

## A critique on current paradigms of economic ‘growth’ and ‘development’ in the context of environment and sustainability issues

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### **Abstract**

This paper critically evaluates different models of economic progress and development using concepts based on the idea of the ‘political economy’. It explores the influence of globalization on these different models and explores the nexus between the International Financial Institutions, trade bodies, and agreements that continuously exert economic pressure on governments. This paper also attempts to understand the environment and society in the context of markets and valuation mechanisms, and questions the effectiveness of economic instruments used to tackle complex environmental issues such as climate change and deforestation. The rest of this paper focuses on the technology-market interface; technologically oriented economic solutions seem to have a limited understanding of the root causes of the issues they are created to remedy. They also fail to acknowledge the intricate relationship between humans and their environments. This paper expounds the perceived inability of conventional economic frameworks to capture the dynamism, complex interactions, and organic nature of life sustaining phenomena in the biosphere is emphasized.

**Keywords:** Political economy, market instruments, International Financial Institutions

**Author's note:**

My core interest lies in bio-physical Hydrologic Modelling. Currently, I am focused in general on hydrology and management of urban lakes and specifically on constructing a water and nutrient balance for the Jakkur lake in Bangalore. Previously, I have also worked on modelling forest fire-hydrology interactions in the Garhwal Himalaya, and had two stints on the Adapting to Climate change in Urbanizing Watersheds project at ATREE. I have a strong affinity for ecological economics, political ecology and governance.

## Overview of surveyed literature

Limited literature having been surveyed, a concise summary of the limited sources helps provide the reader with a greater context. This paper was inspired by Ashish Kothari and Aseem Shrivastava's 'Churning the Earth: The Making of Global India,' which is essentially a critique of globalization in an Indian context. Using extensive, often government-supplied data, they analyse the consequences of rigorous economic reform across many aspects of life indicative of human well-being, including nutrition measures in a typical food basket, actual wages across economic strata, and job creation.

Throughout the book, it becomes painfully clear that traditional livelihoods and systems of sustenance have been uprooted and, unraveled, leaving a significant section of the populace to face dire economic consequences that are in stark contrast to the great fruits that a global economy promised with their integration.

The book pays special attention to the structural adjustment policies instituted by International Financial Institutions like the World Bank. Similarly, Ciem Tisdell's paper on transitional economies and globalization examines the relationship between integration into the world economy through institution of market based reforms and its subsequent social and environmental impacts, such as in the form of unemployment and ecological consequences. This paper focuses on the contradictory outcomes of globalization—simultaneously increasing access to commodities and creating new dilemmas for social welfare and employment.

Teresa Encarnacion Tadem's paper on anti-globalization spaces in Thailand helps foster an understanding of how popular grassroots movements have mobilized using their collective agency to voice their own concerns about globalization and take on the disparately larger and more powerful large international banks. Through 'Radical Ecological Democracy,' Ashish Kothari provides suggestions for alternative development pathways rooted in traditional livelihoods, local production and consumption, and other solutions based on actual experiments that have worked to some degree in different parts of India. This can also be regarded as active resistance against globalization and its detrimental effects. Wing Thye Woo's paper on the governance structures in China shows that a paradigm shift is underway, as greater concerns are raised about the integrity of Chinese society and a harmonious existence.

Rebecca Pearse's work on markets and climate governance examines the market based instruments that have been aggressively touted as solutions to address anthropogenic climate change. She uses a Gramscian analysis to show how political agency has been used by corporate lobbies to shift climate governance strategies towards market focused solutions as opposed to other alternatives. Long, Roberts and Dehm have specifically looked at the UN-REDD (the collaborative United Nations program for Reducing

Emissions from Deforestations and forest Degradation) framework and have shown that the program has seldom achieved its emissions reductions targets; furthermore, the authors note the program's potential to uproot and devastate those who depend on the forest to survive. Ariel Saleh is even more critical in her climate strategy paper. She writes about the Australian climate obstacles, where emissions initiatives are simply fallacies claiming to use certain technologies with no emissions but with invisible externalities that often more than offset the reductions. Saleh's paper also highlights the People's Conference on Climate Change in Bolivia held in Bolivia as a counter-narrative to the United Nations Framework Convention on Climate Change (UNFCCC) and the Conference of Parties (COP), although they engage with the former and present their draft recommendations that closely resemble their protocol. Analogous to the markets and technology oriented solutions in the climate governance framework, Alistair Iles' 'Rethinking Differential Obligations...' examines the International Convention on Biodiversity (CBD) through the lens of technology transfers. Equity dimensions of the CBD are explored, and it is seen that on the ground, the convention cannot effectively preserve biodiversity in many parts of the world, leading to the assertion that certain aspects of the convention may be reworked to include a more pluralistic idea of how to engage with biodiversity based on local economies.

