ladakh Buddhist Association (LBA) ranks, spearheading the Union Territory status for Ladakh. However, RSS demand has created resentment among the Muslim organisations in the Kargil district who were already upset with LBA for advocating Union Territory status for Ladakh. An all-party meeting was held which unanimously opposed any division of the state, said Asghar Karbalai, Vice President Imam Khomeini Memorial Trust. Karbalai said all the parties favour that Kargil should continue to remain part of undivided Jammu and Kashmir. We strongly condemned the RSS and VHP move and whatsoever is the solution of Kashmir, we will always go with the majority in the state. We want the unification of Gilgit, Baltistan (under Pakistan occupation), and other parts of Kashmir with the state as they are parts of our state. Sheikh Ahmad Mohammadi, General Secretary Islamia School, another prominent religious group, said trifurcation is not the Kargil issue. We have never supported LBA's demand, and

we would not allow trifurcation. Anything claimed by LBA should not be attributed to us. Qamar Ali Akhooon, the National Conference MLA from Kargil, is equally vocal against such demands and said that the RSS statement had generated a lot of heat we strongly condemn its theory (Malik, 2002).

On August 5, the Bharatiya Janata Party-led Central government carved out the Jammu and Kashmir state into two separate Union Territories, Jammu and Kashmir, and Ladakh. The sudden move surprised Leh and Kargil's people though the demand of Union Territory was old, no one from the region had expected it to be fulfilled at this juncture or in this manner. However, political compulsions forced leaders from across party lines to welcome the decision, given that the people of Leh and political leaders had been agitating for it for several decades. Simultaneously, when the central government unfolded the Jammu and Kashmir Reorganisation Act, people in Ladakh also felt uneasiness; the primary reason was the complete absence of any consultation with the Ladakhis before the declaration by the central government. The second reason was that the UT status without a legislature meant that there would not be any Legislative Assembly or any MLAs from Ladakh. Many saw this as a reduction in Ladakh's negotiating power *vis-a-vis* the Centre (Trivedi, 2019).

Nature of Ladakh Politics after the Formation of Union Territory

As expected, the incompatible attitude has surfaced within Ladakh and between Kargil and Leh's political class. While Leh has, by-and-large celebrated the removal of the special status of Jammu and Kashmir State and welcomed the Jammu and Kashmir Reorganisation Act, but Kargil has witnessed stiff protests and shutdowns. The protestors argued that Kargilis did not want UT and preferred to be a part of Jammu and Kashmir. Political leaders of Kargil raised various concerns related to representation, land, employment, and these concerns have later become major concerns of Leh district as well.

Of the many concerns, the most important one is related to the political representation of Ladakh. Unlike Jammu and Kashmir, which has a Union Territory with a legislature, the Union Territory of Ladakh is without one. As part of Jammu and Kashmir's erstwhile state, Ladakh was fairly represented in the state government. Apart from one Member of Parliament (MP), there were four Member Legislative Assembly and two Member Legislative Council and invariably a minister in the state government. And, as party members, they were also represented in various other bodies of the state. After the Union Territory formation, it is only a single MP through whom people are connected for political decision-making. The new system provides centralised and remote administration.

Other than the lieutenant governor, the decision-making related to Ladakh is directly at the level of the home minister of India. The creation of the

Union Territory has created a sense of disempowerment. Autonomous Hill Councils do exist, but these councils also seem to be reduced to powerless bodies in the scheme of things. In fact, there is a lack of clarification about the role of these councils. In the context of the present system, the powers of the Councils have not been notified. Even before the Union Territory formation, the Hill Councils had mainly planning and executive powers, and there was often tension between the executive councillors and the local bureaucracy. The pressure has further increased in the new centralised administrative system where all powers lie with the Lieutenant Governor. In the one year since it was given Union Territory status, there has been more than one occasion when the Hill Councils members in Leh and Kargil have expressed their disappointment with the existing system and have threatened to resign.

