

# Importance of Structural Transformation for Economic Diversification – A Study

**\*Dr.Bheemappa.M. Asst Professor of Commerce, Govt First Grade College, Harapanahalli.**

## Abstract

Inclusive growth entails comprehensive growth, shared growth, and pro-poor growth. It lessens the fast growth rate of poverty in a country and upsurges the participation of people into the development of the country. Inclusive growth infers an impartial allocation of resources with benefits incurred to every section of the society. But the allocation of resources must be focused on the intended short and long term benefits of the society such as availability of consumer goods, people access, employment, standard of living etc. Rapid and sustained poverty reduction requires inclusive growth that permits people to contribute to and benefit from economic growth. Rapid growth is necessary to reduce poverty but for this growth to be sustainable in the long run, it should be broad-based across sectors, and inclusive of the large part of the country's labour force. This explanation of inclusive growth implies a direct link between the macro and micro determinants of growth.

The micro dimension denotes the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms. Inclusive growth is defined by many academicians as the pace and pattern of growth, which are considered interlinked, and therefore in need to be addressed together. UNDP has described inclusive growth as “the process and the outcome where all groups of people have participated in growth and have benefited equitably from it”. This inferred that inclusive growth should include all sections as recipients as well as partners in growth and that inclusion of the excluded should be embodied in the growth process. According to Basely et al (2007), inclusive growth is the “growth that has a high elasticity of poverty reduction”, i.e. It should have a higher reduction in poverty per unit of growth. Copious theoretical studies have demonstrated that the idea that both the pace and pattern of growth are critical to accomplish a high, sustainable growth record, as well as poverty reduction, is consistent with the findings in the Growth Report, Strategies for Sustained Growth and Inclusive Development (Commission on Growth and Development, 2008). The commission found in report that inclusiveness, a concept that incorporates equity, equality of opportunity, and protection in market and employment transitions is an essential element of any successful growth strategy. The Commission on Growth and Development (2008) considers systematic inequality of opportunity “toxic” as it will derail the growth process through political channels or conflict.

*Keywords: Growth, Development, Inclusive Development, sustainable development, UNDP*

## Introduction

The inclusive growth approach takes huge perspective as the focus is on productive employment instead of direct income redistribution, as a means of increasing incomes for excluded groups. In the short run, governments could use income distribution schemes to weaken negative impacts on the poor of strategies intended to jump start growth, but transfer schemes cannot be an answer in the long run and can be challenging also in the short run. In poor countries such schemes can impose major burdens on already stretched budgets, and it is theoretically impossible to reduce poverty through redistribution in countries where average income falls below US\$ 700 per year. OECD study signified that even in developed countries, redistribution schemes cannot be the only response to rising poverty rates in certain segments of the populace.

Within the context of India, the Indian economy, which has undergone various phases since last many decades is currently enter an altogether different path, one marked by a high rate of expansion, combined with 'inclusive growth.' In the last few years, inclusive growth has been at the vanguard of studies supported by multilateral aid agencies, such as the United Nations, the World Bank, Asian Development Bank, and several nongovernmental organizations (NGOs). In India, governments have introduced several projects, such as Jawahar Rozgar Yojna, Integrated Rural Development Program, Rural Housing Scheme, Swarnjayanti Gram Swarozgar Yojana and Mahatama Gandhi National Rural Employment Guarantee Act to promote inclusive growth. Nonetheless, to boost inclusive growth in a country with the scale and size of India, private sector involvement is equally important. The private sector has started contributing with initiatives, such as the ICICI Foundation having been established with the purpose of promoting inclusive growth. The government and private sector both have imperative roles in driving inclusive growth. There is a need for the public and the private sector in India to have a combined approach towards how they can extend, innovate, and cooperate in innovative ways to enhance inclusive growth.

Developing India's stellar gross domestic product (GDP) growth rates have covered rapidly rising relative and absolute disparities that results in dual face of India. A "shining India", which is conflicting internationally and benefiting from the powers of globalization, technological developments and economies of scale, has grabbed the attention of the media and the world. On the contrary, another facade of India is "suffering India", not as well exposed but even more important, and has unsatisfactorily wide samples of its population who are poor and weak. These two facades of India are both an inspiration of hope and a symbol of anguish. Merging these two faces will be the development challenge over the next generation for the region. To address this challenge, inclusive growth with its focus on creating economic opportunities and ensuring equal access to them will play a key role. More and more countries are accepting it as the goal of development policy. India, which had poverty reduction as the main focus of its development strategy over the last 50 years, has recently swapped to a new strategy focusing on two objectives that include enhancing economic growth and making growth more inclusive (Planning Commission of India 2006). Inclusive growth as a development notion is also

being comprised by many development partners of developing countries including bilateral and multilateral aid agencies, international organizations, nongovernment organizations, and civil society.

