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Re-Thinking River Diversion Projects: A Political Ecology Perspective

[1]Neha Singh and [2]Neeraj Mishra
[1]Indian Institute of Technology Indore, WS-106,
[2]Indian Institute of Technology Indore, WS-211, Simrol, Khandwa Road, Indore,
453552 Madhya Pradesh, India

Abstract: The usage of pipelines to make water available to people has been widely discussed phenomenon throughout the world. Less argued are the projects which divert tributaries from larger rivers via. small diversion channels for the sake of short-term goals that work around natural waterscape. River Khan is one such smaller stream which accumulates the entire waste of Indore City and has been diverted from its larger stream River Kshipra in the wake of Kumbh Mela, 2016, to keep the larger stream clean. In this context, the study looks into the discrepancies of this project and identifies the political and economic forces involved in the formation of such projects during events like Kumbh Mela. Using the theory of political ecology the paper attempts to understand the complexities surrounding environment and development. It also explores how unequal relations in and among societies affect the natural environment, in terms of government policies and going further how culture depends upon and is influenced by the material conditions of society.

Key words: Khan diversion project, Kumbh Mela, River Khan, River Kshipra, political ecology, Indore City, Ujjain City

INTRODUCTION

The rivers in India are indeed the life-line of masses and the wild-life. They play a very important role in the lives of the Indian people. The river system assists in irrigation, potable water, cheap transportation, electricity as well as it is also considered to be the source of livelihood for the ever increasing population. The major cities of India are located on the banks of the holy rivers Ganga, Yamuna, Kaveri, Narmada and Brahmaputra. Their proper management is the need of the hour. Even today 75% of the Indian economy is dependent on agriculture which largely depends on monsoon and which is always uncertain in nature. Hence, there is a severe problem of lack of irrigation in one region and water logging in others. Depleting and decreasing status of water resources is one of the most critical resource issues of the 21st century. In this regard, the objective of the paper is to study issues and challenges in diverting or linking the rivers and their environmental impacts (Mehta and Mehta, 2013).

Martin (2003) clearly warned that linking rivers like straight pipelines without looking at the ecological impact might be very harmful to our environment. Scientists are also doubtful that river diversion may bring significant changes in the physical and chemical compositions of the sediment load, river morphology and the shape of the delta formed in the river basin. Water-related diseases, such as malaria and filariasis can spread through stagnant or slow moving water in the irrigation command area. The ecologically un-informed economic development activities, like widespread water logging and the resulting desertification in the catchment areas of many large irrigation projects, can also be cited.

Roy (1999) states that "In India, 50 million people are estimated to have been displaced in the last five decades by the construction of dams, power plants, highways and such other infrastructure development projects. Subsequently no more than one-fourth of them could be assisted to regain their livelihoods." Wolfensohn remarked that 'Such social injustice can destroy economic and political advances'. With the link broken, the ecological balance of land and oceans, freshwater and sea water is also disrupted (Shiva, 2002). Inter-linking a toxic river with a non-toxic one will have a devastating impact on all lives, on all rivers and consequently, on all human beings and wild life.

Rivers, instead of seeing them as a source of life are becoming a source of cash. In Worster's words, the river ends up becoming an assembly line, rolling increasingly towards the goal of unlimited production. The irrigated factory drinks the region dry. Iyer (2003) is acerbic in his

Corresponding Author: Neha Singh, Department of Sociology, School of Humanities and Social Sciences, Indian Institute of Technology Indore, Indore, Madhya Pradesh University, Indore, India

Fig. 1: The picture shows location of Khan River in the city of Indore, Madhya Pradesh, India

comments on inter river linking projects; Are rivers bundles of pipelines to be cut, turned around, welded and re-joined? This technological hubris arrogance of the worst description is prometheanism of the crassest kind. The country needs to be saved from this madnes's. In order to understand such technological hubris, this study discusses the case of diversion project of River Khan flowing in the City of Indore, Madhya Pradesh which is the sub-tributary of river Kshipra (Fig. 1).

The Indore City is drained by Khan and Saraswati. Khan is considered to be main water body of the city of Indore. It is a tributary of Kshipra which appears near Umaria village 11 km South of Indore and flows through the heart of the City, travelling a distance of around 50 km, it confluences in to Kshipra River at Ujjain. The total sewage generated in Indore city is 200 MLD on the basis of present population. For now, Indore Municipal Corporation (IMC) is treating only 90 MLD of sewage, the rest is disposed without treatment into River Khan which in return is also polluting river Kshipra. The city of Ujjain organised Kumbh Mela in April and May, 2016, on the banks of River Kshipra. In order to keep Kshipra clean from River Khan during Simhastha 2016 the government planned to divert River Khan for around 18 kmsec to the lower stream of Kshipra at Kaliyadeh. So that, the entire region where Kumbh Mela would take place will be sludge free.