Apart from the political representation issue, the separation of Ladakh from Jammu and Kashmir and removing the protection provided by Article 370 and Article 35A have suddenly led to anxieties related to land, ecology and environment, and jobs. The demand for protection under the Sixth Schedule of the Indian Constitution comes from these anxieties. The land situation of Ladakh is precarious, and there is apprehension that with the opening of Ladakh for all Indians, there may be exploitation of land by the land mafia, and there may be an overflow of outsiders endangering the Ladakhi culture and environment. Similarly, there is a lot of unease about jobs. With only two districts, there are not many job opportunities in Ladakh. As part of the Jammu and Kashmir state, they had the advantage of being part of the larger system and could compete for any job in the state. With most of the Ladakhis enjoying the Scheduled Tribe status, they could take advantage of reservation and only compete with the other Scheduled Tribe groups of the erstwhile state. Much of Ladakhi education, mostly higher education, including university and college education, and professional and technical training, took place in various parts of this former state. The Ladakhis were eligible for admission as permanent residents of the state and had the privilege of Scheduled Tribe reservations. Simultaneously, some arrangement has been made to continue their education in the former state, and they feel deprived of the benefits of being part of the state. Ladakh does not have the educational infrastructure at par with Jammu and Kashmir. The newly opened institutions like the University of Ladakh and medical college in Leh are still in the fledgling stage.

On the whole, there are many anxieties, both in Kargil and Leh. It is argued that Union Territory, like a magic resolution of all their backwardness, problems, and underdevelopment, has not worked in that direction. On the contrary, it has exposed them to newer and additional problems (Chowdhary, Formation of the Union Territory of Ladakh, 2021). However, the two districts have not come together on a common platform to articulate these concerns. There is yet a strong feeling of discomfort in both the sections following the Union

Territory formation. Consequently, two different political aspirations floated in Ladakh; one is represented by the political class of Leh district and the other by the political leaders of Kargil district. The former represents the Apex body demand for the Sixth Schedule, the latter represented by the Kargil Democratic Alliance demand to restore Article 370 and Article 35-A or Statehood for Ladakh.

Kargil Democratic Alliance

Kargil and its leadership oppose the decision to repeal Article 370 and bifurcate the state, and downgrading it to Union Territories. The Kargil Democratic Alliance comprises the representatives of parties like the National Conference and the local Congress. It also includes influential religious schools like the Islamia School Kargil and the Imam Khomeini Memorial Trust. While keeping into consideration the composite culture of Kargil district and harmonious relation with the people of Leh and Kashmir, Kargil Democratic Alliance has articulated the demand for restoration of Jammu and Kashmir's special status or statehood for Ladakh. In this regard, political leaders of Kargil have opened the dialogue with the Gupkar Alliance and the Apex body. Senior politician and co-Chairman of KDA Asgar Karbalie asserted that the UT status to the region has failed to fulfil people's aspirations and demands. Neither the Union Territory nor any other safeguards like the Sixth schedule would satisfy the aspirations of the people of Ladakh, particularly Kargil. Hence, we demand the restoration of the August 04 position or a separate statehood for Ladakh (Raina, 2020).

In this context, the members of KDA are ready to cooperate with the members of the apex body of Leh to demand statehood for Ladakh jointly. The members of the KDA believed that there is no power in a Union Territory; it will only make the Lieutenant Governor and the Home Minister dictators as the two will take all our decisions (Zargar, 2020). The first internal dialogue between the apex body and the Kargil democratic alliance was held in Kargil district. They discussed various issues, including demands for statehood and inclusion of Ladakh in the sixth schedule. Both sides asserted that they would oppose any law against Ladakh people's political, social, cultural, and economic aspirations. However, both sides agreed that they are not to oppose each other's demand of statehood for Ladakh and bring the UT under the Sixth Schedule of the Constitution. Regarding the dialogue with the Government of India, members of the Kargil, Democratic Alliance would like to meet separately with the home minister, (Wani, 2020).

Apex Body

The narrative of Union Territory was popular in Leh, because it was based on freedom from Kashmir-based politicians' clutches and Ladakhi control over

resources. However, in the new system, rather than the Ladakhi political class, the bureaucrats call the shots. The separation of Ladakh from Jammu and Kashmir and removing the protection provided by Article 370 and Article 35A have suddenly led to anxieties related to land, ecology and environment, and jobs. There is apprehension that with the opening of Ladakh for all Indians, there may be exploitation of land by the land mafia. There may be an overflow of outsiders endangering the Ladakhi culture and environment (Chowdhary, Formation of the Union Territory of Ladakh, 2021)

