

Published Papers

HYDROCARBON PROJECT IN MANIPUR AND ITS IMPACT ON THE CONFLICT DYNAMICS IN INDO-BANGLA REGION

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Abstract

This write-up is a part of the ongoing advocacy towards the mitigation of the adverse impact of the hydrocarbon industry on the biological environment, livelihood and human conflict. It endeavors an educational pulse to reach out to an audience of academicians, stakeholders of government agents, corporates proponents, non-state actors and would-be-affected communities. After studying an upcoming hydrocarbon project in a very crucial geographical location in Indo Bangla region, it puts forward an argument to avoid the project. The study hypothesizes that the oil extraction at the source of the Barak River will produce enormous pollutants which will flow into Indian state of Assam then through the riparian of Surma and Kushiya in Bangladesh. They will spread along the 1000 km length Barak from its source in the Indian state of Manipur way down to the Bay of Bengal. A faster contamination will be inevitable in the downstream due to the heavy monsoons with an annual rainfall of 2000 mm at the mountainous project site, and frequent floods in the downstream. This will cause

deterioration in the river system, environment and biological resources. The condition will lead to a fierce contest for resources among the ethnic and religious communities in the region. Eventually the escalation of violent conflict is very proximate. By adopting the principle of UN sustainable development programme and considering the bigger negative results, the government of India is suggested to reconsider this developmental misadventure.

Key words : Sustainable Development; Hydrocarbon; Environment; Pollution; River; Water; Livelihood; Conflict; Communities

I. Introduction

The campaign for sustainable development across the globe has been revitalised by the United Nations. It underlines a liveable earth for future with a greener, sustainable economy. Yet, a controversial hydrocarbon project in a crucial Indian state called Manipur is posing apprehension. This impending project is at the source of the Barak River, the river which is a principal source of livelihood and environment in the Indo-Bangla region. It will be a logical concern that the project will produce enormous pollutants to cause deterioration in the river system, environment and biological resources. The condition will lead to a fierce contest for resources among the ethnic and religious communities in the region. Eventually the escalation of violent conflict is very proximate.

Jubilant Energy Private Limited was awarded two blocks of oil deposition namely Block AA-ONN-2009/1 and Block AA-ONN-2009/2 that covers about 4000 sq km in the southwest of Manipur after the eight round of bidding under the New Exploration License Policy by the Government of India. The total area includes 2217 sq km of Block 1 in Churachandpur district

and 1740 sq km of Block 2 in Tamenglong district and Jiribam sub-division which fall under the Assam-Arakan basin. The production share contracts were signed by S. K. Srivastava, Director General of Hydrocarbons, and D. N. Narasimha Raju, Joint Secretary on behalf of the Minister of Petroleum and Natural Gas, Government of India in July 2010. The Manipur Government granted the Petroleum Exploration License to Jubilant in September 2010. And recently civil society found another Block of about 220 sq km in Jiribam subdivision of western Manipur given contract lease to Oil and Natural Gas Corporation, India (ONGC).

Alfa Geo Company and other sub partners have conducted seismic surveillance and other initial work of the project. In the Environmental Impact Assessment (EIA) reports of Jubilant Energy about 30 oil wells have been identified in the mountainous terrain of Manipur where the Barak River originates.

Civil societies, student organisations in Manipur and village representatives of likely affected area have been expressing their concerns about oil exploration and drilling activities since 2011. There have been a series of protests against the new project to discontinue the activities of Jubilant Energy and its sub-contractors.



Fig. 1: Location of the hydrocarbon project

II. Literature Review

1. The United Nations Environment Programme and Sustainable Development

A damage impact assessment of the hydrocarbon industry in Niger Delta by the United Nations Environment Programme (UNEP) in 2011 highlighted devastating oil pollution and its adverse eventualities on human life and natural environment. UNEP also underlined in their report an important financial loss that costs \$1bn to repair the damages occurred in last five decades, and a time consuming challenge of over 30 years needs to clean up. Shell Company and other oil firms systematically contaminated a 1,000 sq km (386 sq mile) area of Ogoniland, in the Niger Delta, with disastrous consequences for human health and wildlife. Nigerians had “paid a high price“ for the economic growth brought by the oil industry, said UNEP’s executive director.

Again, the global effort and process in order to save the environment and to promote sustainable development have been moved by activists, experts and non-governmental organizations. This resulted in the UN General Assembly resolution 64/236 of 24 December 2009, in which it decided to organize the United Nations Conference on Sustainable Development at the highest possible level in 2012, as well as its resolution 66/197 of 22 December 2011. The UN initiated Rio+20 in Rio de Janeiro, Brazil on 20-22 June 2012 towards promoting the world, a liveable and environment friendly for future. It engines clear and practical measures for implementing sustainable development. The process moves forward in a direction “The future we want“. The leaders around the world, with the full participation of civil society, renew the commitment to sustainable development and to ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations.