### **A prelude - Energy demands, economics of scale: whose demand?**

At the 2014 annual Delhi Sustainable Development Summit (DSDS) held by TERI, The Deputy Chairman of the Planning Commission of India posited a dilemma: that we must choose between a perilous scenario of energy deficiency wherein electricity generation would be catastrophically less than our demand and another where this deficit is solved by opening northeastern India to hydroelectric projects involving the erection of large dams. This binary rhetoric of 'develop or perish' has been mooted by the Indian state over the last two decades and the proposed 'development' solutions have far reaching ecological, socio-economic, and cultural consequences.

Both coveted engineering design and economic principles share a similar character - scale. If things can be scaled, they make sense. Therefore, hydroelectric power generation in this country is also myopically restricted to the idea of scale; it is not economically and energetically feasible to generate electricity from smaller dams and therefore we must construct mega-dams across all of our large rivers. When manufacturing dams, size is a considerably important factor. The size of a dam determines construction materials - larger dams typically cannot be made from earthen materials such as soil and rock, and they necessitate the inundation of large areas to create reservoirs. The socio-economic dimension of energy demands is heavily disregarded. The northeastern rivers must generate hydroelectric power, otherwise

India will fail to meet its energy demands. When we present a future demand of 65000 MW for the country, whose demand is considered? Is this not essentially the routing of electricity principally to our concentrated urban centres?

### **Rationale, Research Questions & Organization**

Economics traditionally categorizes itself into macroeconomics, which concerns large-scale economic trends, and microeconomics, which involves household-level resources and decisions. However, with the exception of Elinor Ostrom's framework of New Institutional Economics, mainstream economic theory seems to pay very little attention to the role of politics, power, and institutions in shaping a nation's macroeconomic policies.

This paper is essentially a critique of the development decisions made by the Indian state. It also attempts to understand and analyse the performance of the economic tools and frameworks that are implemented to steer the nation towards economic growth. It is based on a literature survey and attempts to shed light on the following questions:

- How has globalization influenced economic policies in India and other developing nations, and what impact have market based economic reforms had on countries like India?
- How do International Financial Institutions influence the macroeconomic policies of developing nations?
- Does the creation of market based economies and the implementation of market instruments based on technology genuinely address complex environmental issues like climate change?
- What assumptions does the current paradigm of Indian economic development make and is this development socially inclusive?
- Does everyone support current notions of economic growth or are there alternative ideas and concepts of 'development'?

The first section of this paper comments on capital in its different forms and how different elements of the environment and society are viewed through an 'economic lens'. Next is an exploration of what globalization has meant for economies, with special attention paid to China, in a global framework of obligations resting on international trade bodies and agreements. Subsequently, the focus shifts to two key environmental issues - climate governance and biodiversity conservation. Examples from the UNFCCC framework and the Convention on Biodiversity (CBD) are highlighted.

This paper then goes on to examine the crucial interface between technology and markets, and tries to ascertain the

potential of technology to actually solve issues like climate change. Finally, the environmental Kuznets curve, a fundamental concept in resource economics, is mentioned. Questions about social dimensions of equity and access to resources are posed, and the eco-sufficient low-carbon lifestyles of indigenous peoples in nations are brought to light.

This paper has notable boundaries, the most significant being the limited amount of literature surveyed. Another restriction is the scope of the paper, as it can only discuss broad economic perspectives. The presented arguments lack specific, concrete examples and case studies. The links and relationships between different concepts are not concrete causalities.

## **Capital, Markets and Growth**

Central to all economic theory is the concept of ‘capital’. This seems a reasonable conceptualization to understand and empirically quantify things (albeit with its own problems) in terms of markets, finance, and capturing flows of money. Economists, however, have gone further and applied the idea of ‘capital’ to human beings and the relationships that exist between them. The terms ‘social capital’ and ‘human capital’, which quantify and assess the trust, ties, and networks that people form, severely limit a coherent cognizance of human experiences. The word ‘capital’ automatically restricts the undeniably nuanced experiences of human life and consciousness with other people.