This study aims at understanding the concept of ecologism for taking two things into consideration, one is conscious life activity and the other is produce activity. Animals also have their activities, they also produce. But whatever they produce they produce it for themselves while when humans produce it affects the whole society. Animal produces only for the fulfilment of his immediate physical while human produces even when they are freed from physical needs. So for humans, their conscious activity helps them to think, act and judge in a proper way.

Human's objectivity Marx calls production as a process of objectification. It is the activity by which man affirms himself to objectify oneself in something external to time is to consume or fashion or otherwise use it to satisfy his needs (Mark, 1844) which is external to them. Objectification includes human's operation on nature and its effects that take place on them. In the philosophy of Marx human and nature are intrinsically related (Mark, 1844). Through his elaboration on human and nature, he reveals that capitalism has changed their way of looking at nature. Humans are very busy producing which has made them forget in what kind of technological hubris they have brought the world today.

This study discusses the diversion project of River Khan which was constructed parallel to the flow of River Kshipra showing an example of objectification of rivers by the humans. It also explores how unequal relations in and amongst societies affect the natural environment, especially in context of government policy.

Literature review: Rivers are fascinating places, exhibiting both natural charm and usefulness for a vast array of human activities. Throughout history, rivers have been sacred, worthy of admiration and wonder. The arrival of water at our homes through taps and water bottles have made us forget that before the water gets through the pipes to reach our homes and before it is filled in the plastics, it's the nature's benefaction. The sacredness of the rivers has been inspired by the power it carries in building a life force. One can understand the significance of the rivers through T. S. Elliot's quote in his writings where he says about Missippi River, 'I do not know much about gods but I think the river is a strong Brown God. Throughout the world the spiritual importance of water can be seen like in France, a simple sacred to the goddess Sequana is located at the source of River Seine and the Marne River gains its name from Matrona, Divine Mother; the ancient name of the Thames river in England in Tamesa or Tamises, denoting a dirty river. In the book sacred waters, janet and coten bord list two hundred ancient holy wells in England, Wales, Scotland and Ireland that have survived into modern times.

Meanwhile in India every river is considered to be sacred and is an extension and manifestations of divine gods. Annual floods and droughts of such rivers have been of paramount concern to India over the millennia. Such concerns increase with a growing population and

changing climate. Linking of rivers has always been in debate, so that, the problems of floods and drought in India could be dealt with through historically most plans were deemed unfeasible. Sir Arthur Cotton's plan in the colonial times to link the southern rivers in 1839 was abandoned as railways took priority. The National Water Grid project by Dr. K.L. Rao, an eminent water engineer who later became water resources minister, to link the ganges and cauvery with a 2,640 km canal to pump twenty five billion cu.m height of 450 m to irrigate 4 million ha in the southern states was eventually scrapped as it was 'very costly and lower cost alternatives were unavailable'. A third plan, the 'garland canal' was proposed by the retired Captain Dastur. A grandiose project, which though 'prima facia impractical', persisted in national discussions. So, linking rivers at a grand scale to solve India's water problems have been proposed for more than 150 years but were impractical on both technical and financial grounds.

The result of one such project though not officially announced or brought into light was Narmada Kshipra Simhastha link project. The project was to lift water from Narmada River to a height of 350 m using electricity driven pumps, after which it was diverted to the origin of the Kshipra River which can be traced to have its origin in the Ujjain hills which runs dry today. This project has managed to infuse new life into the Kshipra River draining the water from Narmada River.

This project was called India's first multi-crore electricity driven river linking project which pumps Narmada River water into the Kshipra River and was announced to be successful. Ample of water was generated due to which pilgrims could have surplus of water to take to holy dip in Ujjain during the Kumbh Mela. In order to keep the Kshipra clean from its tributary Khan a diversion project was also constructed. This diversion project was announced as River Khan through the ages has become sludge carrier of the city of Indore and while it's meeting with Kshipra at Triveni Sangam, Ujjain, it delivers its content to the later. Seers (religious leaders) who came to visit the River Kshipra before Kumbh Mela went through several spots where sewage gets mixed in the holy river Kshipra. They asked the government to build a filtration plant to keep the Kshipra clean from these spots which were mostly coming from River Khan.