These anxieties have shaped a new set of political discourse in Leh. Veteran leaders of Leh, district have come on a common platform and articulated the demanded Sixth Schedule status for the Ladakh region and asserted that they are not ready to accept domicile law for Ladakh. The central government has not correctly understood our struggle for Union Territory. They further said that our Union Territory movement was motivated by a desire to gain self-respect through a self-governance system to preserve our peculiar social, cultural, environmental, and linguistic heritage. Constitutional safeguards in the form of the Sixth Schedule would achieve the real purpose of a Union Territory of Ladakh (Correspondence, 2020). Union ministry of Home Affairs has not shown interest in the demand of Sixth Schedule status to Ladakh. All the political and religious bodies in Leh, unanimously decided against participation in the LAHDC-Leh elections in protests against India's non-commitment to ensure constitutional safeguards to protect demography, land, and jobs in Ladakh, and consequently, they have constituted an apex body in the form of People's Movement for Sixth Schedule. The apex body has decided to boycott the Leh's Hill Council polls until the constitutional safeguard under Sixth Schedule on Bodo Territorial Council lines is extended to Ladakh. The boycott was significant as religious bodies and political parties have put their weight behind the protest. Former Lok Sabha MP Thupstan Chhewang leads the rally from the front. He said that the Council does not even have the power to legislate or frame any rules as per Ladakh Autonomous Hill Development Councils Act; ,therefore, Council cannot protect the interest of tribal so no point in contesting elections.(Sharma, 2020).The polls' campaign was dominated by the Sixth Schedule status's demand to protect local demography, jobs, and land and legislative powers to the LAHDC-Leh. The local BJP party found itself isolated over the demand, which had brought all political and religious groups in Leh together on a single platform. To assuage the sixth schedule movement BJP party passed a resolution favouring Sixth Schedule, Article 371, or a domicile Act. However, the apex body rejected the resolution, accusing the Centre and the BJP of betraying them over the demand while reiterating that they would not settle for anything short of implementing the Sixth Schedule (Ahmad, 2020). The apex body agreed to withdraw the election boycott call after the Home Minister assured them that the Centre would consider their demand and added that any decision so reached in this

connection would be in consultation with Leh and Kargil's representatives(Ahmad, 2020).

The BJP won most seats in the Ladakh Autonomous Hill Development Council, Leh (LAHDC-Leh) polls by capturing 15 of the 26 constituencies, followed by the Congress with nine. Compared to 2015, the BJP has come down by two seats from seventeen to fifteen. The polls' campaign was dominated by the Sixth Schedule status's demand to protect local demography, jobs, and land and legislative powers to the LAHDC-Leh (Ashiq, 2020). The Apex Body of Leh leaders warned the Gupkar Declaration signatories to keep their hands off from Ladakh and not interfere in the Himalayan region's affairs. After the recent talks, Home Ministry had constituted a Committee under the chairmanship of Union Minister of State for Home GK Reddy for grant of Sixth Schedule like status to Ladakh. The Apex Body of Leh also set up a 17-member Committee for further talks with the Union Ministry of Home Affairs on granting Sixth Schedule or similar status to the Union Territory of Ladakh. The Delhi meeting with Shah has somewhat silenced the protests in Leh but not reduced the locals' apprehensions (Sharma, 2020).

Conclusion

The electoral politics, inter-regional politics, and ethno-religious identity have consistently undermined the inclusive identity of Ladakh. The plurality of Ladakh has never been unfolded and celebrated in the corridor of Ladakh politics. Experience in Ladakh showed that ethno-religious assertion goes against the spirit of the constitution of independent India. The study also found that in the post-UT Ladakh scenario, the ethno-religious assertions (Kargil Democratic Alliance, Apex Body) are still shaping the political discourse of Ladakh. It has been observed that the provision of Legislature had become the core issues for Leh and Kargil's political class after the formation of the Union Territory of Ladakh. The political aspiration like the demand for statehood and the Sixth Schedule demand has revolved around Legislature's provisions. Home Ministry of Government of India has shown interest in accommodating the political aspiration of Ladakh in the post-UT assertion. But the paradox before the Government of India is that after the Union Territory formation, two political aspirations have surfaced in Ladakh, one represented by Leh and the other by Kargil. The government can resolve this paradox by merging the existing Hill Councils of Leh and Hill Council of Kargil into a "One General Hill Council with Legislature provision' for Ladakh. Similarly, clarification regarding Ladakh Autonomous Hill Development Council's working and business rules under the new Union Territory system is also needed.

