

# HEALTH ASPECT IN HOUSING DEVELOPMENT FOR ATTAINING GREATER SOCIAL VALUE: THE CASE OF ‘AFFORDABLE HOUSING FOR ALL’ GOAL IN DIGITAL INDIA

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## Abstract

This paper examines the need for focusing on the aspect of health in the design of residential real estate for the sustained growth of housing sector in India. Sustainable housing development is an imperative for attaining the national goal of the Government of India (GOI) viz. ‘Affordable Housing for All’. This goal of the GOI, though supposed to be attained by 2022 is still unattained, partly because of the adverse impact of the global pandemic of Covid-19. Higher priority must be granted to the pro-poor housing models that can address the housing needs of the poor and marginalized groups – the group that denotes 95 percent of the total homeless in India. Health and housing needs of these marginalized groups need to be addressed in an affordable and sustainable manner and that too by leveraging the immense potential of ICT in this digital era. The allied sectors like tourism too can promote housing. Given the global ESG imperative, this paper appraises the utmost need for an added thrust on the health aspect in housing design. The health aspect in housing is vital to ensure higher Social value (S) in this ESG era especially as per the learning from Covid-19 pandemic; Green (environment-friendly) materials, processes and technologies are vital to address the Environmental (E) element of ESG; and strict adherence to the recently enacted Real Estate Regulatory Authority Act 2016 (RERA) is vital to address the Governance (G) element of ESG. Given the huge potential of ICT and the top priority to ICT usage in this ‘Digital India’ era, ICT has given another dimension to India’s housing sector.

**Keywords:** Sustainable Housing, Social Value, ESG, Health, Tourism, ICT, AI, Digital India.

## 1. INTRODUCTION

Today ESG (acronym for Environmental, Social and Governance) has already become a global imperative. Every industry is bound to adopt ESG for its long term sustainability. It may also be noted that ESG priorities are in line with many of the UN’s Sustainable Development Goals (SDGs). Banking and financial services industry (BFSI) in general and housing finance segment in particular are no exceptions to this global imperative. Housing finance supports the cause of developing the housing and residential real estate sector. It is vitally responsible for ESG compliance, as housing development is an activity that heavily contributes various benefits to the society. Also, as housing is a basic human need and also causes environmental harm, if not done in an environment-friendly or ‘Green’ manner, due to Green House Gas (GHG) emissions, loss of trees etc. (Figure I).

**Figure I: Various Aspects covered in ESG**

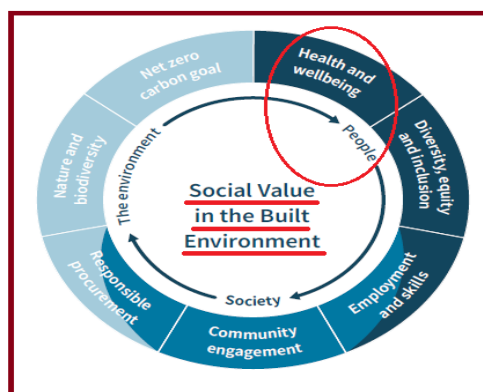
Environmental	Social	Governanvce
<ul style="list-style-type: none"> <li>•Climate</li> <li>•Carbon Emission</li> <li>•Biodiversity</li> <li>•Greenhouse Gases</li> <li>•Renewable Energy</li> <li>•Pollution</li> </ul>	<ul style="list-style-type: none"> <li>•Gender Equality</li> <li>•Financial Inclusion</li> <li>•Human Rights</li> <li>•Employment</li> </ul>	<ul style="list-style-type: none"> <li>•Governance Structure</li> <li>•Transparency &amp; Accountability</li> <li>•Management</li> <li>•Controls</li> </ul>

Source: UN’s Sustainable Development Goals (SDGs) based on ESG Priorities

## 2. RELEVANCE AND SIGNIFICANCE

Considering specifically the residential real estate (housing) sector it may be noted that addressing specifically the environmental (E), social (S) and Governance (G) aspects is of vital significance in this era when ESG is a global imperative. Of the key aspects of E and S, it is noted that social value (S) lags behind the environmental (E) aspect. Only if social value (S) catches up with the environmental (E), then realtors can deliver long term and sustainable returns as well as future-proof assets (JLL, 2023)[1]. Of the seven levers of social value (S), the Health and wellbeing is one of the key levers that promote social value. Hence, 'Health' is an aspect of vital significance in deriving high social value (S) and hence sustainability too in this era when ESG is new normal globally. (Figure II).

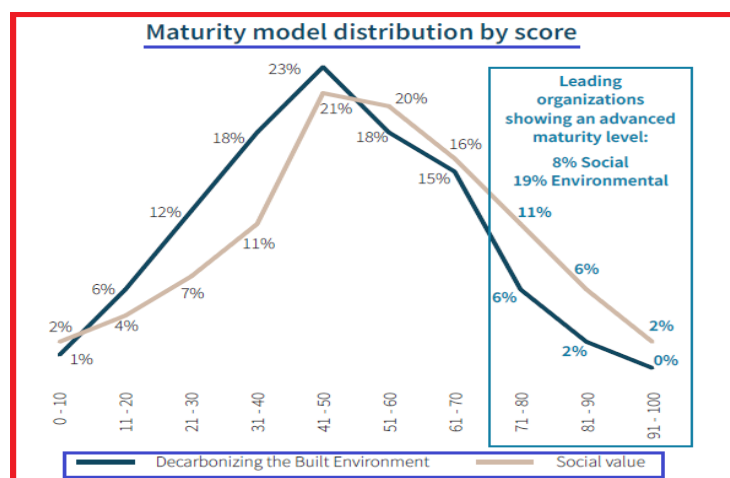
**Figure II: Health-a key lever of Social value (S)**



Source: JLL (2023), *Responsible Real Estate*, p.10.

Samuel & Watson (2023)[2] in their detailed editorial note to a special volume on social value of the built environment have noted the vital need to clearly define, interpret and embed the social value concept in planning, design and operation in the real estate sector and that too from an ESG angle. In this regard, since S lags behind E in respect of most of the leading organizations (8 percent S as against 19 percent E) there is a crucial need for boosting the social value in respect of residential real estate projects. (Figure III)

**Figure III: Social value (S) lags behind Environmental (E) aspect.**



Source: JLL (2023), *Responsible Real Estate*, p.12.