The government responded to this demand through Khan Diversion Project. This study elaborates on the same. According to the interviews during the study of this project, it was a 100 crore project which includes the stretch of 18 kmsec starting from Pipliyaraghao to Kalideh which was the main area of conduction of Kumbh Mela,

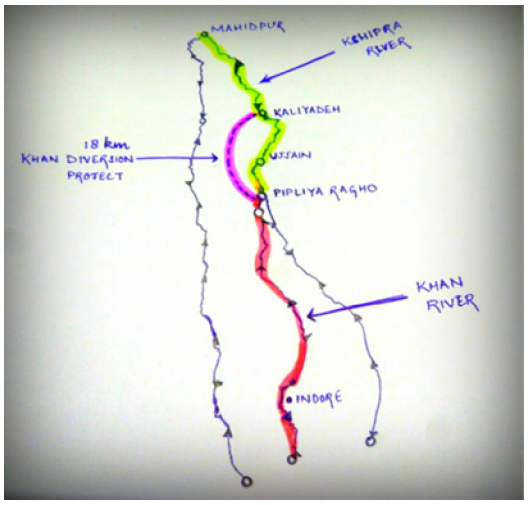

Fig. 2: The diversion project and its area covered

2016. Through the survey made by the government in order to lay down the pipeline thirteen villages of Ujjain and Ghatia Tehsil were dug up (Fig. 2).

According to company K K Spun, government asked for tenders for the project and they had the least amount of tender which was of seventy five crores. This project was responsible to lay pipelines to divert River Khan for 18 kmsec by the said company. Project was released on 18th November 2014. The diversion was to start from the zero point Pipliyaraghao and end at Kaliyadeh at the lower course of Kshipra River. The pipelines were laid parallel to the River Kshipra as per the records of the company, it chose as smaller stretch as it can so that most of the farming areas are not occupied. With the laying of pipelines the company has also provided irrigation wells at every 2 km of the stretch. The project has an estimate of 13 irrigation wells. Each pipe laid has the following dimensions: an inner diameter of the pipe is 2600 mm, outer diameter is 3100 mm and the length of the pipe is 2.5 m long. The pipe is of 16 tonnes and needs a crane to lift it up which is of almost 90-100 tonnes. The company says that in order to divert the river it had to cover twenty villages. The company divided its work into three different teams which were supervisory: performed by the company itself, machinery taken over by JBL and pipe laying team this team has three different needs connecting the belt of the crane to the pipe, attaching rubber to the pipes and laying the pipes which is completed by the crane. The project is divided into ten sections at ten different places and has ten different contractors for pipe laying. Pipe laying team gets its labour from the nearby villages of the diversion project.

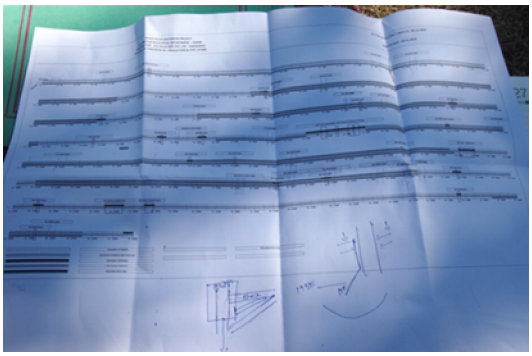

Fig. 3: The schematic diagram of the Khan River diversion project

Figure 3 portrays the laying of pipelines in twenty villages. The advantages of the project according to the company are; in terms of environment: it filters the dirty water of River Khan and lets it flow directly to the lower stream of Kshipra, it decreases sewage-related diseases, it provides water for irrigation purposes through wells, Kshipra receiving the back water of Narmada remains clean. In terms of livelihoods: this project has provided opportunities to the people of Madhya Pradesh in the form of guards, office boy and labours.

The disadvantages which the company puts forward is that the farmers could not grow crops for the time the pipelines were laid for that duration they have been provided compensation. The provided compensations created many disputes amongst the former and the latter, the former has sometimes surpassed the limit of the stretch to lay pipelines which have also been the reason for dispute. The company holds operation and maintenance for the next 2 years that are 2017 and 2018. After this, the tender would pass on to some other company which will take care of the diversion project. The company claims that the pipes are of M-30 Grade which would last for almost 50 years.

On the contrary, the discussion with farmers discloses a different story. Some say that, since, December 2014, they were in discussion with the concerned authorities to give piece of lands to the company for the diversion project. Once the construction was over their lands were to be handed over to them the way it was. To construct this project, the government told the farmers that this would keep Kshipra clean. They also said that letting River Khan pass through their lands would be one of their religious contributions in making holy dip possible in River Kshipra during Simhastha, 2016. The troubles they were going through because of the construction of this project were cracked roads, breakage in water pipes and usage of extra land. The farmers say that the company has claimed to the Panchayat that it will pay for the damage caused but through the regular follow-up of the place reveals that even through Simhastha is over the lands dug have not yet recovered. News of causalities of labours dying while helping the company build the project were heard from different sources during interview sessions. There are some farmers who think that the project is fruitful for them and their lands. It will help keep clean both the Rivers Khan and Kshipra.

Through this project, the study using political ecology approach highlights how the propagation of equality of distribution of resources in cities is changing into inequality and affecting the rural areas too. To discuss this inequality the paper questions the concept of market value given to the resources, thinking them to be a solution to the ecological crisis. Following that the paper shows how through the arrival of industrial Revolution, all value became synonymous to commercial value and the spiritual, ecological, cultural and social significance of resources eroded.