### **Objective:**

This paper seeks

1. To elaborate on the sustainable development goals by UNDP
2. To evaluate the position India in achieving the goals

### **Concept of Empowerment**

What do we mean by empowerment? Nobel Laureate Amartya Sen (1993) explains that the freedom to lead different types of life is reflected in the person's capability set. The capability of a person depends on a variety of factors, including personal characteristics and social

arrangements. However, the full accounting of individual freedom goes beyond the capabilities of personal living. For example, if we do not have the courage to choose to live in a particular way, even though we could live that way if we so chose, can it be said that we do have the freedom to live that way, i.e. the corresponding capability? Another important point made by Sen (1990) is that for measurement purposes one should focus on certain universally-valued functioning, which relate to the basic fundamentals of survival and well-being regardless of context. Taking the example of universally valued functioning like proper nourishment, good health and shelter, Sen asserts that if there are systematic gender differences in these very basic functioning achievements, they can be taken as an evidence of inequalities in underlying capabilities rather than differences in preferences.

Empowerment can range from personal empowerment that can exist within the existing social order. Thus this kind of empowerment would correspond to the right to make one's own choices, to increased autonomy and to control over economic resources. Empowerment signifies increased participation in decision-making and it is this process through which people feel themselves to be capable of making decisions and the right to do so (Kabeer, 2001).

Malhotra et. al (2002) constructed a list of the most commonly used dimensions of women's empowerment, drawing from the frameworks developed by various authors in different fields of social sciences. Allowing for overlap, these frameworks suggest that women's empowerment needs to occur along multiple dimensions including: economic, socio-cultural, familial/interpersonal, legal, political, and psychological. Since these dimensions cover a broad range of factors, women may be empowered within one of these sub-domains. They give the example of "socio-cultural" dimension which covers a range of empowerment sub-domains, from marriage systems to norms regarding women's physical mobility, to nonfamilial social support systems and networks available to women. The World Bank defines

empowerment as “the process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes.

### **Reason for India to embrace Inclusive Growth:**

The recognition of the significance of inclusive growth in developing Asia have been generated by a rising concern that the benefits of remarkable economic growth have not been equitably shared (Ali 2007). Developing India experienced rapid economic growth during the last two decades. Asia’s rapid growth has led to dramatic reduction in the level of extreme poverty. Using the \$1-a-day poverty line established by the World Bank in 1990, the incidence of extreme income poverty declined from 43.5% to 35.00% between 1990 and 2005, with each percentage point of growth related with an almost 2-percentage point decline in poverty incidence on average (ADB 2004c). Most Asian countries accomplished the income poverty target of the Millennium Development Goals (MDGs) by 2005 for except those in South Asia.

### **Need for Inclusive Growth in India:**

Many intellectuals and government executives accentuated that inclusive growth is required for sustainable development and impartial distribution of wealth. For India, it is a tough task to accomplish inclusive growth. In a democratic country India, majority of population living in rural India and to bringing them into the mainstream is main concern. The challenge for Indian government is to take the levels of growth to all section of the society and to all parts of the country. The best way to realise inclusive growth is through developing people’s talents. It is said by government authorities that a multidimensional approach towards education and skills development is essential to achieve growth. The challenge of skills shortage can be addressed through public private partnership. Since independence, noteworthy improvement in India’s economic and social development made the nation to grow strongly in the 21st century. The following factors enable the India to focus on inclusive growth.

India is the 7th major country by area and 2nd by population. It is the 12th largest economy at market exchange rate. Yet, development is not visible in India and it’s the neighbourhood nation, i.e., China is progressing at speedy rate.

The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divides, gender and socialine qualities, and regional disparities etc. are the problems for the nation.

Decreasing of poverty and other disparities and raising of economic growth are major objectives of the nation through inclusive growth.

Political leadership in the country plays a vital role in the overall development of the country. But, the study has found that politicians in India have a very low level of scientific literacy.

Studies assessed that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.

Though child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as their lives are spoiled to labour work.

Literacy levels have to rise to provide the skilled workforce required for higher growth.

Economic improvements in the country are overwhelmed by out dated philosophies and allegations by the politicians and opposition parties in India.