India's housing and residential real estate sector and the need for ensuring greater social value (S) in this vital sector, especially in view of the still incomplete national goal of 'Affordable Housing for All' (supposed to have been attained by the year 2022), deserve closer review in the present context when the Govt. of India (GOI) is striving to attain its national goal at least by 2025. Notwithstanding the severe pressures due to the adverse implications of the global pandemic Covid-19 and also with due respect to the really impressive growth momentum in the top segments of the housing market in the recent past that has surpassed even the pre-Covid growth rates, the huge housing shortage is still a stark reality in India. So also is the herculean task of attaining the housing goal of the country as it demands attention to the low income groups who need 'Affordable' houses. So, focus on S is vital, as India's 'Real Housing Problem' is that of the poor and marginalized groups whose housing problem deserves an urgent policy response.

The health aspect has given another dimension to the housing problem in India, especially in the aftermath of the global Covid-19 pandemic. Here too, the worst sufferers are the poor and the marginalized groups. Goals like 'Universal Health Coverage' have come in the center stage in India. There is a view that affordable housing and affordable healthcare are two crucial issues that must be solved together for the holistic development of Indian society e.g. Manoj (2023)[55] 'Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India' wherein this fact is noted. Also, in Manoj (2023) [56], '**Health Expenditure in Covid-19 Times and the Need for Affordable Houses that Nurture Healthy Citizens: A Roadmap for Digital Economy of Kerala**' the need for affordable healthcare for the poor households is focused. Samuel & Watson (2023)[2] have introduced a few studies in their edited volume, all relating to the diverse facets of social value of the built environment (like, housing and such other residential units); these studies being mostly done in the UK context. Some studies have noted the need for stricter cost management and for ensuring sustainability in house construction by using tools like EVA; like, Manoj (2017)[35] in "**Cost management in the construction of affordable housing units in Kerala: A case study of the relevance of earned value analysis (EVA) approach**" has demonstrated how to use the EVA tool for efficient cost control in house construction, thus ensuring sustainability; and Nasar & Manoj (2014)[15] in their joint study, 'Factors influencing the purchase of apartments: some empirical evidence' have noted the main factors from the buyers' view. Besides the studies from the social value (S) and sustainability/environmental (E) views, few studies have noted the better governance (G) including growing transparency in the housing and real estate sector after the enactment of the RERA Act 2016. Like, the study by Jaheer & Manoj (2019) [8], 'Affordable Housing by Real Estate Players in India: A Critical Analysis in the Era of RERA and GST' has noted the dramatic change due to RERA enactment in respect of governance and transparency in Indian housing and real estate market. Of the three ESG elements viz. E, S and G, with respect to the housing and real estate sector in India, S lags behind E. Regarding element G, it is quite reasonably addressed with the enactment of the RERA Act 2016. Thus, added thrust is most wanted for S, the social value element, in view of India's 'Real Housing Problem' and also the country's national housing goal that is not attained yet. In fact, the allied sectors (like, tourism) too deserve support as they can push the housing sector. The health aspect is key to attain a high social value (S). ICT ought to aid the poor in this era of JAM (Jan-Dhan, Aadhaar, Mobile) in *Digital India* in the efforts to gear up housing and health conditions.

### 3. OBJECTIVES OF THE STUDY AND RESEARCH DESIGN

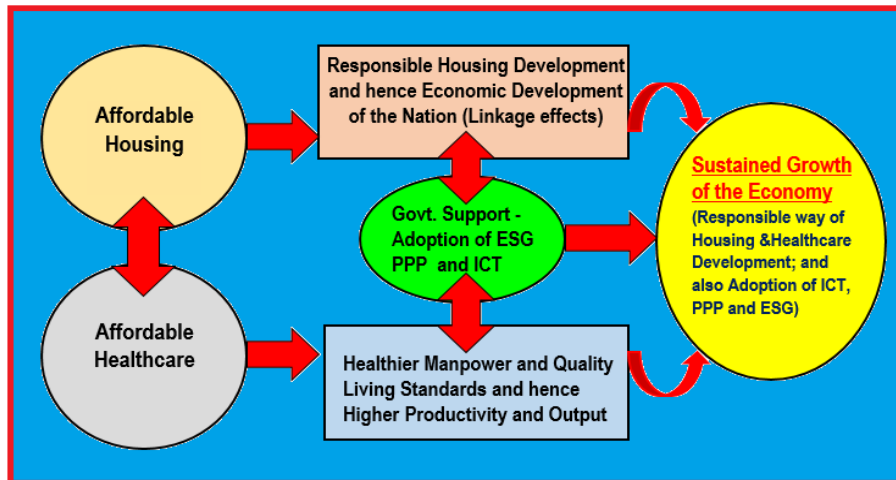
- (i) To study the health aspect in an ESG setting, with respect to housing and residential real estate sector in India and to assess role of health in improving the social value;
- (ii) To study the economic growth of India and other G20 economies with regard to inclusiveness and environmental sustainability and to study how to integrate health aspect into the national housing policy of India viz. *Affordable Housing for All*;
- (iii) To study how the advances in ICT, including AI, influence the sustainability and affordability of the housing and healthcare sectors, and enhance their social value;
- (iv) To make suggestions for sustaining the present growth momentum in residential housing sector in India for the faster national economic development of the nation, with due regard to the health aspect of housing and its role in adding social value.

This paper is structured into a descriptive-analytical and exploratory study. It relies on authentic data from secondary sources like the publications of the Govt. of India, RBI, NHB and also reports of international agencies like, JLL, IFC, etc. Due to its exploratory nature, no hypothesis is formulated; rather it seeks to answer research questions such as:

- (i) How vital is health aspect in an ESG setting with respect to India's housing sector?
- (ii) Why a 'health-integrated' national housing policy alone has sustainability in India?
- (iii) Why ICT has got a key role in sustainable healthcare and hence economic growth?
- (iv) How to attain a sustainable and responsible housing and allied sectors like tourism?

The conceptual framework for the present study has been derived from the models proposed by the present author based on his own earlier studies. Accordingly, the need for an integrative perspective to deal with the crucial issues of affordable housing and affordable healthcare and hence to arrive at a holistic development model for India is noted in Manoj (2023) [55], 'Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India'; and more so discussed with added thrust on the healthcare dimension in another paper by Manoj (2023) [56], '**Health Expenditure in Covid-19 Times and the Need for Affordable Houses that Nurture Healthy Citizens: A Roadmap for Digital Economy of Kerala**'. **The present study is a further extension based on the more recent developments and research findings, including the global developments in this field. An ESG-based approach that ensures higher social value ('S' element of ESG) as in Figure IV is adopted for this study.**

**Figure IV: ESG-based approach to development focusing on higher social value.**



Source: Author’s Compilation, based on Manoj (2023) [55] & [56].

#### 4. PREVIOUS STUDIES

Many studies have noted the key role of ICT in economic development, including growth of various segments of the economy, like, rural economy, women empowerment etc. The prospects of the ICT industry too were studied by some scholars. Manoj (2007)[16] “ICT industry in India: a SWOT analysis” *Journal of Global Economy* has done a macro level study of ICT industry in India and noted its vital significance in India’s economic development, and has also suggested macro level strategies for its sustained growth.