Theoretical framework: This study explains the concept of political ecology. Through this approach the study examines social forms and human organization that interact with the environment. It queries the relationship between economics, politics and nature. This approach helps the study in advocating fundamental changes in management of nature and the rights of people.

Defining ecology: In the late 19th century, the distinctive qualities of ecologism became visible and had two distinct strands. One being anti-mechanistic and holistic approach to Biology, deriving from the German Zoologist, Ernst Haeckel. The second strand was a new approach economics called energy economics. This focused on the problem of scarce and non-renewable resources. These two stands were combined in the 1970's. The two strands biological and economic had a certain degree of cross-membership. The contacts between individual and ancestors played an important role even today. Therefore it is the combination of the intensely conservative moral and cultural ecological critique with the full apparatus of qualitative argument that has made ecologism the powerful force it is today (Bramwell, 1989).

The word ecology is widely used in behavioural sense, than biological sense today. The understanding of ecology in the biological sense is one that considers energy flows within a closed system. While in the behavioral sense, it means the belief that severe a drastic change within that system or indeed any change which can damage any species within it or that which disturbs

the system, is seen as faulty. Thus, the above argument explains that ecological ideas are associated with conservation of specific patterns of energy flows. These patterns can be small in scale like one-acre wetland site or the weather patterns resulting from Amazon rain forests or larger patterns that affect the continuity of human existence. The ecologist today do not feel that man holds a predominant place within this hierarchy of patterns which means that the earth is not a dead planet which contains a valuable closed system but is itself alive. To elaborate more on this belief, it can be said that the earth has its ways of maintaining the ecological balance, its will to live. It is capable of preserving its existence. It can shrug off disturbing intrusions, whether from comets or from humans (Bramwell, 1989).

Ecology was the science which could interpret the fragments of evidence that told us something was wrong with the world- dead birds, oil in the sea, poisoned crops and the population explosion. What it meant was everything links up. Here, was a new morality and a strategy for human survival rolled into one (Chisholm 1972). This was written in 1972 while the ecologists claim that the sense of something wrong has resonated over the centuries. A sense that something is wrong with the world is not the dependable component for constructing specific and revolutionary policies. To understand what is wrong with the world as it is mostly the question related to intuitions which needs investigation. There have been many explanations for the location and growth of ecologism but at the end, they become irrelevant to their claims. Their claims are human's vision of his place in the world and his relations to it. Human's vision is related to fundamentals of Western intellectual life with its awareness of transience, the tensions between past and future, being and becoming, ego and other. It affects the larger questions: the source of historical change, the nature of humans, the why and how of the history of humans. It is intimately bound up with the problem of causality, affecting especially the question of the source of innovation and creativity. The validity of objective science and the possibility of social science, these all hinge on the stance taken towards human's place in nature (Bramwell, 1989).

Over the centuries, nature has been swinging between being hero and villain. The study of the changing attitudes to nature and environment and the vision of a balance between them are known as ecology. It creates a central line between man and nature which provides a set of political categorizations which are fruitful, useful and relevant to today's political scene. But creating a central line is not simple. Put baldly, nature-based ideas are seen as legitimising social Darwinist, red-in-tooth-and-claw beliefs. The role of nature in German vitalist philosophy and philosophical anthropology between 1890 and 1933 has been associated with the growth of National socialism while irrationalist and 'cranky' movements have claimed a special relationship with nature and earth. Conservative and reactionary movements have often looked back to the peasant-landowner relationship as a source of national strength. However, the essential characteristic of ecology, while it does not fit happily into any one ideological category, is that it draws many of its conclusions from scientific ways of thinking and is not conservative (Bramwell, 1989).

In order to create this central line, political ecology came into existence. It began towards the late 19th century, started as a progressive, science-based, anti-democratic movement. Kropotkinite anarchists as well as spencerian individualists, all based their politics on recent theories of biology and physics. Between the wars, some positions were associated with ecological ideas, dominated this time by a fear of erosion and famine and including in England, the High Tory movement of H.J. Massingham and Lord Lymington. Technophiles and technophobes have always warred within ecologism. Technological optimism was more common in North America, where the late 1960s saw an anarcho-communard green movement. The most successful green movements today are of the radical left and there are Greens today who feel unease at some of their ideological forebears (Bramwell, 1989).

The complexity is this; it is possible to assert that if humans are part of the natural world, subject to the same laws as the animals, then they are like them entitled to compete to survive. Because they cannot hope to escape from their animal nature, they are justified in aggression. This is the social darwinist argument associated by many with a politics based on nature. It assumes that human's survival cannot be taken for granted; they are never secure. The counter-image is that humans are so special, so malleable and adaptable in their nature that laws of the natural world no longer apply to them. Human's intellect and self-awareness in this mode, meant a qualitative change in their status and removed them from the biological law of selection and evolution. If their behaviour is not controlled by instinct, then humans are adaptable enough to be made over in any image. The model of improvement through social and environmental change is a progressive and left-wing model (Bramwell, 1989).