The appropriation of human lives into the economic systems has always existed in the form of conceptualizing the ‘labour’ component of ‘land, labour and capital’ in order to address production, consumption, supply, demand and other economic needs. To achieve this, the transformation of human individuals into aggregate ‘labour’ forces was deemed necessary. Social ‘capital’ and human ‘capital’ have gained traction in economic circles as progressive ideas in spite of the limitations mentioned before. In addition, the paradigm based on neo-classical economics goes further and appropriates nature as a form of ‘capital’ as well. One is obliged to accept the idea that ‘natural capital’ is a sincere, sensible way of capturing the value of natural ‘resources’ and our environment in general.

The economic discipline seems to construe many things as resources to be extracted, harvested and mobilised, and hence most things come to be regarded as ‘capital’ regardless of whether they are living, dead, observable or invisible. With this conceptualisation of the world comes the perception that nature is not central and vital to our existence, but simply a tool to be utilised. The present doctrine of economic thought brainwashes individuals into forgetting a crucial fact of existence - human beings cannot survive without the basic processes that exist in natural systems such as the production of oxygen through photosynthesis, and the biotic regulation of climate phenomena. Humans’ arrogance and self-centeredness has engendered the belief that humans are the evolutionary pinnacle of all life forms,

and nature and all else exist to be subjugated. This is illustrated by the point made before, where nature and its vital life-supporting processes are demoted to a form of capital. In this sphere, there seems to be no understanding that none of the basic elements of commerce such as, stock exchanges, or manufacturing facilities, would survive or be sustained if these vital life-supporting mechanisms were to falter in any way.

The liberalised free market doctrine of economic growth is fundamentally driven by increased consumption. There are constant references to the ‘engines of growth’ and the idea that regulations and processes must not hinder growth rates. Even if someone sanely argued that there is some sort of inevitable human need to want to consume more indefinitely, from an ecological perspective, there are fundamental thermodynamic laws of energetics. These dictate that there are energetic limits to extraction, conversion of raw materials to products and waste and so on. Therefore, an economic system that does not pay heed to basic energetics, possibly captured by measurement tools such as EROEI’s (Energy Return on Energy Invested), for all its mathematical and modelling sophistication in the form of econometrics, cannot supersede the fundamental laws of energy and matter.

The most relied-upon index for measurement of economic growth is still the Gross Domestic Product (GDP). As the discipline of economics has matured there has been gradual recognition that GDP is not a very comprehensive measure of many crucial elements of a nation’s condition and therefore there has been a drive to create other indices. An alternative, the Human Development Index (HDI), was inspired by Amartya Sen’s Capability Approach. The HDI attempts to capture other meaningful qualitative parameters such as access to education, health services etc. Unfortunately, even alternative indices of a nation’s economic condition such as the HDI are still given little importance in framing economic policy, as the models of economic growth are obstinate in their use of GDP. In sum, in the realm of public discourse, the numbers matter and those numbers are all in reference to GDP.

## **International Financial Institutions and the Chinese Economy**

International Financial Institutions have been encouraging the developing nations to follow the same growth-oriented model that is overtly focused on Gross Domestic Product (GDP) as a measure of economic growth. One of the key justifications to entice the Indian state to follow this model of development has been the story of China’s meteoric rise in the global economy. However, there is growing recognition that the Chinese economy cannot keep ‘growing’ at this unprecedented rate and that this ‘growth’ has come at a significant ecological and social cost to the country (See Woo, 2007). Since India frequently looks to China as a country worth emulating (See Drèze and Sen, 2002), it is

important to recognize the shifting dynamic in the political thought process of the Chinese state. The priority of the Chinese state has shifted from economic growth to 'establishing a harmonious society by 2020' (Woo, 2007).

The Chinese government may soon recognize the considerable degree of social unrest among citizens who could not reap the benefits of economic growth and react by adjusting their economic policies to engender a more equitable distribution of wealth and resources in the future, even if it implies resisting some of the economic measures that the large multi-lateral banks would like China to implement, although this point is hugely speculative. Since there are certain similarities between India and China in terms of demographics, it would be sensible for Indian economic policy makers to understand and learn from the changes that are taking place in the Chinese context.