Pickens (2009)[17] has demonstrated as to how a common ICT gadget (mobile phone) could play a pivotal role in rural development and women empowerment in Philippines through ‘banking the unbanked’ i.e. financial inclusion. Manoj (2010)[18] “**Impact of technology on the efficiency and risk management of old private sector banks in India: Evidence from banks based in Kerala**” has noted that ICT-adoption by banks could improve the banks’ efficiency.

ICT’s growing role in the banking sector and also in healthcare sector in India is evident from two reports, *Banking* report and *Healthcare* report of India Brand Equity Federation (IBEF), both of Aug. 2023 (IBEF. 2023)[19]; thus ICT adoption has become an imperative in banking and healthcare sectors in India. Nasar and Manoj (2013)[20] “**Customer satisfaction on service quality of real estate agencies: An empirical analysis with reference to Kochi Corporation Area of Kerala State in India**” have noted that higher level awareness should be provided to real estate agents; and that transparency and social networking are needed for customer service and business growth.

Manoj (2013)[21] “**Prospects and Challenges of Green Buildings and Green Affordable Homes: A Study with Reference to Ernakulam, Kerala**” has noted the good growth potential of green homes as they can create huge employment avenues and can ensure fast and sustained economic growth. Several studies have focused on the need for sustained economic growth through diverse kinds of interventions, models and tools; right from educational loans to exports and from SEZs to

ecotourism. Varghese, K.X, and Manoj, P.K. (2013)[22], **“Educational loans and the higher education sector in India”** have noted that study loans can improve HR quality in the nation, youth employability and such loans need to be promoted. Manoj, P.K. (2015) [23] **“International Container Transshipment Terminal (ICTT) and its impact on coffee exports from India: An analysis”** has noted the key role that ICTT plays in exports and hence economic growth. While Manoj, PK (2009)[24], **Special economic zones in India: financial inclusion: challenges and opportunities** has noted the role of SEZs in faster economic growth, in another paper Manoj, P.K.(2017)[25] **“Segmentation Strategy for Promotion of Ecotourism Products: Evidence from Thenmala Ecotourism”** the author has pointed out that meticulous planning using segmentation of tourists can lead to economic growth through ecotourism.

Rajesh and Manoj (2015)[26] **“Women Employees work life and challenges to Industrial Relations: Evidence from North Kerala”** have observed vital significance in striking a balance between work and life by the women employees for healthier industrial relations. Manoj (2016)[27] **“Employment Generation from Rural Tourism: A Field Study of the Local Community at Kumbalangi, Kerala”** has noted the huge capacity of tourism for employment avenues and suggested creation good ICT infrastructure and online services. Manoj (2016)[28] **“Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI”** has noted financial innovations like REITs are crucial for the faster housing development in India and hence the rapid economic growth of India.

Manoj (2016)[29] **“Bank marketing in India in the current ICT era: Strategies for effective promotion of bank products”** has noted the vital need for ICT-based marketing by Indian banks in this digital era. Lakshmi and Manoj (2017)[30] **“Service quality in rural banking in north Kerala: A comparative study of Kannur district co-operative bank and Kerala Gramin bank”** have noted better ICT-usage in Gramin bank could make its performance superior to that of a Co-operative bank. Lakshmi and Manoj (2017)[31] **“Rural Customers and ICT-based Bank Products A Study with a Focus on Kannur District Co-operative Bank and Kerala Gramin Bank”** have noted the better acceptance of ICT-based products of Kerala Gramin Bank (KGB) vis-à-vis KDCB’s non-ICT products.

Joju, Vasantha, and Manoj (2017)[32] **“Future of brick and mortar banking in Kerala: Relevance of branch banking in the digital era”** have noted that even when ICT is imminent and so also virtual banking, there is a need for a ‘human touch’ in ‘brick and mortar’ banking. Joju, Vasantha, and Manoj (2017)[33] **“Financial technology and service quality in banks: Some empirical evidence from the old private sector banks based in Kerala, India”** have noted that financial technologies (fin-techs) can greatly improve service quality and are vital or success in modern days.

Manoj (2017)[34] **“Construction costs in affordable housing in Kerala: Relative significance of the various elements of costs of affordable housing projects”** wherein cost elements are prioritised for selective cost control, ICT being an effective tool for the same. Manoj (2017)[35] **“Cost management in the construction of affordable housing units in Kerala: A case study of the relevance of earned value analysis (EVA) approach”** has proved EVA as an effective tool for managing construction costs. Joju, Vasantha, and Manoj (2017)[36] **“Electronic CRM & ICT-**

**based banking services: An empirical study of the attitude of customers in Kerala, India**” have pointed out vital relevance of electronic (ICT) enabled modern practice in banking viz. Electronic-CRM (e-CRM) for efficiency and competitiveness of the banks and also noted favourable customers’ opinion towards such modern ICT-enabled products in their study. Another CRM study in the banking context Manoj (2018)[37] **“CRM in old private sector banks and new generation private sector banks in Kerala: A comparison”** points out that new private sector banks (NPBs) rank superior to the old private sector banks (OPBs) in adopting CRM especially in high-tech platforms (like, E-CRM) and hence NPBs have a better command among the customers by giving high-tech services.

Manoj (2019)[38] **“Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options”** makes suggestions on ICT-enabled policies to boost social control in banking in the ongoing ICT era. Manoj (2019)[39] **“Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks”** has noted the need for ICT-based HRM policies for the competitiveness of banks. Manoj (2019) [40] **“Competitiveness of manufacturing industry in India: need for flexible manufacturing systems”** has noted the need for adopting ICT and modern technologies like FMS (flexible manufacturing systems) for the better competitiveness for the manufacturing industry in India.

Joju and Manoj (2019)[41] **“Digital Kerala: A study of the ICT Initiatives in Kerala state”** have analysed Kerala-based ICT initiatives– Kerala State being the one with the highest internet penetration and universal literacy and have made suggestions to best utilise ICT in this State for its fast growth. Joju and Manoj (2019)[42] **“Banking Technology and Service Quality: Evidence from Private Sector Banks in Kerala”** noted that as ICT in banks enhances quality and it needs to be promoted.

Ali and Manoj (2020) [43] **“Impact of Falling Price of Rubber-A Case Study of Kothamangalam Taluk in Ernakulam District”** has pointed out that due to frequent price falls affect the livelihood of farmers and that governmental interventions like minimum support prices are vital. Manoj (2015)[44] **“Prospects of Responsible Tourism in Kerala: Evidence from Kumarakam in Kottayam District”** has noted that responsible tourism (RT) has good scope for economic growth, if sustainably promoted. Manoj (2016) [45] **“Determinants of sustainability of rural tourism: a study of tourists at Kumbalangi in Kerala, India”** has identified the key factors affecting the sustainability of rural tourism, and improving ICT infrastructure is one such factor.