However, one can also argue that it is precise because humans partake of the earthly burden that they should help nurture the earth, rather than vandalize it.

Their 'natural' role is that of a shepherd. Nature embodies stasis and harmony. Humans should, therefore, accept, their limitations and fit into the given pattern of energy flows. This is on the whole, the ecological viewpoints, that they are the shepherd of the earth. And an ecological conclusion has been drawn from the premise that humans do not have inbuilt limitations. This conservative variant points out that is precisely human's lack of a fixed genetic inheritance that makes stable institutions essential as a substitute. Because their culture has to be learned afresh with each generation, those traditions, such as the family, which embody memory and habit, must be preserved. The belief that humans are born without a genetic template for say, the Church of England, makes continuity in social institutions more important and not less makes progressive aims more dangerous, precisely because man can be stripped of his non-genetic endowments his cultural heritage by the well-meaning destruction of existing structures. So, human's capacities for improvement and change are finite and he should be cautious of attempts to strain the boundaries of what is natural to him (Bramwell, 1989).

Thus, it is an over-simplification of ecological politics to think that nature-based thinkers have to be social Darwinist, while believers in man's malleability must reject nature from their analysis. The political stance of ecologists has been more complex, just as other political categories shift and change over time.

The ecological box: The political theory of ecology can be defined and explained by defining the ecologists and his beliefs. Ecologist occupies a special political niche and they also have their epistemological consequences related to their occupation. One way to understand ecologists would be to assume that there is an agreement on who and what were they. In reality, there is no such agreement. The history of ecologism is not only in its infancy, but what exists has largely been written by believers. Its historiography is divided into uninvolved histories and very much involved histories. This is not to criticise involvement in itself. A philosophy should affect the life of its time, while a subject is only of interest if it relates to our sense of values whether aesthetic or political or moral or all three. However, engagement produces problems for the historian of ideas. It means that some works are considered as subjects for academic dissection while others are written by co-dissectors. This distinction between comrades and victims does not reflect any difference in quality but objective and self-definition. In defining what an ecologist is what he thinks is his history is obviously relevant. Here, then historiography becomes part of the syndrome it defines (Bramwell, 1989).

Ecologism is a political box. This box began to attain its current shape and size around 1880 in Europe and North America. Self-definition about belonging in this box acquired a proper name and earlier ecologists saw what they had thought their very own box expropriated. Over the last 100 years the clarity of the box's outlines was obscured by the presence of other, bigger, better-known boxes that is they shared policies and aims, but temporarily and variably, since, non-ecological boxes fluctuate in their degree of concern for ecologism. These other bigger better boxes fall into three categories which are conservatism, socialism and communism. These boxes are only that old as old is the trace of our ancestry. These three categories have their self-definitions, the definitions through which they can convince their category members. Such self-definition are constantly changing, live political issue. Conservatism and socialism are traced back before the exact definitions and party systems arose. These terms find their trace not far back, probably a few decades at most when tories changed to conservatives and marxist social Democrats changed to liberal Socialists. By analogy, therefore, one would expect the ecologist to emerge shortly before the word became used normatively. As the first normative use of the word that I have found dates to 1915, it seems reasonable to place the creation of the ecological box in about 1880, some thirteen years after the scientific term was first coined (Bramwell, 1989).

Ecologism does not involve the web of life alone, it was used originally as coterminous with ethology, the study of animal behaviour in its environment and with oekonomie, the concept of 'economical' household management. This implies that the use and conservation of resources is a moral activity as well as an economic one and a morality closely bound up with the survival of the group. Although, the terms rest on Greek roots-some ecologists, find this link early classical Greece itself significant the words refer to a set of biological, physical science and geographical ideas that arose separately around the mid-9th century. Biological holism showed that human and animals were interdependent in a balanced environment. It implied that there was a scientific truth that lay outside human's perceptions but on which human depended. The physical sciences learned that the dissipation of energy might endanger human's existence or even that of the planet itself. Geographers examined land settlement and used from the aspect of resources. The land itself became perceived as endangered and its finiteness, always known as a truism, began to matter (Bramwell, 1989).

The beginning of political theory of ecologism: The First World War brought apocalypse to a generation already

intellectually alienated. It showed that real disaster, real loss was possible. In the 1920s ecologists began to define themselves as such. It had taken about that long for the scientific roots of ecologism to merge into a political discipline to become an ideology. The existence of this ideology has been obscured because it took on varied political forms. Most controversially, in the 1920s and 1930's, an alternative, an anti-capitalist stance meant that the apparently alternative, anti-capitalist 'Third Way' National Socialist and Fascist parties attracted ecologists. After the Second World War, the idea lay dormant for a period. It then revived still in an alternative anti-capitalist form, with similar ideas, programs and beliefs, but with a self-defined leftwards tinge. The political shift was partly because the 'soft centre' moved from right to left during this time. It was also because American anarchists and Marxists in the late 1960s took up ecological ideas as part of 'alienation' (Bramwell, 1989).