In the current economic context, each nation has its own internal market economy and also a global market economy that it is a part of. Globalization, through economic pressures, has triggered a heavy interaction between domestic market economies and the global economic regime. India has been no exception to this phenomenon and the result is that domestic economic policy is increasingly influenced by the external global market economy. Like many developing nations, the consequence has been that India has lost a degree of its economic sovereignty. The multilateral development banks have played a huge role in influencing this interaction and it becomes a pertinent issue in many contexts. India as a nation may want to enact certain environmental regulations or even social welfare initiatives but it may be discouraged from such initiatives and bullied onto a different path of development as dictated by the forces of the international market economy. (Pearce, 2011)

### **Market creation and livelihoods**

An important feature that needs to be reckoned with respect to market creation is the timespan involved in the evolution of markets. The global North has had a considerably larger amount of time to evolve market structures as opposed to the nature of the current shifts taking place in the global South. A rapid enactment of economic reforms that are meant to swiftly liberalize an economy and generate markets is bound to have adverse effects on the social and cultural fabric of a population, not to mention, widespread ecological consequences. For instance, in the predominant mainstream economic rhetoric, one is used to the idea that displacement caused by rapid industrialization can be appeased and dealt with justly by rewarding compensation to those that are affected by such projects. However, communities themselves may not be ready or equipped to deal with such a dramatic shift and the compensation amount may have little meaning to them. In fact, injecting such amounts of money into rural economies in the form of compensation in order to acquire land for private enterprise may even wreck havoc among



communities. This is well illustrated in the kind of situations evolving in the agrarian villages of the Northern Indian region such as that described by Kothari in 'Churning the Earth.' Farmers contest that their way of life is the most precious thing that they hold and giving up their practice of growing crops would amount to a shattered, directionless future in which context, the money received from the state would bear little relevance. (Shrivastava and Kothari, 2012)

### **IFI's & Trade Treaties**

The most powerful tools created by international financial institutions are international trade bodies and agreements. The World Trade Organization (WTO) creates the rules of the game with respect to international trade and with the ratification of the General Agreement on Trade and Tariffs (GATT) by developing nations, countries like India have certain obligations to fulfil with respect to their economic policies on trade and export. It is no surprise that these trade frameworks once again reflect the geopolitical struggle for dominance of capital flows which ends up being in favour of the developed world. IFI's with their powerful trade agreement tools to influence national economic policy have been historically putting pressure on developing nations to institute 'Structural Adjustment Policies' in the domestic structuring of their internal economies (see Tisdell, 2001). This is facilitated in no small part by large banks lending vast amounts of capital such as to the Indian state for various 'development' projects and assistance. When national governments take on these projects and agree to carry them out they are essentially locked into a 'debt trap' situation where the lending institutions increasingly influence monetary policy domestically, using the debt as a leveraging tool. These modes of influence are relevant in the current 'Foreign Direct Investment' (FDI) debate, which India was thoroughly caught up in. FDI may adversely influence local employment prospects and local enterprise but if the Indian state has been accumulating capital from the IFI's, they would be in a weaker negotiating position to maintain their previously firm stance on restricting the amount of FDI allowed.

Interestingly, neo-liberal enthusiasts with a heavy interest in opening up the Indian economy to foreign injection of capital have highlighted 'policy paralysis' as a problem with respect to the Indian state. It has caught the imagination of the public that there is too much 'red tape' and this 'hinders' financial interests. The implicit suggestion being that the state should reduce the degree of its intervention in economic affairs. However, this is ironic considering 'policy paralysis' could be the same term used to describe the effects of loss of economic autonomy in domestic decision making in the country as noted before.

The International Monetary Fund (IMF), the World Bank and the Chicago group have been very systematic in their declaration that developing nations and indeed the whole world, should all orient their economies towards generating market

focused solutions and this should be in conjunction with the retreat of the state. This premise has some serious flaws, especially in a country like India where there has been a history of inequity of distribution of access to even basic needs. The first flaw that can be highlighted is that of rising unemployment with a shift to market economies based on increased privatization and mechanization of goods and services. For a long time, there has been serious concern that if China were to privatize all its state enterprises then there would be a significant spike in unemployment. India is a democratic country in principle and therefore such dramatic transitions may not be plausible but it is still important to consider impacts on employment with rising privatization of public sector enterprises.