Manoj (2015)[46] **“Impact of Rural Tourism on the Environment and Society: Evidence from Kumbalangi in Kerala, India”** has noted the definite adverse effects of rural tourism and the vital need to control such effects. Manoj (2019)[47] **“Tourism Sector in Kerala in the Post-Flood Scenario: Strategies for its Sustainable Growth With a Focus on Responsible Tourism”** has observed the key role of RT in reviving the flood-hit Kerala economy. Elias (2021)[48] **“Kerala’s Innovations and Flexibility for Covid-19 Recovery: Storytelling using Systems Thinking”** has discussed how Kerala could effectively fight against the Covid-19 with its ICT infrastructure.

Ummer, et. al. (2021)[49] have noted that ICT resources of healthcare sector in Kerala could ensure the State’s remarkable resilience to the Covid-19 threats. Karat et. al. (2022)[50] studied the disastrous impact of Corona virus-19, and its impact on the

volatility of India's top pharma companies, and have noted that technical analysis is worthwhile for prudent investment decisions. Saritha and Manoj (2023) [51], "Social inequalities in IT sector: Evidence from Kerala State in India" *Environment and Social Psychology*, have noted that prevalence of inequality in Kerala's IT sector and the need to remove it for Kerala's faster and equitable economic growth. Shino et. al. (2023)[52], Corporate Decisions and Stock Price Movements: The Case of HUL in India, *Migration Letters* have studied how HUL's corporate decisions affected the company's share prices.

Poovammal and Durga (2023) [53] have studied as to how an AI-enabled DSS (decision support system) could reach out to every individual through data for healthcare services. Nripendra Narayan Das et. Al. (2022) [54] have studied in detail about Sars-Cov-2 Novel Corona Virus, its origin and also about the vaccination survey, based on the experience Covid-19. Manoj (2023)[55] "Affordable Healthcare and Affordable Housing: Need for an Integrative Approach for the Holistic Growth of the Digital Economy of Kerala, India" *Community Practitioner*, has noted that a knowledge society like Kerala must encourage housing and healthcare sectors holistically with ICT usage.

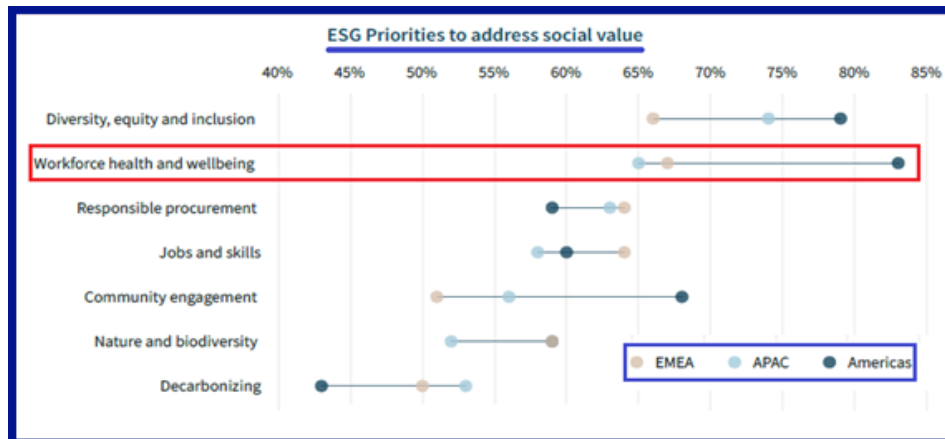
Manoj (2023)[56] "Health Expenditure in Covid-19 Times and the Need for Affordable Houses that Nurture Healthy Citizens: A Roadmap for Digital Economy of Kerala" *Migration Letters* has noted that learning from the Covid19 experience Kerala should focus on homes that duly take care of the 'health' aspect as this aspect could add high social value to housing units. Manoj, P.K. (2023)[57] ICT for Sustained Community Development in India in the 5G Era. *Community Practitioner* has noted the vital need for high-end ICT resources that can provide better internet connectivity for fast and equitable development. McKinsey (2023) [58] has noted ICT's key role in sustainable and inclusive growth in G20 economies, like India. Shaw and Dey (2023) [59] have studied how IoT can change the healthcare sector and the need for sustainable digital healthcare. Sreekumar (2023)[60] has studied the key role of machine learning in digital healthcare. Howden-Chapman et. al. [61] has noted the need for housing that nurtures good health.

## **5. HEALTH ASPECT IN HOUSING FROM AN ESG VIEW: THE DRIVER OF SOCIAL VALUE (S)**

Health is a vital sector of any economy. The productivity of any nation depends on health of its citizens. Health and wellbeing of the people depend on their built environment or housing facilities. Housing developers must seek to gain social value (S) by providing features that ensure high level of health and wellbeing in housing units developed. The 'S' strategy for ESG in the housing sector should focus basically on the health aspects. Health is relatively the most vital among the whole set of ESG priorities. This is particularly true in respect of India where the relatively higher OOP expenditure is an extra burden for the healthcare of the poor. (Figure V).



**Figure V: Relative Significance of Health among the ESG Priorities**



Source: Source: JLL (2023), Responsible Real Estate, p.11. [1].

Health and wellbeing is a key lever among the five ESG priorities (Figure IV). A global study by JLL (2023)[1] has noted that social maturity (S) lags behind the environmental maturity (E) and has noted five catalysts that improve S:(i)Societal pressure and expectations, (ii) Regulatory requirements, (iii) Financial pressure and incentives, (iv) Competitive advantage, (v) Real estate risk mitigation. A key reason for the enhanced significance of societal pressures on health is the adverse impact of COVID-19, the global pandemic. Now, if we look at India, the national policy of the nation on *Quality and Affordable Health* in the light of the five catalysts for better social value (S), as per the global study by JLL. (Table I). The JLL’s global study includes India (54 entities) and other nations, and totally there are 804 entities.

**Table I: Five Catalysts of Social value(S)**

Catalysts (5)	Preferred Actions
Societal pressure and expectations	COVID-19 has led to a precautionary mindset among the customers and health consciousness too.
Regulatory requirements	RERA has created a growth momentum in India. Court cases fell down drastically. Growth started picking up.
Financial pressure and incentives	Incentives for ‘Green Finance’, and Affordable loans etc. (e.g. ‘Affordable Housing’) address E and S.
Competitive advantage	Health itself is a means of attracting customers, or a competitive tool. Actions favoring E and S (of ESG).
Real estate risk mitigation	Risks associated (e.g. risk of obsolescence) need to be managed by holistically.