Ecologists themselves are divided between those who believe that ecologism sprung up fully formed in the late 1960s and those who see an underground, green tradition that always existed in Western history. Some place its origins in early Greek times, some in the Bronze Age Heidegger believed that society went wrong in the transition from Greek to Latin, so that, Greek concepts were translated into Latin but misunderstood. The argument amongst ecologists gives an account of beliefs that rationality has always battled with intuition as a source of the civilization. Similarly, the hunt for a scapegoat who made society go wrong is a symptom of ecologism. Much of the literature consists of accusation and counter-accusation hurled to and from the scapegoats of the other ecologists' Manichaean analyses (Bramwell, 1989).

Ecologists believe in the essential harmony of nature. But it is a harmony to which man may have to be sacrificed. Ecologists are not man-centred or anthropocentric in their loyalties. Therefore, they do not have to see nature's harmony as especially protective towards or favouring humankind. Ecologists believe in an absolute responsibility for one's actions and for the world in general. There is no God the Shepherd, so, human becomes the shepherd. There is a conflict between the desire to accept nature's harmonious order and need to avert catastrophe because ecologists are apocalyptical, but know that human has caused the impending apocalypse by his actions (Bramwell, 1989).

As part of their sense of responsibility, ecologists know that there is no free lunch. Everything has a cost, everything a place. The saved are better able to plan human, space and the environment than existing institutions. Bureaucracies are wasteful and slothful as Kropotkin pointed out but human's unplanned actions are destructive and can be aesthetically unappealing. For, although non-anthropocentric, ecologists are not passive in their stance towards the world. They care intensely about how things look, feel and are and feel a responsibility to indicate the way to the truth. Aesthetic values, then are vital to ecologism. For, ecologists not only the sensuous pleasures of nature, but the importance vary from decade to decade and from country to country. There is hostility to the elaborate, the formal, despite the belief in benevolent planning. The civilization of the latifundia is resented as much as the civilization of megalopolis. The aesthetic values of the ecologists include the spiritual value of the one-to-one contact between man and object between the history and meaning of a thing and the thing's maker and the user or purchaser or owner of the thing (Bramwell, 1989).

Ecologists prefer a direct link between human and object; both the object and the contact with it are then seen as more real. This opposition to 'reification as the Marxist calls it, involves in Marxist terminology the alienation between humans and what he makes is an attack on the factory system, as well as alienability of land and property. Here, Marx was tapping a pre-capitalist vein of social criticism. But the criticism is deeper and a more spiritual one than Marx makes and is not confined to the factory system or capitalist society. The poet Rilke in one of his letters refers to his beliefs that the thingness of things was dying away, through mass consumerism. If there is to be no interposing mechanism between humans and humans, humans and things and humans and nature, neither must there be any wasteful, artificial state mechanisms, no bureaucracy, no unproductive 'Thing,' in Cobbett's words (Bramwell, 1989).

Since, the ideal moral and aesthetic relationship between human and the world is what is local and intimidate, trade is the part of the market memory or indeed, any economy, that is most alien. Production can be in the form of small-scale craftsmanship but trade cannot be anything other than distancing between humans and the products they produce. Most ecologists are opposed to trade as such, for moral reasons. Given that belief, programs are erected to show that trade damages, buyer and seller. But the belief is not dependent upon the rationale (Bramwell, 1989).

Some of the apparent contradictions of ecologism can be reconciled by perceiving its underlying moral stance. Ecologists are optimistic in the sense that there is no original sin and nature is harmonious. However, they are also pessimistic, fearing waste, irreversible decline and the ruin of the environment because nature is harsh not human-centred and is unforgiving as reality is unforgiving. And there is no God of the kind needed to step in and put things right.

Therefore, this study uses political ecology to politicise understandings of the distribution of a resource as the first step in an emancipatory project to ensure that all can live in an environment free from the daily injustices of stagnant and polluted resources. As Robbin's definition of political ecology neatly puts it, political ecologists are against apolitical ecologies. They are against Malthusian readings of resource wars that naturalise the scarcity of resources, arguing instead for recognition of the power relations through which resources are both produced and distributed. Moreover, a political ecology approach contains, as Robbins would have it, both a hatchet and seed. It employs critical insights to chop its way through the acquiescent acceptance that the world is unchangeable, it then employs this to develop normative claims about how the world should be. Firmly opposed to environmental injustice, a political ecology approach commits in helping to bring about a better world through contesting the reproduction of socio-natural inequalities (Loftus, 2009).