Achievement of 9% of GDP growth for country as a whole is one of the boosting factor which gives the importance to the Inclusive growth in India.

Inclusiveness benchmarked against achievement of monitor-able targets related to

- Income & Poverty
- Education
- Health
- Women & children,
- Infrastructure
- Environment

At global scale, there is a concern about dissimilarities and exclusion and now they are also taking about inclusive approach for development.

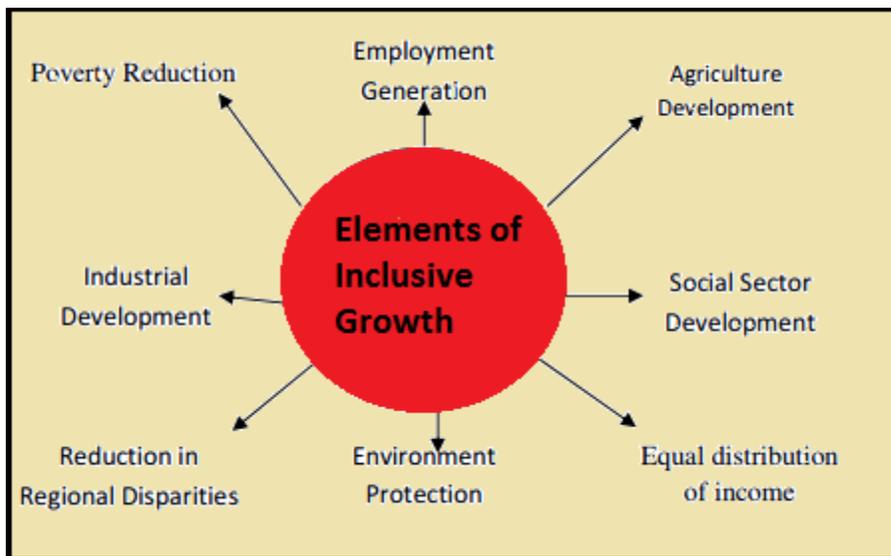
### **Elements of Inclusive Growth:**

Major components of the inclusive growth strategy included a sharp upsurge in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers, increase in rural employment through a unique social safety net and a sharp increase in public spending on education and health care.

There are several interrelated elements of inclusive growth:

- ✓ Poverty Reduction
- ✓ Employment generation and Increase in quantity & quality of employment.
- ✓ Agriculture Development
- ✓ Industrial Development
- ✓ Social Sector Development
- ✓ Reduction in regional disparities
- ✓ Protecting the environment.
- ✓ Equal distribution of income
- ✓ Major elements of Inclusive Growth:
- ✓ Agriculture Development
- ✓ Industrial Development

- ✓ Environment
- ✓ Protection
- ✓ Poverty Reduction
- ✓ Employment
- ✓ Generation
- ✓ Reduction in
- ✓ Regional Disparities
- ✓ Equal distribution of income
- ✓ Social Sector Development



### Challenges of Inclusive Growth in India:

'India' is expanding business at global scale. The economy growing at a remarkable rate, combined with a booming democracy is making people sit up and take notice across the world. Still, India is far from reaching its true potential. The country remains shackled in dishonesty, red tape, traditional social hurdles and a bewildering lack of transparency. It is witnessed that growth is not uniform across sectors and large cross-sections of the population remain outside its purview. Numerous social, political and economic factors need to be tackled for sustaining a high rate of growth, as well as to make this growth inclusive. Indian society has to seriously introspect major issues such as eradication of child labour, women empowerment, removal of caste barriers and an improvement in work culture. Tackling corruption in high places, removing the ills of the electoral system, snubbing politics of agitations and keeping national interest above petty politics may not be too much to ask to the country's policy makers. In order to accomplish major objectives for progression Indian government must focus on rapid growth in the rural economy, well planned and targeted urban growth, infrastructure development, reforms in education, ensuring future energy needs, a healthy public-private partnership, intent to secure inclusivity, making all sections of society equal stakeholders in growth, and above all good governance.

The social limits of Indian democratic politics: In top business person around the globe, many Indian entrepreneurs are listed but the sarcasm still remains that there is a marginal farmer in many states of India who is struggling to feed his five children, the youngest of whom is a son, uneducated and unemployed, and the farmer cannot afford her daughter's marriage. There are jobs escalating in the IT sector in big cities like Bangalore and Hyderabad, disposable income for the 'Call Centre' crowd, that is spurring on the foray of several luxury goods never before seen in the nation, is becoming all the more accessible but the poor are still poor even though the rich have become super rich and the previously not so rich.