2. Environmental Impact Assessment (EIA) reports

There are two Environmental Impact Assessment (EIA) reports for Proposed Hydrocarbon Exploratory Drilling Activity in Manipur, India prepared by SENES Consultants India Ltd in February 2012. The subsequent sections of the report present the description of the project activities, environmental, geography and social baseline scenario and the outcome of assessment of the impacts that will arise during the lifecycle of the project. The EIA reports provided some critical aspects that the impending project will cause negative and unacceptable environmental outcomes. It mentions, first, impact on water quality and hydrology explaining the surface runoff from drilling waste (cuttings and drilling mud), hazardous waste (waste oil, used oil etc) and chemical storage areas on open soil to be contaminated leading to the pollution of receiving water bodies viz. natural drainage channels, ponds etc. Second, the impact on topography and drainage which means site preparation would involve the raising land to about 0.25 m from the ground level leading to alteration of onsite micro-drainage pattern.

3. Hydrology, geography, topography and demography of Northeast India and Bangladesh

Hydrology, geography, topography and demography of the Barak River and Valley are extensively presented in two sources namely, first, Hydrology and Water Resources Information System for India, and second, Development of Barak Valley: the Question of Sustainability by Abhik Gupta. They elaborate that the Barak is a meandering river of 564 km in Northeast India states of Manipur, Assam and Mizoram. The river goes through Silchar town, where it is joined by the Madhura River then enters Bangladesh. It moves through a geographical area which is known as the Barak Valley in the most southern part of Assam. The Valley covers a geographical area of 6922 sq km of which some 3839 sq km (55.46%) comprises forests that are mostly confined to the peripheral hill areas. The central plains abound in wetlands that occupy a total area of 13737.5 hectares. The multiethnic population is a considerable feature of the

valley. More importantly, the monsoon floods in the Barak riparian have been a crucial factor affecting the biological environment. Thus the Barak Valley is synonymous with the floodplain in southern Assam. There occurred three major floods during 1986, 1991 and 2004.

Banglapedia is the National Encyclopedia of Bangladesh, an intellectual output of scholars, displays a comprehensive reference work on Bangladesh hydrology, geography, topography and demography. This online resource support sufficient information that relating to Sylhet Division of Northeast Bangladesh. The river system of two water resources namely Surma and Kushiya are much connected to the livelihood activities and biological environment of 8.5 million populations in the 12,298.4 sq km of land area. There are important pattern of human population, their congested density and limited economic support system. This economically challenged populated communities critically cling themselves to the agricultural fields, fishery and animal husbandry. The cities and towns are facing real difficulty of water shortages in the division.

4. Conflict dynamics in Northeast India

Inquiry into the Problem of Illegal Migration from Bangladesh and its Impact on the Security of India by Bedanta, Kr Dutta and Dr. S. S. Das. (Oct –Dec 2013) discussed that India's Northeast has been confronting a large scale influx from Bangladesh since a very long time. The large scale migration from Bangladesh to India has been possible mainly due to the porous India-Bangladesh border of 4,096 km. Among the other states of India, Assam is the worst affected by the influx of illegal migrants from Bangladesh. This mass influx which started during the British rule, gradually gained momentum in the later years and today such exodus has changed not only the demographic pattern of Assam, but also a potential apprehension to the social, economic and political conditions of entire Northeast India. The information revealed by the UN Department of Economic and Social Affairs (UN-DESA) shows that in 2013, India was

home to 3.2 million Bangladeshi residents who had migrated into the country. There have been occurrences of multiple violence conflicts between Bangladeshi origin and certain communities of Assam. The communal violence in the district of Kokrajhar, Chirang and Dhubri are some ugly experiences in the history Indo-Bangla region.