The field of political ecology gives an important framework in human geography to study human-environment relations has become diversified in the past two decades in at least three dimensions: theoretically, topically and regionally. The classic now-Marxian formulations of political ecology in the mid-1980s (Blaikie, 1985; Blaikie and Brookfield, 1987) have been replaced or complemented by poststructuralist approaches (Peet and Watts, 1996, 2004; Walker, 1998); the focus on "land-based resources" (Blaikie and Brookfield, 1987) has been broadened to include diverse topics ranging from water management, protected areas and value chains of particular commodities to ecosystem services (Ernestson, 2013; Kull *et al*., 2015), air pollution (Buzzelli, 2008; Veron, 2006) and climate change (Adger *et al*. 2001) and the attention to rural areas in the Global South has been extended to include studies on urban processes both in the Global South and the Global North.

MATERIALS AND METHODS

This study elaborates on re-thinking River Khan diversion project using the theory of political ecology. For this the study uses ethnography as a process to understand what's wrong with the idea of capitalist society where inspite of working on the root cause of a problem they displace the problem till it becomes a natural calamity. Semi-structured interviews, observations through photography and the transactional walk in the stretch where river was diverted are used as methods in order to build this study.

Since, 1847, the rule of bourgeoisie extended to only a small part of the earth's surface and the new sciences and technologies harnessing the forces of nature to human purposes were still in their infancy. Since then capitalism has spread to become a truly global system and the development and application of science and technology to industry and agriculture have progressed beyond anyone's wildest dreams a 100 and 50 years ago. Despite all the dramatic changes, however, the system remains in essence what it was at its birth, a juggernaut driven by the concentrated energy of individuals and small groups single-mindedly pursuing their own interests, checked only by their mutual completion and controlled in the short run by the concentrated energy of individuals and small groups single-mindedly pursuing their own interests, checked only by their mutual competition and controlled in the short run by the impersonal forces of the market and in the longer run when the market fails by devastating crises. Implicit in the very concept of this system are interlocked and enormously powerful drives to both creation and destruction. On the plus side, the creative drive relates to what humankind can get out of nature's capacity to respond to the demands placed on it (Sweezy, 2004).

Sooner or later, of course, these two drives are contradictory and incompatible. And since, as argued above, the adjustment must come from the side of the demands imposed on nature rather than from the side of nature's capacity to respond to these demands, what is there in capitalism that it has developed over recent centuries to cause humans to believe that the system could curb its destructive drive and at the same time transforms its creative drive into a benign environmental force (Sweezy, 2004).

The answer, unfortunately is that there is absolutely nothing in the historic record to encourage such a belief. The purpose of capitalist enterprise has always been to maximize profit, never to serve social ends. Mainstream economic theory, since, Smith (1990) has insisted that by directly maximizing profit the capitalist (or entrepreneur) is indirectly serving the community. All the capitalists together, maximizing their individual profits, produce what the community needs while keeping each other in check by their mutual competition. All this is true but it is far from being the whole story. Capitalists do not confine their activities to producing the food, clothing, shelter and amenities society needs for its existence and reproduction. In their single-minded pursuit of profit in which none can refuse to join on pain of elimination, capitalists are driven to accumulate ever more capital and this becomes both their subjective goal and the motor force of the entire economic system (Sweezy, 2004).

It is this obsession with capital accumulation that distinguishes capitalism from the simple system for satisfying human needs it is portrayed as in mainstream economic theory. And a system driven by capital accumulation is one that never stands still, one that is forever changing, adopting new and discarding old methods of production and distribution, opening up new territories, subjecting to its purposes societies too weak to protect themselves. Caught up in this process of restless innovation and expansion, the system rides roughshod over even its own beneficiaries if they get in its way or fall by the roadside. As far as the natural environment is concerned, capitalism perceives it not as something to be cherished and enjoyed but as a means to the paramount ends of profit-making and still more capital accumulation (Sweezy, 2004).

Following the effects of capitalism on environment, the paper uses political ecology as an approach to understand the setup of Khan Diversion project in the 20 villages at the outskirts of Indore and Ujjain City. Political ecology was understood from its practitioner to be above all concerned with the politics of environmental degradation and environmental rehabilitation that it was a presumptively non-urban field. Later it got introduced to the urban field by Blaike and Brookfield (1987).The city as the very antithesis of 'environment' in the popular and scholarly imaginations, night feature political struggles over land use and resources but it is a site where nature was understood to be already subjugated to society where no rehabilitation was possible because there was no 'environment' left to be rehabilitated.

Using this approach, the study looks into the disequilibrium between nature and society which has been created by capitalism, causing, urbanization, industrialization and development occupying most of the place in the cities of Indore and Ujjain.

Through political ecology approach, the study develops a conceptual framework of how if an urban area balances the disequilibrium between nature and society can keep the rural areas clean and less affected from the effects of capitalism. For this, the study takes the case of River Khan (nature) which has been the center of accumulation of waste from the city of Indore and then covering the peri-urban areas it joins River Kshipra at Triveni Sangam. The river and people's perception of it has suffered, since, there has been a shift of the direct influence of the river on the people's lives. It was seen as not necessary, not useful and so, it has degraded.