The growth is far from inclusive in India. There is worst condition in country. Many beggars are found on the streets, and there are reports for farmer suicides in states like Maharashtra. People understand their dilemma and they even sympathize and empathize with them.

### **The hurdles surmounted**

Overcoming difficulties to rural growth and urban transformation can escalate growth. People living in cities earn far more than those dwelling in rural areas. The majority of whom live below poverty levels, are undernourished and just survive. It is this population, very nearly forgotten by the power brokers, who need to be brought into the development scheme. They must be given the option of living and working on jobs in non-agricultural sectors, jobs that guarantee the basic subsistence for themselves and their families. Simply transferring resources from one head to another, which has been done, cosmetically sometimes, by politicians has not changed much. The reality remains that the fund is limited. Even if national funds distribution is perfect, it will not reduce poverty level in country.

Every leading industrialised economy in the world has followed a path which began with agriculture being the major source of income for the mainstream of the population and ended with agricultural occupation being a very small fraction of the total labour force. For economic development, agriculture growth is necessarily be two-fold. One, experts have to develop villages, improve agriculture and agro-industries and infrastructure in rural India. Secondly, it is imperative to empower the rural people and give them new opportunities and provide jobs outside villages and agriculture. As India develops, the intervention of Government in people's lives must come down. It is necessary that Government officials must change their mind set from overseas masters to facilitators. It is well observed that corruption is wide spread in the country. It is weakening the economic status of India. Though effective schemes and plans are device with extravagant aims and claims of potential success equally extravagant to garner the support of the upset public, but they are of no use unless the delivery systems are improved considerably. That would require a truly massive effort from changing the working style of administration, tackling corruption to involving the private sector fully in the development process.

In India, government devised effective policies and making sustained effort to improve the life style of those living below the poverty line and to streamline delivery systems so as to ensure that the benefits reach the intended beneficiaries. It was said by authorities that 'Inclusive Growth, is a challenges for Corporate India. This was especially timely since the media, both print and electronic, have hardly been sensitive to this issue, taken up as they are by stories of mega mergers, super rich tycoons, and eyeing corporate sponsorships.

### **Towards the sustainable growth**

In Indian system, it is realized that corruption is prevalent in the highest offices and it persist into even the most unimportant of day to day activities. Bureaucrats, politicians and entrepreneurs want to become rich at any cost. Corruption is ill practice and considerably avert inclusive growth instead of enabling the rich to get richer and keeping the poor to poorer. Corruption works like an exchange with gains for both the people giving as well as the people accepting and is therefore as much a crime committed by the givers as it is by the takers. Bureaucrats in India may be mercenary, but the private sector is also to be blamed for its complicity. It is on this class that the responsibility lies to be responsible and refuse to be a part of corruption. Legislation enabling seizure of properties of public servants convicted of corruption is yet to be passed. Politicians in India also involved in corrupt practices to get elected and are even sought after at public and social functions. The strategy to tackle corruption must necessarily be multi-pronged at the legal level, the enforcement level, as well as at the educational and social levels. Efforts at inclusiveness of society are predestined to failure unless more than just a semblance of attention is brought about on the corruption front.

Important mechanism to deal with the corruption issue is to bring about greater transparency, both in the policy making and in the delivery systems. The Right to Information Act was a great step in this direction. Governments have been defensive in their thinking. They have failed to give full flow to the intentions of the framers of this Act. Information Commissioners, who have been appointed so far, both at the Central Government level, as well as at the State Government levels, have mostly been of the retired bureaucrats. There is need to balance out the Information Courts with the addition of people from other social and professional categories, be they prominent journalists or social activists or those distinguishing themselves in the non-governmental social organizations. Greater transparency will bring greater accountability, and hopefully a much larger percentage of money would eventually reach the intended beneficiaries of Government schemes. Corruption is one, of the most significant, but there are several other problems that need to be overcome and problems that need to be tackled.