III. Methodology

1. Conflict Linkages between the Barak River and Hydrocarbon Project in Manipur

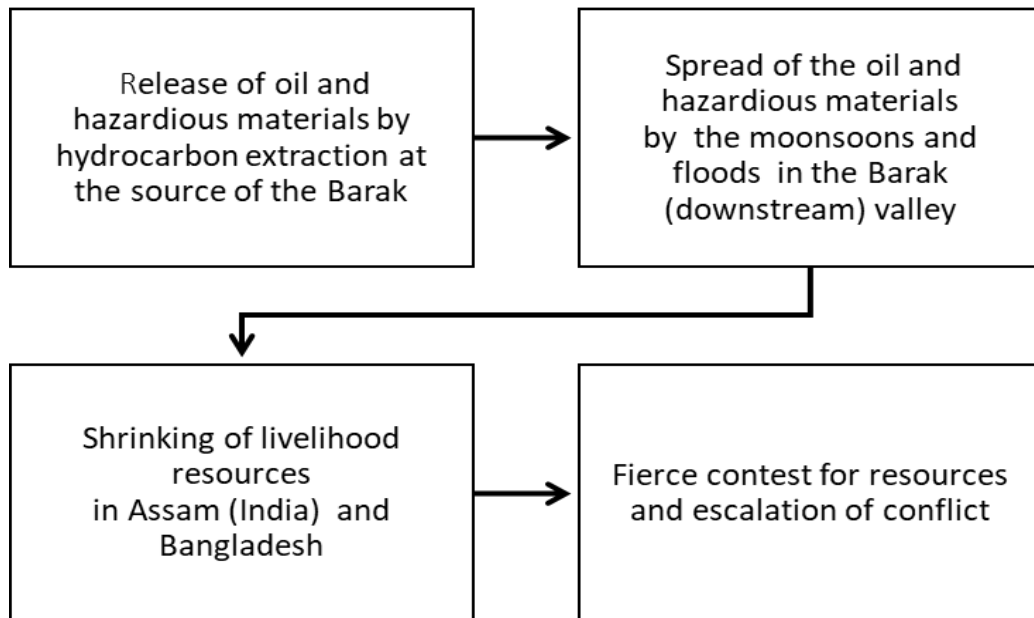


Figure 2: Proximate causes, conditions and eventuality of the hydrocarbon project in Manipur

This extraction project in Manipur is a very critical concern for it will worsen the conflict dynamics among the communities in the Barak (-Meghna) basin right from its source in Manipur through Assam, way up to Bangladesh. The adverse impact of the water contamination due to

the hydrocarbon extraction will make the livelihood challenge more complicated in the region. The condition will intensify a fierce contest over the ever shrinking resources of land and water among various ethnic and religious communities.

During the course of extraction, the saline (formation) water will come out; accidental oil spillage and frequent leakages will happen; sewage, surface runoff, drilling cuts, and other hazardous oil contents will also be disposed. They will flow down through the creeks and drainages to the tributaries of the Barak - namely Makru, Tuivai, Irang, Tuipi Lui and Tuibum Lui Rivers [fig.3].

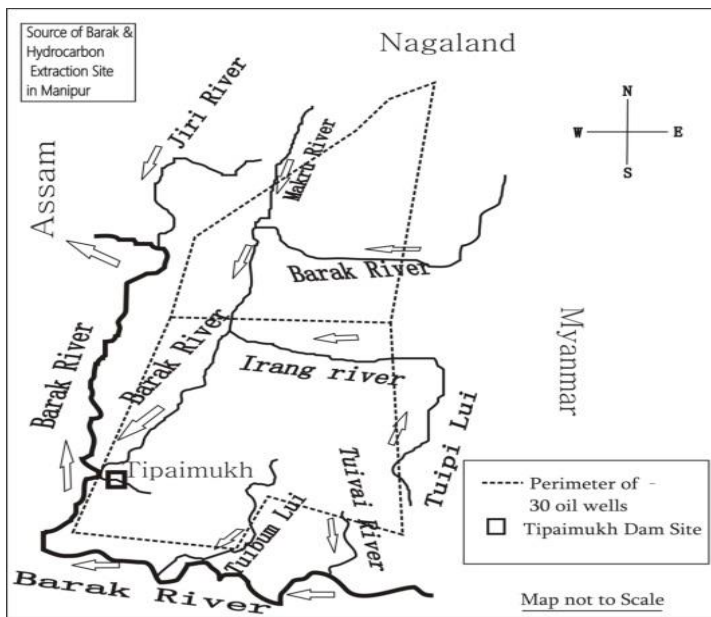


Figure 3: Source of the Barak River and site of hydrocarbon extraction in Manipur

By taking all the pollutants from these small rivers into its stream, a stronger and bigger Barak will run down to the riparian of Surma and Kushiyara in Bangladesh after passing Assam. The pollutants will spread along the total length of the Barak i.e. about 1000 km from its source in Manipur up to the mouth in the Bay of Bengal. The adverse environmental impact

will spread relatively faster in the downstream because of two reasons – one, river flow will be buoyed up by the monsoons at the mountainous source of the Barak that recorded an average annual rainfall of 2000 mm, and second, frequent widespread floods in the Barak downstream.