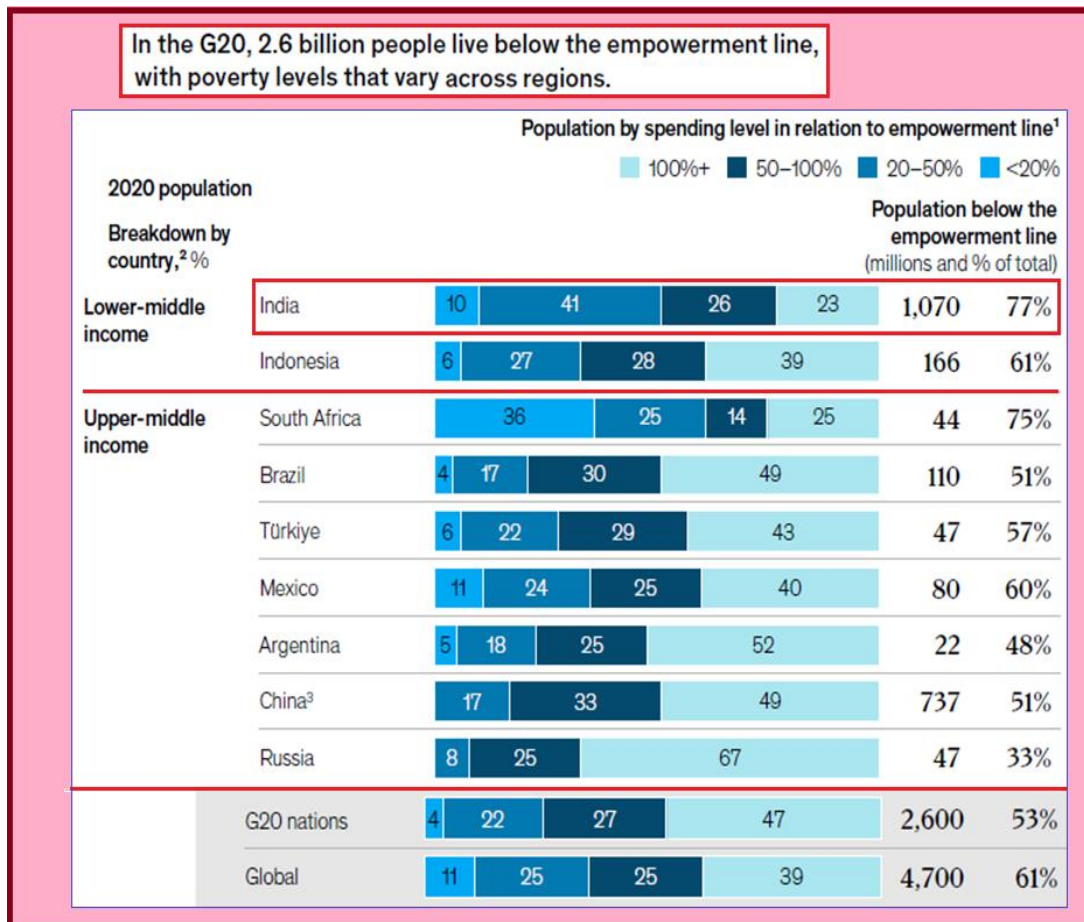
Source: Author’s Compilations, and JLL [1]

Post-COVID era witnessed a pro-health sentiment among housing loan borrowers that backs healthier homes. (NHB, 2023)[5]. In the ongoing post-COVID Indian scenario, there is vital need for giving top priority to the health aspect of houses. The residential housing developers must have ‘health’ as a prime feature for their houses that they offer. It is in this context that ‘Health’ aspect must be integrated into India’s national housing goal *Affordable Housing for All*, which is not yet attained, the original target being 2022.

It may be noted out here India has the largest percentage of population (77 percent) who below the empowerment line. India’s share is higher than any other G20 nation, the average of all G20 nations (53 percent), and global average of all nations (61

percent). Needless to mention, within the BRICS nations too, India’s share of 77 percent of its population below the empowerment line is higher than other nations: Brazil (51 percent), Russia (33 percent), China (51 percent) and South Africa (75 percent). Only one BRICS nation viz. South Africa has got a share somewhat comparable to India. (Figure VI).

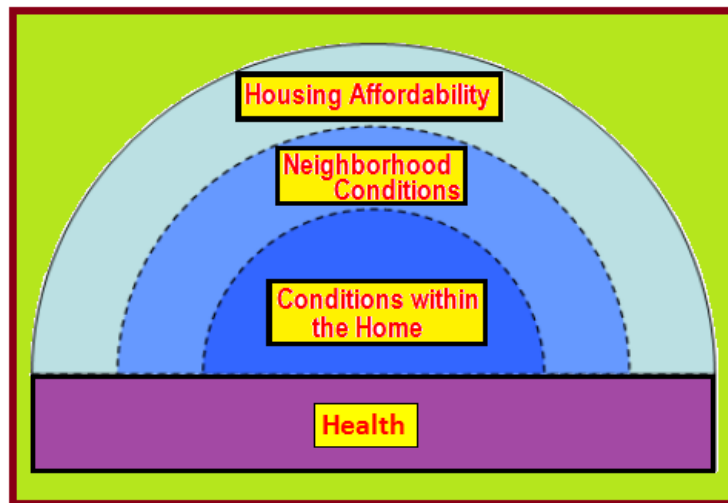
**Figure VI: Population below the Empowerment Line – India has the highest.**



Source: McKinsey (2023), *Driving sustainable and inclusive growth in G20 Economies*.

There is an inextricable relation between one’s housing conditions and his or her health status. Many international and national studies have clearly noted the association between health of individuals and their housing conditions. So also, significant portion of the household savings are spent for housing purpose. For instance, a study by the US-based Robert Wood Johnson Foundation (RWJF)(2011)[9] has noted that a sizeable share of the US population spend 50 percent or more of their earnings for housing purpose and that health depends primarily on (1) Housing affordability (2) Neighborhood conditions, and (3) Indoor (within the home) conditions. These facts point to the utmost need for a ‘health-focused’ housing policy in India. (Figure VII).

**Figure VII: Relation-Health and Housing**



Source: RWJF (2011), US, May. p.1.[9].

In view of the above, it may be noted that enhancing the value of S (Social value) of residential housing units is imminent and for this purpose the ‘Health’ aspect in housing design needs to be paid greater attention. From an ESG perspective, the above approach ensures a higher ‘S’ as the other variables E and G are more comfortably met compared to the S (Social) aspect. This approach is in line with the national housing goal (*Affordable Housing for All*) and also the national healthcare goal (*Universal Health*). This approach, in fact, augers very well with the current national priorities of the GOI.