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BOOK REVIEW

Land Reforms and Rural Development by Ajit Kumar Singh, *Mittal Publications, New Delhi 2021; pp.500; ₹1,650/-*

Rural Development is synonymous with national development especially in a developing country such as India. About 70 per cent of India's Population resides in rural areas with agriculture being the only basis of its livelihood. Policy makers in India have, therefore, emphasised on the primacy of rural development since the initiation of the planning process mainly to eradicate poverty. The Developing countries often relate rural development to the betterment in the quality of life of Man, improvement in life-chances, expansion of resources and better control of environments which can also be brought about through land reforms. However, the magnitude of problems of rural areas is immense and thus, there is a dire need to consider rural development as essential, fundamental and basic for the developing nations. This volume which contains 25 papers on the theme of land reforms and rural development is largely an analysis of the various set of programmes which can take rural society forward, changing its structural contours in the process.

The first part of the book includes seven papers on land reforms in the state of Uttar Pradesh mainly focusing on the significance of land ceiling legislation to reduce the problem of landless farmers and its critical assessment of land redistribution in the state, assessment of land reforms, exploring the relationship between agrarian structure and productivity, land allotment and its potential as a strategy of rural development in villages of Sultanpur district in Uttar Pradesh, views of farmers on different land reforms, impact of land distribution programme on rural poor in five districts of the state and highlighting the deepening of crisis in agriculture growth due to declining size of land holdings leading to them becoming economically non-viable. Poor implementation of land reforms is largely attributed to elitist socio-political structure and dynamics found in remote regions of developing nations.

The Second part of the volume includes seven papers on rural development and poverty highlighting pertinent issues of rural transformation, past trends in consumption and poverty levels in the state of Uttar Pradesh, correlates of poverty such as level of education, land ownership, agricultural productivity etc, functioning of Integrated Rural development programmes at grass root level, access of poor and

downtrodden to institutional finances and the type of problems encountered by rural people in getting loan from formal credit institutions. It is a well known fact that to reduce poverty, there is a need to accelerate agriculture. To meet the growing domestic demand, the developing nations must expand and diversify food and agricultural production as well as provide integrated management of agriculture at the village level. They should bring old and new gains to more land areas and farming systems by adopting a holistic approach so that both producers and consumers could benefit out of increased production.

Part three of the volume consists of seven papers pertaining to rural workforce and changes in its structure over the years which have only marginally benefitted non agricultural rural workforce in the state of Uttar Pradesh. Even the livelihood issues of non – farm sector especially in dry land regions have been discussed in detail in this section. There is also a suggestion put forward to promote public –private partnership for setting up of rural industries and crafts. The final and fourth part of the volume focuses on rural employment based on recent trends and suggestions/future strategies on generation of rural employment such as adoption of region specific employment strategies, human resource development planning, labour intensive growth strategy etc to deal with consistent issues of unemployment. Further, extension services need to be revitalised and restructured for making the farm families understand the significance of ecological and knowledge intensive agriculture.

A succinct presentation of papers written by the author over a long span of time compiled together in this exhaustive and impressive book brings into forefront some of the commonly shared issues and problems such as poverty, human deprivation, agricultural growth challenges, credit/loan complications, non farm sector difficulties etc in rural areas of developing nations such as India with special focus on the populous state of Uttar Pradesh which is predominantly rural in nature. The excellent collection of papers in this book provides an insight into the socio-economic fabric of rural society and its problems especially those concerning land reforms and rural employment. The strength of this book lies in emphasising on the various dimensions of rural transformation over time and in examining the trends in consumption patterns related to poverty levels in rural areas of India especially in the state of Uttar Pradesh. The book is well – edited by the author and includes deeply researched as well as insightful papers on different facets of rural development, although it is largely somewhat confined to only one state of India namely Uttar Pradesh. However, the book may be of immense use to policy makers, administrators, educationists and development economists especially in developing nations.