### **Welfare & Public-Private Partnerships**

In addition to the employment impacts, another consistent fallout of a rapid shift to laissez-faire market dominance in a domestic economy is the erosion of welfare. The Indian state and constitution began with very serious commitments to ensuring that its citizens should be extended different forms of welfare and this should foster an equitable society. However, social welfare has steadily become a low priority endeavour of the Indian nation-state and this is in congruence with what is observed in other developing nations that have encouraged radical shifts to market based economies. Increased privatization and corporate control of basic resources and services leads to a widening gap between those that have access and those that do not have access to these resources. This has serious impacts on civil society as large numbers of people lose access to basic services such as healthcare, education and other public services simply by virtue of not being able to 'afford' them.

The Indian government has steadily oriented policies to favour more Public-Private-Partnerships (PPP's). This move involves giving more power to corporate interests through setting up large projects that involve a lot of resource extraction or use. Issues such as land acquisition come to the forefront here, and there is an imminent and realized danger of there being state sanction for coercing indigenous communities on such issues to expedite the implementation of large projects such as dams, power plants, mines and other industrial setups. The nexus of the state with large corporations raises a multitude of ethical issues and economic policies such as those on taxation are being increasingly made to facilitate corporate interests. This manifestation can be no clearer than in the case of the multiple 'Special Economic Zones' that the Indian state has been zealous in setting up in order to tempt foreign investors to bring their capital into the country. SEZ's essentially allow private enterprises to have 'free reign' in that bounded geographical extent whereby they can flout the regular labour, taxation, environmental and various regulations that would ordinarily apply to them in the rest of the country (see Shrivastava and Kothari, 2012). Large banks and financial institutions actively

finance PPP projects, and it is seen as a measure to ‘spur growth’ and make the economy ‘more competitive.’ It must be voiced though, at what socio-ecological costs is this growth at the expense of, and is this the kind of competition that is considered healthy for a society?

### **Climate governance: ‘cap and trade’, CDM & REDD**

Another case of misconstrued ideas is the advocacy for ‘cap-and-trade’ or emissions trading systems. Creating a market from tradeable emissions credits simply redistributes the pollution. On the whole, these kinds of market mechanisms do very little to reduce overall emissions. This is a classic case of markets attempting to solve complex ecological issues without addressing the root causes. It is a telling commentary on mainstream economic thought- that, somehow, setting the right price for pollution will make pollution itself vanish.

Climate policy has not been immune to this thrust towards technology transfers, capital flow, and other market-based instruments that favour multilateral banks and the global North. International negotiations on climate change have tried to cajole governments into adopting flagship frameworks such as the Clean Development Mechanism—which is embodied by World Bank initiatives (including the ‘Carbon Prototype Fund’) and supported by large financial institutions. Climate change—is a complex problem that is being thoroughly examined by a huge number of scientists and special interest groups. An appropriation of this domain by banking institutions that aim to foster market solutions is in itself a questionable trajectory. When combined with their influence on the economic, development and energy policies of entire nations, this becomes a serious case of conflicting interests (See Salleh, 2011).

In accordance with CDM, another UNFCCC mechanism is Reducing Emissions from Deforestation and Degradation of Forests (REDD). This framework, at first glance, seems to be address deforestation. A closer look, however, suggests that REDD is more about preserving rainforest carbon sinks in order to enable the global north to continue emitting unacceptable levels of pollutants. These neo-colonial architectures subjugate developing countries to absorb or compensate for the atmospheric pollution generated by energy intensive economies in the developed world. They address neither the real issue of alarmingly rapid deforestation nor the inequity of such subjugation. For native forest-dwellers this translates to a loss of access to the forests upon which they have relied for generations (Long et.al, 2011). There have been certain progressive movements by the Indian judiciary to institute the Forest Rights Act and other attempts to foster equality-but there is a lot of contention around these issues.

## **Convention on Biodiversity (CBD) and different ways of viewing biodiversity**

The International Convention on Biodiversity (CBD) seemed at first to be an extremely progressive multi-lateral treaty with serious intentions of addressing the alarming rates of global biodiversity loss. However, with the forces of market-based mechanisms looming over the convention, it was reoriented towards viewing biodiversity as a commodity. The goals of the convention became more technologically oriented: for example, providing genetic material for industrial use in biotechnology and pharmaceuticals. This mindset of 'extracting' materials from ecosystems for human use is deeply flawed and undermines basic principles of conservation.