## 6. HEALTH, RESPONSIBLE HOUSING AND ICT

Now, there is a need to examine as to how important is ICT and such other advances like AI (artificial intelligence) in enhancing the reach of India’s healthcare sector. First of all, let us consider the current health status in India for the above purpose. Over the years there has been improvement in health-related parameters, like IMR (infant mortality rate), LE (life expectancy), BR (birth rate), and MR (mortality rate), etc. But, these parameters need further improvement, as is evident from the figures in Table II.

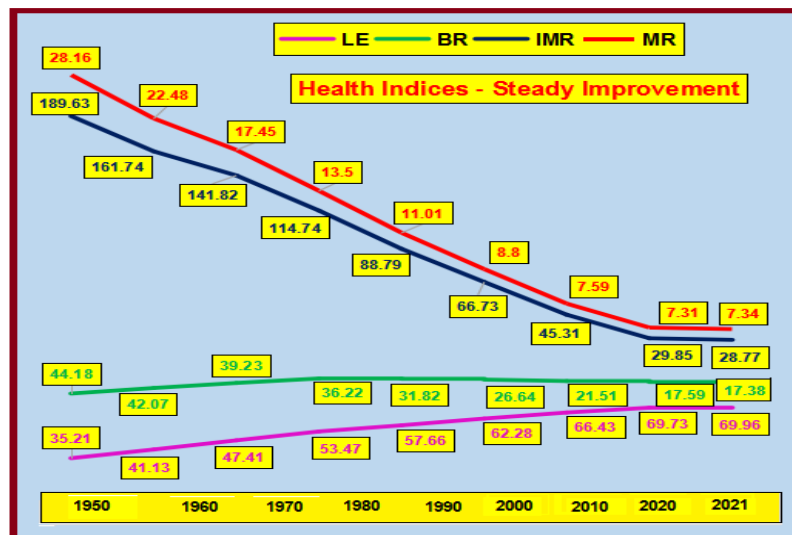
**Table II: Health Status in India (1950-2021)**

Years	LE	BR	IMR	MR
1950	35.21	44.18	189.63	28.16
1960	41.13	42.07	161.74	22.48
1970	47.41	39.23	141.82	17.45
1980	53.47	36.22	114.74	13.50
1990	57.66	31.82	88.79	11.01
2000	62.28	26.64	66.73	08.80
2010	66.43	21.51	45.31	07.59
2020	69.73	17.59	29.85	07.31
2021	69.96	17.38	28.77	07.34

Source: GOI (2022), *Kurukshetra*, Feb. [5].

From Table II, it is noted that there has been a steadily improving trend in respect of all the four vital health indices. Thus, Life Expectancy (LE) (years) has been gradually growing whereas Birth Rate (BR) (years) has been gradually falling over the years, 1950 to 2021. During this period, there has been steady and drastic fall in the Infant Mortality Rate (IMR) and Mortality Rate (MR). All the indices (LE, BR, MR and IMR) show positive trends too. But, they must improve further from the present levels. (Figure VIII).

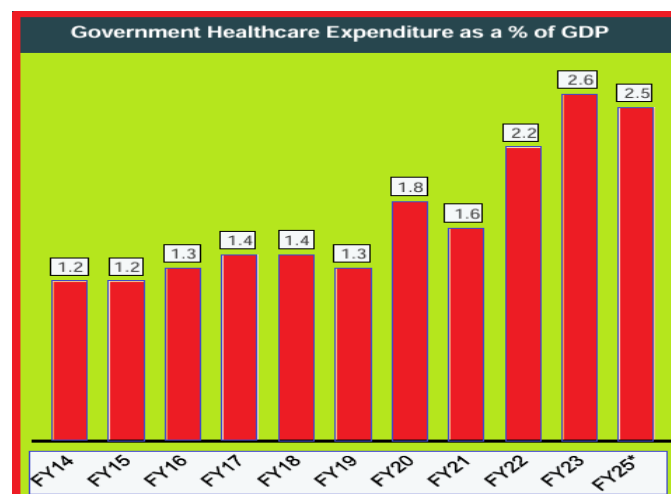
**Figure VIII: Improvement in Health Indices**



Source: GOI (2022) data as in Table II

It may be noted that despite the positive trends in the health indices (Figure VI), there is enough scope for raising the health expenditure of India as a GDP percentage. Though the health expenditure of India as a percentage of GDP has marginally improved in the recent past, since FY 2020, it is still one of the lowest in the world as a whole. As of 2023 it is 2.2 percent and is one of the lowest as per the global standards. (Figure IX).

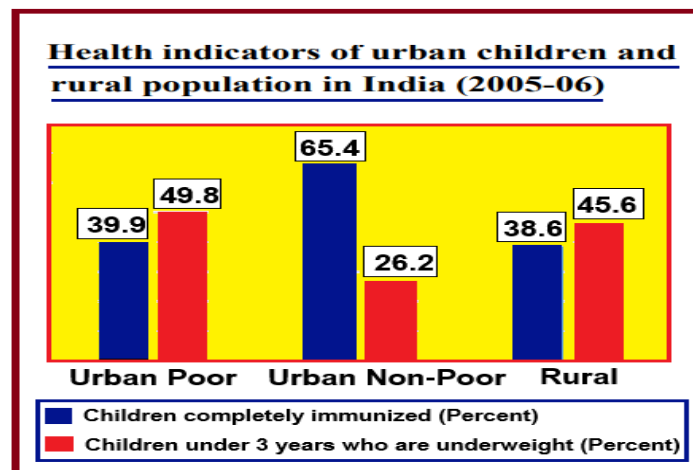
**Figure IX: Health Expenditure (Percentage of GDP)**



Source: IBEF (2023), *Healthcare*, Aug. [19]

India-focused studies also have endorsed the vital need for housing affordability for improving the health status of the populace. Health status of urban poor is equally bad as the rural people, probably worse than that of the rural poor, especially those living in urban slums is a major concern. The poor housing conditions of the urban poor has a significant bearing on the poor health of the urban poor. The health status of the urban poor is lower than those of the rural folk. (Figure IX).