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Indian Perspective of Relations with South and Central Asia

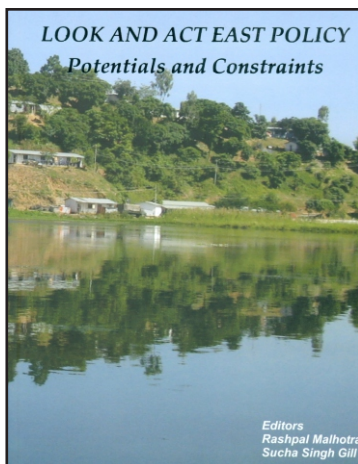
Rashpal Malhotra and Sucha Singh Gill (Eds.), 2017, pp. 358, Rs. 600/-



The book contains speeches of Indian dignitaries and research papers of scholars on dynamics of cooperation between South Asian and Central Asian countries, which bring out complementarity between these two regions with long history of economic, cultural, spiritual and religious exchanges. The contributors provide alternative ways to overcome the difficulties to realize the opportunities of expanding cooperation between these two regions. Along with the large varieties of issues discussed, the contributors also bring out the future issues of research and analysis to build cooperation for benefit of the state and society. The analysis is largely focused from Indian perspective of building cooperation between countries for mutual benefit sharing and establishing peace and prosperity in the world

LOOK AND ACT EAST POLICY: POTENTIALS AND CONSTRAINTS

Rashpal Malhotra and Sucha Singh Gill (Eds.), 2015, pp. 286, Rs. 500/-

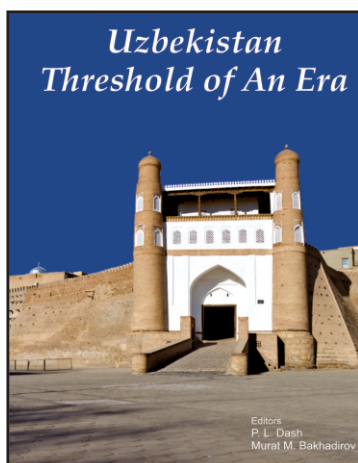


The book brings out that India's Look and Act East Policy and India's improving relations with Bangladesh, Myanmar and cordial relations with Bhutan and Nepal have created a situation where North East India is poised for a big leap forward in its social and economic development. This region has the potentials to be transformed from a peripheral region to central region of the country and act as bridge between South Asia and South East Asia. Although the constraints of its connectivity to South East Asia are getting removed yet many more hurdles have to be crossed and apprehensions of the people to be removed.

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UZBEKISTAN: THRESHOLD OF AN ERA

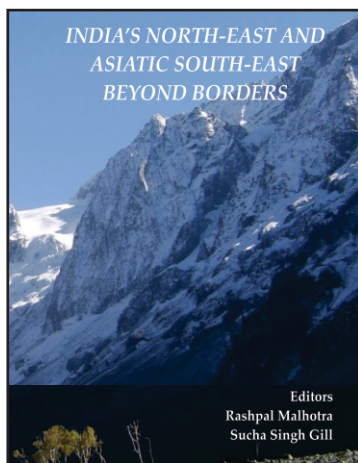
P. L. Dash and Murat M. Bakhadirov (Eds.), 2015, pp. 302, Rs. 500/-



This volume details the opinion of Uzbek citizens, who speak out their mind about their own country. Laden with hopeful symbolism of future development in Uzbekistan, the book has delineated a roadmap of cooperative peace in a region beset with plenitude of problems. Whether it is dynamics of internal economic and socio-political development or foreign policy overtures, the book depicts optimism based on synergy that Uzbekistan has fostered with its neighbors through the years of its independence. Thus it provides a unique opportunity to read into an exclusive analysis of Uzbek development for more than two decades since the country achieved independence.

INDIA'S NORTH-EAST AND ASIATIC SOUTH-EAST: BEYOND BORDERS

Rashpal Malhotra and Sucha Singh Gill (Eds.), 2015, pp. 302, Rs. 500/-



The book presents diverse perspectives (of administrators, journalists, diplomats, economists, sociologists, historians & political scientists), and understanding on development issues of the NER and the Look East Policy. It provides galaxy of ideas on the subject for implementation of the Look East Policy. The authors make a forceful plea to make development process inclusive in nature by involving the people of the North-East. In this context the issues of physical connectivity through rail, road, airports, and telecommunication are emphasised along with cultural and mental connectivity. The papers bring out the role of opening up of India's borders with neighbours especially Myanmar and Bangladesh.