The intentions may have been to curb biopiracy and give nations sovereign rights over their regional biodiversity, but economic models based on extraction of resources reduced the concept of complex and respected habitats and ecosystems to available assets that can be 'mined.' This focus on bio-prospecting neglects the relationship that indigenous peoples have with nature, threatening their delicate equilibrium with forests, wildlife, and other troves of biodiversity.

Interestingly, the progressiveness of the convention lies in the fact that it is composed of asymmetric or differential obligations based on the differential conservation capabilities of nations. However, these asymmetric obligations often end up enforcing the policies and frameworks that result in species or habitat loss. The entire treaty is based on the assumption that it is possible to have economic growth, equitable access to resources, and technologically fuelled extraction and production, all simultaneously. In the end it is no surprise that none of these goals are met with great satisfaction, as some of them are clearly contradictory. (See Iles, 2003)

## **Technology and efficiency paradigm**

The economic growth and development model is consistently dazzled by two elements: technology and efficiency. When it comes to serious problems like climate change the focus is on technical and energy efficient solutions. The resultant direction is that renewable energy technologies and zero emission initiatives will 'solve the problem.' Once again this fallacy needs to be deconstructed; technologies do not get produced in an ecological vacuum.

Organisations such as 'Beyond Zero Emissions' in Australia heavily promote the idea that their renewable geo-engineering products will alter the trajectory of emissions and subsequently, climate change. There seems to be a deliberate unwillingness to acknowledge that however ingenious the technological geo-engineered solution may be, in terms of energetics and material, it still has a fossil fuel basis for its creation. Not only that, but for the facilitation and subsequent

maintenance of some of these technologies, there are often other external ecological costs which are not accounted for and which are contradictory to what the technology itself might be trying to achieve (see Salleh, 2011).

Therefore, the economics in such scenarios fails to capture the entire process of production and the negative externalities resulting from that particular technology. With regard to efficiency of resource use, Jevon's paradox clearly highlights the issue. Greater efficiency does not result in lesser production—it results in the converse: a greater quantum of production of goods from the same quantum of resource.

### **Technology, socio-ecological fabric and indigenous lifestyles**

These economic directions that are focused on technological solutions to ecological issues must be categorized as initiatives of weak sustainability. They are essentially cursory attempts to deal with genuinely problematic issues with great consequences and that is why disciplines such as ecological economics focus on how to endeavour towards implementing measures of 'strong sustainability.'

There is also a conscious reluctance by large institutions and nation states alike when framing economic policies to recognize the low-carbon lifestyles that indigenous communities have had for thousands of years in a country like India for instance. Their ways of doing agriculture and every other activity that involves nature such as collection of water, are a testament to an existence based on eco-sufficiency. Farmers themselves have seed and crop varieties that they have realized can grow better in new unpredictable conditions brought about by changes in climatic patterns and these revelations cannot be separated from the unique relationship and intricate understanding that they have with the soil, plants and their surrounding environment. Yet there is practically no attempt to see these ways of living as sustainable alternatives.

In the conceptualizations of economic growth that India has had for its populace, which is based on the never ending pursuit of growth perpetuated by large financial institutions, there is an assumption that people across all geographic contexts and lands are a homogeneous whole, and that inducing them to be part of market economies based on capital will have universal effects across the board. In other words, there is no ecological context and no cultural context to this mode of economic development and it assumes that everyone will react in the same manner and swim along with the tide. This is an area of the prevailing mainstream economic paradigm that cannot address a crucial issue; economics does not have an articulation on how to incorporate normative value systems of different peoples and how to take cognizance of the different human-nature relationships that exist.

The other very significant aspect that cannot be captured by the current modes of valuation and pricing mechanisms are the

dynamic and organic nature of natural phenomena, not to mention the interrelationships and intricate complexity of natural processes. This is where the mechanistic structure of markets, valuation, instruments and pricing falls painfully short of being able to see and capture crucial aspects. Perhaps ecological economics has some answers to these questions in the way that it sees the metabolic processes of humans with nature and its socio-metabolic frameworks combined with material and energy flows.