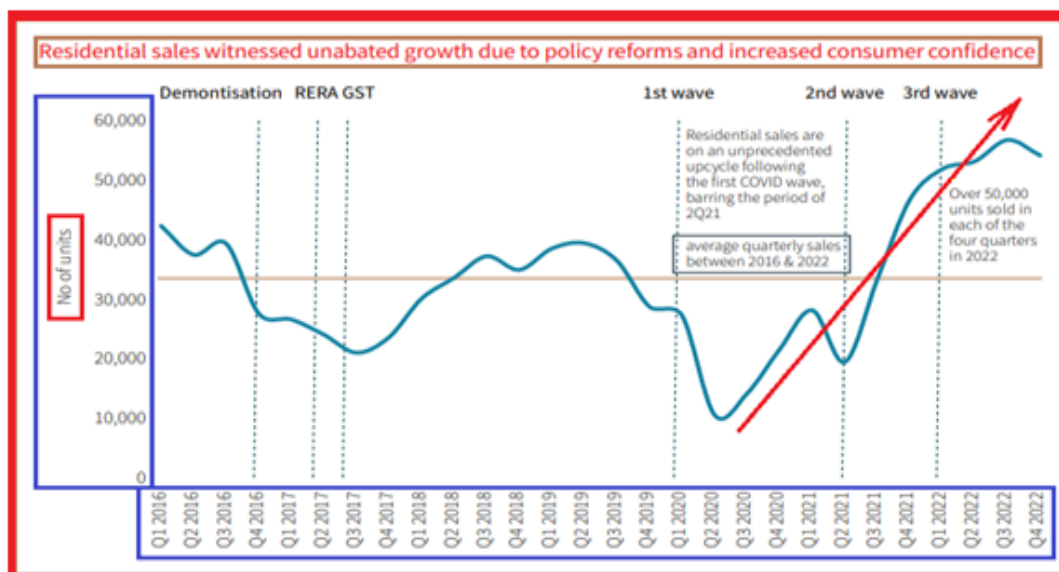
**Figure IX: Relation-Health and Housing**



Source: GOI, NFHS-3. ([www.nfhsindia.org](http://www.nfhsindia.org))[9]

It is seen that housing affordability is a key determinant of health; and housing and health issues are more prevalent among the poor, especially the urban poor. (Figure IX). The growth momentum noted in the current RERA (Real Estate Regulatory Authority) era right from Q2 of 2020 till date must be sustained; with due focus on the affordable housing loans. (JLL, 2023)[10]. (Figure X).

**Figure X: High Growth in the Sales of Houses in the RERA Era since 2020**

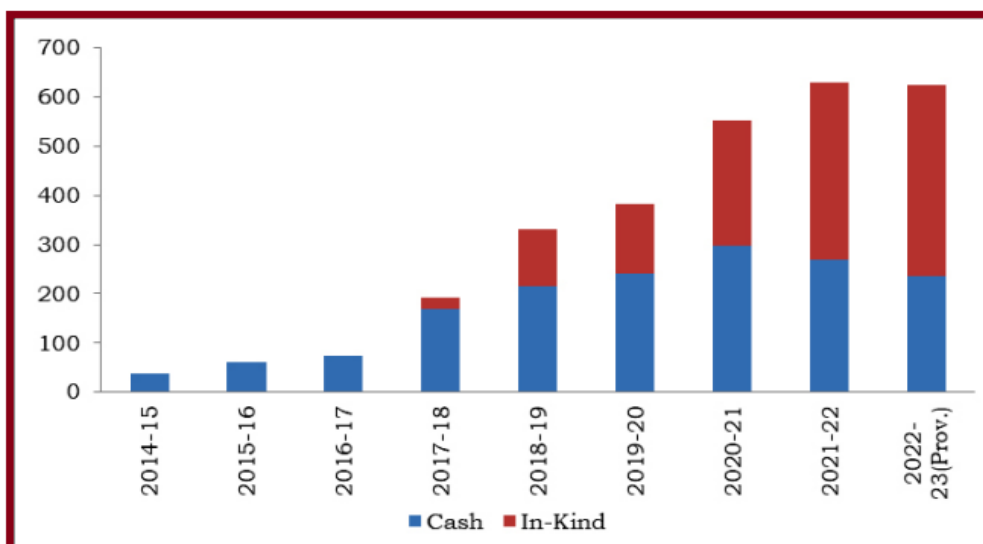


Source: JLL (2023) "5 years of RERA progress—the journey of increasing trust", Feb.,p.10.

In this era ESG is an imperative rather than an option, and already noted the element S lags behind E (of ESG). Hence, the social value (S) of housing must be raised. Regarding G (Governance) element, the key aspect today is that of ICT adoption. *Digital India* and so many other GOI schemes like *JAM* (Jan Dhan, Aadhaar, Mobile) thrust accorded to ICT adoption by the GOI. In fact, ICT can improve transparency and good governance. Besides, ICT help to protect the environment (trees), and support the 'E'. Adoption of suitable AI tools is particularly relevant. Just like ESG, ICT adoption too has become an imperative today and the same approach must be adopted in the healthcare sector too.

There has been significant growth in the effective utilization of ICT in India, thanks to the aggressive promotion of ICT and other modern technologies as part of the JAM (JanDhan, Aadhaar, Mobile) trinity, a scheme of the GOI. In fact, JAM seeks to promote: i) PMJDY (Pradhan Mantri Jan Dhan Yojana)- a scheme focusing on financial inclusion, ii) Aadhaar – a scheme that seeks to provide unique digital identity to all Indian citizens, and (iii) Mobile phone – maximum popularization of this simplest and most common digital device across the nation among all citizens. The above JAM trinity, thus, seeks to utilize the immense potential of ICT and other latest technological advances for digitally empowering the masses. The growing affordability of the common digital devices like the Mobile phone along with GOI's insistence on DBT (direct benefit transfer) ensure that all payments are made digitally directly to the beneficiary using their Mobile phone that is linked to their unique Aadhaar number. This avoids the dependence on an intermediary and ensures utmost transparency and also avoids corruption by the intermediaries. DBT scheme by the GOI has already become a role model at the global level today.

**Figure XI: Steady Growth in Direct Benefit Transfer (DBT) – A Global Role Model**



Source: GOI (2023), *Yoajana*, June, p.39.

In fact, the global role model DBT could save as high as USD 27 Billion across various GOI schemes through directly crediting the amounts due directly into the beneficiary's account through ICT mode. This shows the immense potential of ICT in improving the operational efficiency and cost savings. Besides, DBT ensures hassle-free, leakage-free and extremely transparent financial deals without the use of an intermediary.

Because of the deliberations as part of the recent G20 Summit (hosted by India), the priorities in respect of the healthcare sector include three major areas and technology adoption in healthcare (health-tech) is one of these priorities. These three priorities include: (I) *Health Emergencies Prevention, Preparedness and Response* (with focus on One Health & AMR), (II) *Strengthening Co-operation in Pharmaceutical Sector* (with focus on access and availability to safe, effective, quality and affordable Medical Countermeasures (Vaccines, Therapeutics and Diagnostics), and (III) *Digital Health Innovations and Solutions*– to aid Universal Health Coverage and improve healthcare service delivery. The figure below depicts the three priorities relating to Indian healthcare sector that has emerged as part of the G20 Summit hosted by India in 2023. (Figure XII).