There are many social causes of exclusivity. When talking about inclusive growth, a major factor to be scrutinised is the socio-economic inclusiveness of the people. Inclusive growth being a long term process necessarily originates from the inclusive nature of socio-economic development across regions and people. As per the UNDP Human Development Report 2009 (HRD 2009), India ranked 134 out of 182 countries of the world placing it at the same rank as in 2006. There will be no growth inclusive unless it takes satisfactory care of women and children. Child labour, despite several

of laws and India's commitments at the ILO, is still unfortunately very much predominant. Child labour has been banned by law in India and there are severe provisions to dissuade this callous practice. But companies ignore laws and involve children to work for high productivity. Millions of young children continue to work in roadside eateries, glass factories, carpet looms or sweeping and cooking in homes in violation of the Child Labour (Prohibition and Regulation) Act. Failure to implement the law and poor rehabilitation policies need urgent attention. Though an increase in the number of officials and labour inspectors is called for, together with imparting better training and instilling greater sensitivity in them but, there is a need to lessen poverty which is the main reason driving parents into pushing their young children to work instead of sending them to schools. This major problem is one of the main challenges to resolve while discussing inclusive growth. The country's philosophy needs to change to end practice of child labour, together with a strong political and bureaucratic commitment for eradicating child labour. There is a need to attract children from poverty stricken families to schools. Mid-day meal schemes of Governments gain partial success. Again, however, lack of transparency has ensured that funds and rations are embezzled and misused. Literacy levels have to rise to provide the skilled workforce required for higher growth. India has large number of scientists, engineers and doctors in the world, but their potentials are realized as majority of its vast population. A majority of its population is still trickled in superstition. The caste system is another curse of Indian society. To reform education and health sectors, government must have to take bold steps for higher allocations for education and the social sectors along with visionary social and political leadership. This can overlay the way for reforms in these sectors. The Government of India focuses on social security as part of its inclusive growth programme. It introduced a law in parliament to provide social security to unorganized labour. Such social schemes deserve strong support and would go a long way in making inclusive growth a reality.

## Conclusion

For inclusive growth, a peaceful and stable environment is a must. Currently, it is observed that in India, many demonstrations, agitations and 'bandhs' (forcible closure of shops, offices & transport) are going on. For the slightest pretext, trains are stopped, buses and private vehicles burnt and offices and business establishments powerfully closed. This leads to unconceivable loss of man hours and economic output, besides loss of confidence of the outside world for making investments. In this context, officials need to initiate proper reforms in the criminal justice system, especially in the police. The Supreme Court has time and again reminded the Government of the need to reform the police force. Some outdated laws must be revived for glorious inclusive growth. The Police force needs to be made more responsive and accountable. It should not work under corrupt politicians but responsible to the law of the land. After such reforms, government can provide a secure atmosphere for economic activity to prosper and remove earlier weaknesses towards inclusiveness.

Inclusive growth has been projected as the strategic pillar of 12th five year plan. The policy designers are of the opinion that the 'inclusive growth strategy for the 12th five year plan should be based on the experience of inclusive outcomes of the 11th five year plan'. The approach to 12th five year plan titled 'Faster, Sustainable and More Inclusive Growth'. The progress towards inclusiveness is more problematic to assess, because inclusiveness is a multidimensional concept.

## References

1. Turner, R. Kerry (1988). "Sustainability, Resource Conservation and Pollution Control: An Overview". In Turner, R. Kerry (ed.). *Sustainable Environmental Management*. London: Belhaven Press.
2. Georgescu-Roegen, Nicholas (1971). *The Entropy Law and the Economic Process* (Full book accessible at Scribd). Cambridge: Harvard University Press. ISBN 978-0674257801.
3. Rifkin, Jeremy (1980). *Entropy: A New World View* (PDF contains only the title and contents pages of the book). New York: The Viking Press. ISBN 978-0670297177.
4. Daly, Herman E. (1992). *Steady-state economics* (2nd ed.). London: Earthscan Publications.
5. O'Riordan, Timothy (1993). "The Politics of Sustainability". In Turner, R. Kerry (ed.). *Sustainable Environmental Economics and Management: Principles and Practice*. London: Belhaven Press.
6. Perez-Carmona, Alexander (2013). "Growth: A Discussion of the Margins of Economic and Ecological Thought" (Article accessible at SlideShare). In Meuleman, Louis (ed.). *Transgovernance. Advancing Sustainability Governance*. Heidelberg: Springer. pp. 83–161. doi:10.1007/978-3-642-28009-2\_3. ISBN 9783642280085.
7. Blewitt, John (2015). *Understanding Sustainable Development* (2nd ed.). London: Routledge. ISBN 9780415707824. Retrieved 26 November 2017.
8. Lynn R. Kahle, Eda Gurel-Atay, Eds (2014). *Communicating Sustainability for the Green Economy*. New York: M.E. Sharpe. ISBN 978-0-7656-3680-5.
9. Finn, Donovan (2009). *Our Uncertain Future: Can Good Planning Create Sustainable Communities?*. Champaign-Urbana: University of Illinois.
10. Ulrich Grober: Deep roots — A conceptual history of "sustainable development" (Nachhaltigkeit), Wissenschaftszentrum Berlin für Sozialforschung, 2007
11. "Growth and its implications for the future" (PDF). Archived from the original (PDF) on 4 March 2016.
12. *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (PDF). International Union for Conservation of Nature and Natural Resources. 1980.
13. Sachs, Jeffrey D. (2015). *The Age of Sustainable Development*. New York: Columbia University Press. ISBN 9780231173155.
14. *World Charter for Nature*, United Nations, General Assembly, 48th Plenary Meeting, 28 October 1982
15. Brundtland Commission (1987). "Report of the World Commission on Environment and Development". United Nations.