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CENTRAL ASIA AND ITS NEIGHBOURS: PROSPECTS OF INDIA'S COOPERATION

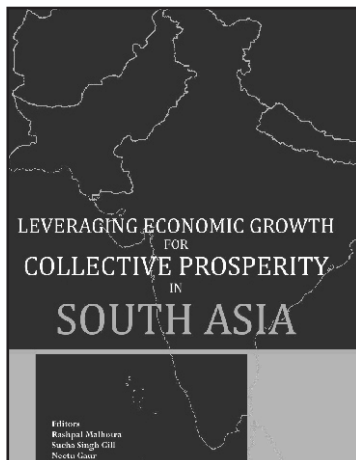
Rashpal Malhotra, Sucha Singh Gill and Davinder Madaan (Eds.), 2014, pp. 208, Rs. 500/-



This volume brings out the evolving situation in Central Asia and urge of the Central Asian countries to emerge as independent national entities. The role of the big and regional powers has been discussed. India's urge to engage and connect with the Central Asia has also been noted along with difficulties faced in this process. This book provides useful information, analysis and policy option. It will be useful to academicians, diplomats and policy makers.

LEVERAGING ECONOMIC GROWTH FOR COLLECTIVE PROSPERITY IN SOUTH ASIA

Rashpal Malhotra, Sucha Singh Gill and Neetu Gaur (Eds.), 2014, pp. 208, Rs. 500/-

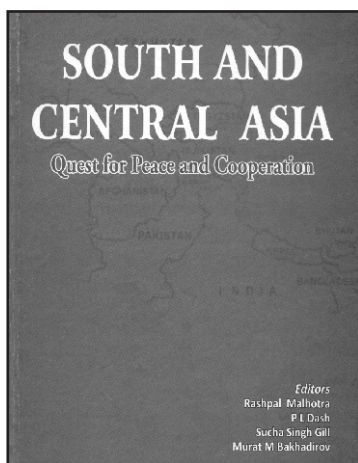


The book contains selected papers of experts from South Asia providing the perspective of sharing collectively the prosperity among the countries of the region. The book is expected to enhance our understanding of the South Asia as a region and provide fresh ideas on promotion of cooperation especially issues related to trade, investment, connectivity, security and Afghanistan conundrum.

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SOUTH AND CENTRAL ASIA: QUEST FOR PEACE AND COOPERATION

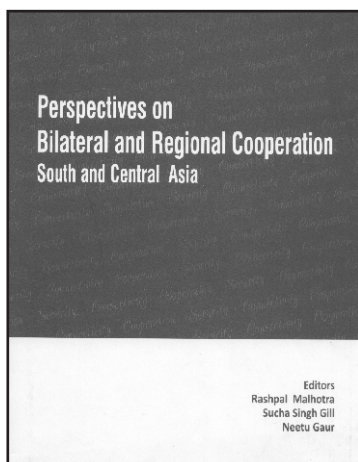
Rashpal Malhotra, P. L. Dash, Sucha Singh Gill & Murat M Bakhadirov (Eds.), 2013, pp. 256, Rs. 495/-



Behest with the challenges of development dynamics and laden with the legacy of the Russian colonial past, the Central Asian countries have learned the hard way 'peace, security and development'. This book brings forth common perspective in understanding the process and factors contributing to development of cooperation, establishment of peace in order to bring prosperity to the South and Central Asian countries.

PERSPECTIVE ON BILATERAL AND REGIONAL COOPERATION: SOUTH AND CENTRAL ASIA

Rashpal Malhotra, Sucha Singh Gill and Neetu Gaur (Eds.), 2013 pp. 484, Rs. 900/-

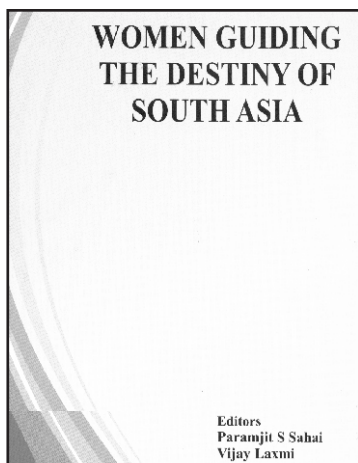


The book contains speeches of Indian dignitaries and selected papers of experts from India and abroad which provide a clue of interaction and cooperation between countries of South and Central Asia from Indian, bilateral, and regional perspective. The book provides comprehensive coverage on diverse socio-political and socio-economic problems concerning the region. It highlights road blocks emanating from global, regional and domestic situations. Many locations for connectivity between South and Central Asia are indicated.