**Figure XII: Healthcare Priorities Emerged from the G20 Summit 2023.**

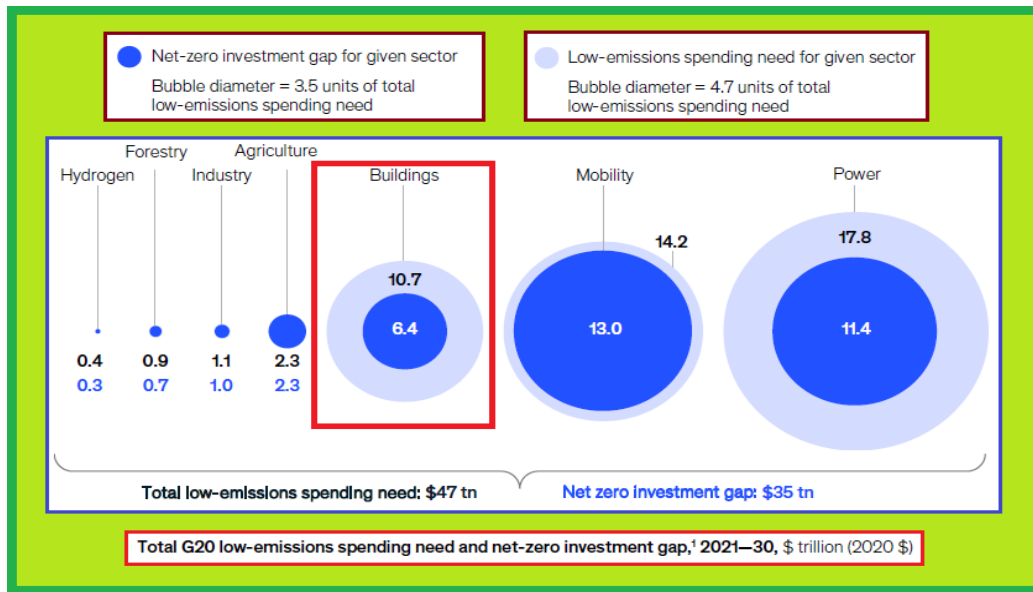


Source: GOI (2023), *Yoajana*, June, p.59.

## **7. SUSTAINABLE ECONOMIC GROWTH IN DIGITAL INDIA: THE ROLE OF HOUSING SECTOR**

In fact, the housing and residential real estate sector plays a vital role in the net-zero transition. The net-zero investment need varies across the different sectors. The Buildings sector (primarily housing and real estate) constitute a major sector that about 1/6<sup>th</sup> of the total i.e. USD 6.4 Tn out of the total USD 35 Tn for G20 nations. This shows the need for using low-emission assets and technologies for the purpose of housing. (Figure XIII).

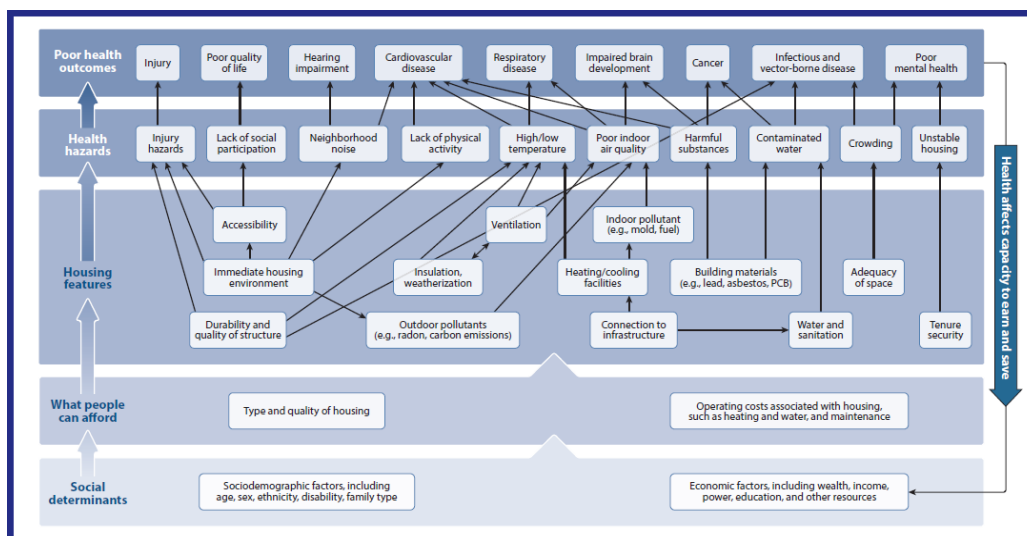
**Figure XIII: Total G20 Spending Need and Net-Zero Investment Gap.**



Source: Mc Kinsey (2023), *Driving sustainable and inclusive growth in G20 economies*.

The use of low emission assets and technologies need to be encouraged for the construction and delivery of residential housing units, because there is always a 'Health' aspect that is embedded in the housing design – the materials, processes and technologies that used in housing construction. This health aspect will fetch high social value (S) too; this aspect being vital this post-Covid-19 scenario when the people are much more bothered about their health and also the whole natural environment. In fact, poor housing can adversely affect the earning capacity and savings of the households and hence their affordability for a more livable residential unit. Conversely, good housing can nurture the productivity and efficiency of the households. This in turn leads to better earnings as well as greater savings, and ultimately higher affordability for homes. (Figure XIV).

**Figure XIV: Total G20 Spending Need and Net-Zero Investment Gap.**



Source: Howden-Chapman et. al. (2023) [61], *Annual Review of Public Health*, p. 235.



## 8. CONCLUDING REMARKS AND SUGGESTIONS

In view of the foregoing discussions, it may be noted that the health aspect in a vital element in housing design from an ESG perspective, as health can significantly improve the social value (S) associated with the housing units offered. The Covid-19 experience has further magnified the primacy of the 'health' element associated with dwelling units. So a holistic policy towards affordable housing and universal health appears to be an ideal proposition in the Indian context today. So, housing developers have to accord top priority to this vital aspect. This approach is in line with India's national housing goal of *Affordable Housing for All*, and also with the national health goal of *Universal Health*. In fact, allied sectors like tourism and hospitality too need encouragement because such sectors can attract investment in housing sector because of linkage effects; and vice versa. The ultimate effect on the economy will be faster economic development, because all these allied sectors tend to pick up momentum. ICT adoption, including the use of AI techniques, is another imperative across all industries and sectors worldwide, and India's housing and real estate is no exception. ICT can promote faster and equitable growth. Given the resource constraints of the Governments, both at the State and Union levels in India models like PPP need to be promoted. Alternative financing models like Housing Micro Finance (HMF), mortgage backed securitization (RMBS) etc. need to be promoted.

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