The study reveals that human and non-human interactions produce socio-ecological conditions that are inimical to the continuation of human and other life forms and the urban environmental catastrophe is not one to come, it is already here. Henri Lefebvre's loud call for a politics articulated around "the right to the city" has now become an urgent call for "the right to urban environments" and to the urban "commonwealth". The point here the study makes is not to fall into the urge to save nature which does not exist anyway as a stable market or reference (Swyngedouw, 2006) or to retrofit socio-ecological conditions (Kaika, 2009) to an assembly more benign earlier historical condition (which is of course, an inherently reactionary demand) to call for an egalitarian and democratic production of socio-ecological commons. Political Ecology as an approach is about changing the frame through which things and conditions are perceived, transforming the conditions of impossibility, not simply to possible but to necessary ones. Imagining, again, urban environmental utopias that go beyond a neoliberal framework is imperative.

RESULTS AND DISCUSSION

Analysis of data: The study suggests that pollution of River Khan has reached an alarming proportion. Khan having a catchment of 2 lakh acres including Sawer Tehsil is highly polluted due to the discharge of domestic and industrial waste. According to a study, about 110 MLD of sewage from Indore City and 70 MLD of industrial waste is added to the river per day which has deteriorated the quality of water of River Khan (Dipak and Arti, 2011).

During the late 19th century after industries invasion in Indore, the growth of most of the industry centers was located on rivers namely Khan and Saraswati which were a sub-tributary of River Kshipra. As industries grew cities changed, increase in population and geographic mobility caused the deterioration of both the rivers. A holy dip in Kshipra River was once considered to be an act of Moksha while today the act of taking a dip would give people disease. River Khan, the sub-tributary of Kshipra, is considered to be the main cause of latter's deterioration. Very few attempts have been taken by the government in order to protect both the rivers over the years. The actions like diversion of River Khan through a pipeline and bringing water from the Narmada to Kshipra for people to take holy dip shows how spiritual, cultural, ecological and social significance of rivers is eroding.

It also portrays how proletariat's (farmers) are exploited by the bourgeoisie (government) in terms of acquiring their land for construction purposes. If the government had taken actions before by constructing a sewage treatment plant which would have treated the water of River Khan before entering Kshipra, the situations would have been different. This would have

caused no harm to the farmers in any sense. The government would have also utilized the waste generated in the process through giving it to farmers to use it as fertilizers which would have increased the soil's quality.

The government's temporary actions during such festivals show that even religion as an idea is being commercialized. The seers who would have never taken bath in Narmada's water were somehow convinced to take bath in its water flowing in river Kshipra during Simhastha 2016. The diversion project ruined most of the pieces of land of the farmers which were fed with compensation for a year but a land which gets dug once becomes barren for 5 years, so, ultimately they are in loss. The survey through this study suggests that indeed the project provided livelihood to the nearby villagers but it took some lives and most importantly the lands and crops of the farmers. This was due to the economic crisis the families of the farmers were facing. The above observations suggest that religious festivals have just become a means to collect more and more funds from international agencies. It also reveals that the government remains quiet in terms of its actions till the festival is closer. Once the festival is over, all one can see are rivers again becoming the sites of sludge carriers.

The study also suggests that the authority responsible to work on the root cause of the problem which is to revive the river has been overlooked. There are certain plans presented to the people every now and then through newspapers but ultimately the condition of the river remains the same.

CONCLUSION

Political ecology as a unifying idea is the desire to politicise environment as a way of changing them. Through this approach the paper tries to bridge the gap between human and environment. Using the case of River Khan the paper explains the essentiality of reconstructing the social and natural ties out of which the environment is made. In this respect such projects are just to fulfil immediate requirement of people or fulfilling political agendas. With the help of this approach the paper develops a critical understanding of water and development in order to sustain its resources in the near future. The study suggests that the stakeholders will have to look for a solution from the situated understanding produced within everyday life. Resources like rivers have been the essential source for a city to grow, ignorance towards them or attempt to partially remove them from picture will not only increase the water requirements of the region but also decrease the agricultural produce of the region (Loftus, 2012).

In order to produce a sustainable environment a political and administrative system is required that involves all relevant social actor's at all geographical scales. In addition, it demands a policy framework that does not isolate the circulation of water from other sustainably related processes (Swyngedouw, 2006). In fact, it requires a more comprehensive and integrated approach in which supply of water is integrated with health and sanitation policy, ecological considerations, socio-economic processes and urban planning and governance systems (Swyngedouw, 2006). The increasing fragmentations of policy domains as a result of commodification and privatization, makes this objective more remote than ever (Swyngedouw, 1997).

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