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WOMEN GUIDING THE DESTINY OF SOUTH ASIA

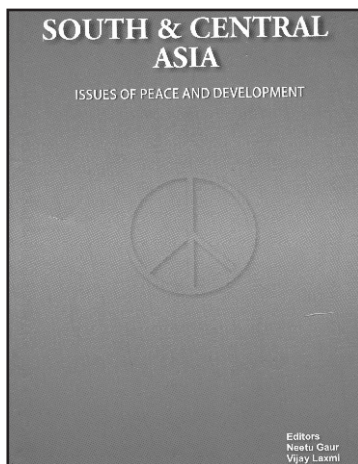
Paramjit S. Sahai and Vijay Laxmi (Eds.), 2010, pp. 136, Rs. 450/-



There is a need for connecting countries and peoples for building peace, cooperation and development in South Asia. The media, in particular women journalists can play a stellar role in becoming bridge builders through generating greater awareness and correct images, as people realize the benefit of a shared and common destiny. The book is focussed on women's role in changing the mindset, to generate positive climate and ethos for development in South Asia.

SOUTH AND CENTRAL ASIA: ISSUES OF PEACE AND DEVELOPMENT

Neetu Gaur and Vijay Laxmi (Eds.), 2009, pp. 162, Rs. 430/-

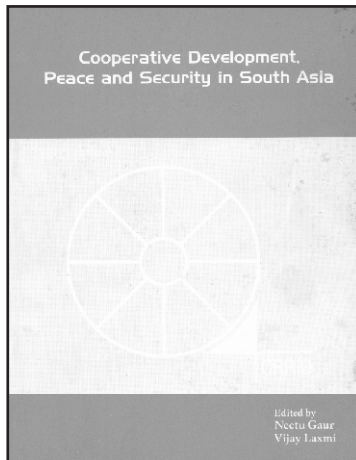


As a global threat, terrorism is said to emanate from specific countries of South-Central Asia. While this threat has diverted the development drive of the world community towards a fight against terrorism, it is imperative to find how the countries of South and Central Asia are coping with such a situation. What do they need to do at a collective level? This calls for an in-depth comprehension of the problems and prospects of regional cooperation within South and Central Asia. The book is an effort to meet such a need.

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COOPERATIVE DEVELOPMENT, PEACE AND SECURITY IN SOUTH ASIA

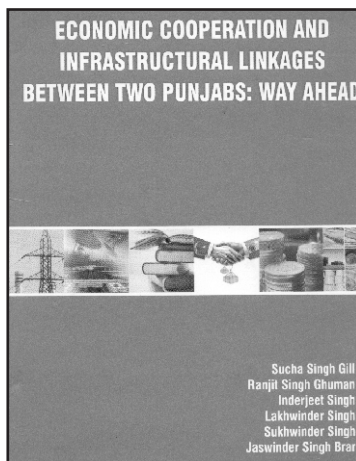
Neetu Gaur and Vijay Laxmi (Eds.), 2009, pp. 144, Rs. 360/-



The publication reflects diverse dimensions of cooperative development peace and security in South Asia by addressing issues related to trade and investment, connectivity, and infrastructural linkages. The deliberations devolve on the possible areas of cooperation and explore the instrumentalities to materialise the same for better and secured economic future.

ECONOMIC COOPERATION AND INFRA-STRUCTURAL LINKAGES BETWEEN TWO PUNJABS: WAY AHEAD

Sucha Singh Gill, Ranjit Singh Ghuman, Inderjeet Singh, Lakhwinder Singh, Sukhwinder Singh and Jaswinder Singh Brar (Eds.), 2010, pp. 155, Rs. 420/-



The book which is an academic voyage to the hitherto un-chartered territory which could yield greater economic cooperation between two Punjabs - Indian and Pakistan - provides the analysis of their economic and social infrastructure in energy, agricultural extension services and marketing, transport and communication, banking and finance, health sector, and education. The chief merit of book lies in providing factual accounts in a workable and pragmatic framework of economic linkages between two Punjabs that can be helpful in reaping rich harvest of material prosperity and well-being of the people.

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