### **Kuznet's curve and Trickle-down Effect**

The environmental Kuznets curve is a classic economic tool that has been used to explain how there would be increased pollution levels during the industrialization of a developing country and over time, as the Gross Domestic Product would increase with 'economic growth', the per-capita income of the nation would simultaneously rise and eventually environmental degradation would plateau and fall to acceptable levels.

Unfortunately, or rather predictably, this has not been the case with many nations who have instituted economic reforms focused on industrial and manufacturing based economic growth over the past two-three decades. Studies have shown that the rebound of the Kuznets curve has not occurred and in fact there has been no fall in the rate of environmental degradation. In fact, there is a revelation that the Kuznets curve has shown bi-modal character. In addition, the rise of per-capita incomes in no small part relies on the phenomenon of the 'trickle down' effect, implying that in a rapidly growing economy, benefits 'trickle' down to lesser economically privileged sections of society.

The 'trickle down' effect is another dated argument (its origins disputed) that economists have stubbornly used as a political justification to relentlessly pursue GDP-based growth. The ideal creation of entrepreneurial revenue that flows down and stimulates growth for even the poorest in a society is in stark contrast with the present reality observed in nations like India. There are very few signs of the 'trickle' down effect, and the result of attempts to create one is a deeply divided society, where a small elite class has overwhelming control of resources and capital.—The large majority, conversely, has a greatly diminished capability to pursue traditional livelihoods and sustain their existence (See Shrivastava and Kothari, 2012).

This economic situation is a recipe for disaster. Such an inequitable distribution of capital and access to basic services fosters resentment and unrest. These voices may be temporarily subdued—by the great 'shining India' stories, but eventually political grassroots movements will mobilise. If many feel that the state is not adequately addressing their concerns or excluding them from the new wave of development, then violence is also a real possibility.

Aspects of equity and fairness of distribution are not sufficiently dealt with by economic reforms premised on economic growth. The idea of a self-correcting market based on an idealized

version of free trade fails to recognize power relations, in that different peoples have different negotiating and bargaining statuses. This clearly demonstrates a need for an institutionalized framework based on ethics and justice. Unfortunately, neo-classical and neo-liberal economics seem to be very poorly equipped to deal with these issues, as their models are mechanistic and reductionist when representing economies, peoples, cultures and nature.

## Concluding Remarks

Throughout this paper, there is an emphasis on power relations, political structures, and methods of governance. When introduced to economics, often the illustrated etymology is of 'household maintenance.' However, the intermediate roots of economics lie in the phrase 'political economy' and this paper is a humble defence of the idea that power relations and economic theory cannot be separated. International financial institutions seem to exert a significant amount of influence over macroeconomic policy, and it becomes relevant to postulate whether state policies should be so affected by lobbying from financial bodies.

Rapid institution of economic reforms seems to have certain adverse socio-ecological effects. Therefore, it is necessary to respect the timeframes required for market evolution and to realise that markets cannot rectify many societal issues. It is clear that globalisation and an industrial boom has accelerated the adoption of these economic policies. This necessitates a re-evaluation of the elements and outcomes of globalization as well as a reconsideration of the ideas that India wants to promote.

Environmental issues such as deforestation and climate change are inherently complex. Market instruments such as emissions cap-and-trade schemes and the Clean Development Mechanism do not represent effective solutions. The overt focus on technological innovation ignores the root causes of this ecological destruction. In fact, when the entire production cycle is considered, these technological 'solutions' do not significantly reduce emissions at all. Instead, the development techniques promoted by the Indian state both ignore current low-carbon, eco-sufficient indigenous lifestyles and alienate large populations who are negatively impacted by these practices.

Mainstream neo-classical and neo-liberal economic paradigms have shown themselves to be ill-equipped to successfully incorporate and prioritize the dynamic life processes and systems of the biosphere. Valuation and pricing mechanisms are also unable to recognise the vital and diverse elements of socio-metabolic human-nature relationships.

Acknowledging the limited scope of the surveyed literature, there seem to be few works that concretely qualify or establish the extent of influence that International Financial Institutions have over economic frameworks. This may be simply due to the difficulty of isolating and quantifying the role of financial

institutions given the interdependence and inter-connectedness of the global economic system. The reviewed research also generally fails to present specific scenarios involving the various economic market based mechanisms outlined throughout the paper, such as public-private partnerships and clean development mechanisms. It is, of course, entirely possible that these gaps have been addressed in works that were not considered in this paper.



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