16. Smith, Charles; Rees, Gareth (1998). *Economic Development*, 2nd edition. Basingstoke: Macmillan. ISBN 978-0-333-72228-2.
17. Will Allen. 2007. "Learning for Sustainability: Sustainable Development."
18. Liam Magee; Andy Scerri; Paul James; James A. Thom; Lin Padgham; Sarah Hickmott; Hepu Deng; Felicity Cahill (2013). "Reframing social sustainability reporting: Towards an engaged approach". *Environment, Development and Sustainability*. 15: 225–243. doi:10.1007/s10668-012-9384-2.
19. *Issues and trends in education for sustainable development*. Paris: UNESCO. 2018. p. 7. ISBN 978-92-3-100244-1.
20. *Issues and trends in education for sustainable development*. Paris: UNESCO. 2018. p. 8. ISBN 978-92-3-100244-1.
21. Passet, René (1 January 1979). *L'Économique et le vivant* (in French). Payot.
22. United Nations (2014). *Prototype Global Sustainable Development Report* (Online unedited ed.). New York: United Nations Department of Economic and Social Affairs, Division for Sustainable Development.
23. James, Paul; with Magee, Liam; Scerri, Andy; Steger, Manfred B. (2015). *Urban Sustainability in Theory and Practice: Circles of Sustainability*. London: Routledge.
24. *Circles of Sustainability Urban Profile Process and Scerri, Andy; James, Paul* (2010). "Accounting for sustainability: Combining qualitative and quantitative research in developing 'indicators' of sustainability". *International Journal of Social Research Methodology*. 13 (1): 41–53. doi:10.1080/13645570902864145.
25. <http://citiesprogramme.com/aboutus/our-approach/circles-of-sustainability>; Scerri, Andy; James, Paul (2010). "Accounting for sustainability: Combining qualitative and quantitative research in developing 'indicators' of sustainability". *International Journal of Social Research Methodology*. 13 (1): 41–53. doi:10.1080/13645570902864145..
26. White, F; Stallones, L; Last, JM. (2013). *Global Public Health: Ecological Foundations*. Oxford University Press. ISBN 978-0-19-975190-7.
27. *Bringing human health and wellbeing back into sustainable development*. In: IISD Annual Report 2011-12. [http://www.iisd.org/pdf/2012/annrep\\_2011\\_2012\\_en.pdf](http://www.iisd.org/pdf/2012/annrep_2011_2012_en.pdf)
28. IPCC Fifth Assessment Report (2014). "Climate Change 2014: Impacts, Adaptation and Vulnerability" (PDF). Geneva (Switzerland): IPCC.
29. See Horizon 2020 – the EU's new research and innovation programme [http://europa.eu/rapid/press-release\\_MEMO-13-1085\\_en.htm](http://europa.eu/rapid/press-release_MEMO-13-1085_en.htm)
30. Fawcett, William; Hughes, Martin; Krieg, Hannes; Albrecht, Stefan; Vennström, Anders (2012). "Flexible strategies for long-term sustainability under uncertainty". *Building Research*. 40 (5): 545–557. doi:10.1080/09613218.2012.702565.
31. Zhang, S.X.; V. Babovic (2012). "A real options approach to the design and architecture of water supply systems using innovative water technologies under uncertainty". *Journal of Hydroinformatics*.

32. Daly, H. E. Economics, Ecology, Ethics: Essays toward a Steady-State Economy. Hardin, G. "The tragedy of the commons". New York and San Francisco: W. H. Freeman and Company. pp. 100–114.
33. Networld-Project (9 February 1998). "Environmental Glossary". Green-networld.com. Retrieved 28 September 2011.
34. Ben Falk, The resilient farm and homestead: An innovative permaculture and whole systems design approach. Chelsea Green, 2013. pp. 61-78.