In general, hydrocarbon production and transport has a significant impact on the landscape and local environment. Contamination of soil and water is a common consequence of oil production. In Ecuador, for example, oil and water separation stations in the Oriente generate more than 3.2 million gallons of liquid waste each day, most of which has been discharged untreated into the environment. Groundwater is particularly susceptible to contamination from the Formation Water, extracted along with oil during drilling. This is contaminated both with oil and heavy metals and is therefore toxic. Further impacts stem from the burn-off of excess natural gas which has had a devastating effect on water quality and biota there, most notably Nigeria. This burning releases methane, sulphur dioxide and toxic compounds. The dry winter can also exacerbate the risk of fires.

2. The Stakes, Sources and Associating Elements of Conflict

Since this hydrocarbon project will damage the biological environment and consequently trigger harsh contest over livelihood resources among the communities; and the river systems, agricultural lands, wetlands, forests, floods, etc. will be the stakes, sources and associating elements of the looming conflict in the region.

The Barak River and its Valley

The Barak flows southwest in Manipur and turns north in the Manipur-Mizoram border then flows into the Cachar district of Assam, where it takes westward near Lakhimpur as it enters the plains. The river goes through Silchar town, where it is joined by the Madhura River. After the Barak traverses about 564 km in Manipur and Assam it enters Bangladesh.

The geographical area which is known as the Barak Valley after the name of the Barak River is the most southern part of the State of Assam. The Valley covers a geographical area of 6922 sq km of which some 3839 sq km (55.46%) comprises forests that are mostly confined to the peripheral hill areas. The central plains abound in wetlands that occupy a total area of 13737.5 hectares.

The valley comprises of three districts, namely – Cachar, Karimganj and Hailakandi. This is the meeting place of various ethnic and religious communities, such as – Khasi, Garo, Mizo or Lusai, Naga, Bishnupriya, Meetei, Hmar, Halam, Santal, Orang, Munda, Assamese, Bengalee etc. There is both similarity and dissimilarity in socio-economic and cultural life of every community. All of them believe in their own ethnology and tradition.

The biological capital is the main strength of the valley. It includes the resources of agriculture, forest, river and wetland. Sylhet and Cachar were often dubbed as the granaries of Bengal and Assam, for their bountiful production of paddy. Fishing is one important economic activity in the region. Fisheries, especially in large floodplain wetlands/lakes (locally called *haors* or *beels*) like Chatla, Jabda and Lucca in Cachar, and Shonbeel and Ratabeel in Hailakandi and Karimganj districts are major source of livelihood.

The vegetation is mostly Tropical evergreen and there are large tracts of Rainforests in the northern and southern-eastern parts of the valley, which are home to tiger, elephants, malayan sun bear, capped langur, etc. Rare species found are hoolock gibbon, phayre’s leaf monkey, pig-tailed macaque, stump-tailed macaque, masked finfoot, white-winged wood duck, etc.d

Potential Factors for Conflict	Observation
Drainages at project sites	Hilly terrain and faster current
Flood in the Barak (downstream)	Frequent and widespread
Antecedent conflict in the North East India	Existing
Ethnic and religious hostility among communities	Existing

Table 1: Potential conditions contribute to conflict

Flood

Flood in the Barak riparian will be one of the much potential driving forces to deteriorate the biological environment; the oil pollutants come in the Barak will dreadfully be spread in such a short period time of a single monsoon. The oil will reach wherever flood goes. In other words, the major part of the geographical plane bears the risk of suffering from oil pollution.

The Barak Valley is commonly known as floodplain in southern Assam. During the monsoons the valley is usually flooded. (There were three major floods during 1986, 1991 and 2004). The plight of the internally displaced people will be a mammoth challenge as the affected people will migrate to other areas and also move to the elevated land not affected by the oil pollutants.

In Bangladesh floods are more or less a recurring phenomenon. Each year in Bangladesh

about 26,000 sq km, 18% of the country is flooded. During severe floods, the affected area may exceed 55% of the total area of the country. About 40% of country flood occurs in Barak downstream i.e. Surma, Kushiya and Meghna. Flash flood occurs due to heavy rainfall in Barak basins in India.

In addition to possible direct impact of the oil pollutants to biological environment, one secondary adverse impact will be on the migrant rice-worker from lower Meghna such as greater Comilla, Dhaka, Noakhali, Faridpur and even from Barisal area. They come to the *haor* (depression) areas of Surma and Kushiya to work on harvesting and processing *Boro* (winter) rice. These workers work as exchange worker in which cash is not transacted; they get share of the rice harvested from the farmers.

In the Surma trough, the *haors* and the arable lands require full flood and drying of the land to maintain the ecological and hydrological balance. The flooding is generally considered removing of the undesirable and toxic chemicals left over by the farming, fish droppings and the natural wastes left over by the millions of migratory birds. In addition, the aquatic plants, periphytons, bacteria, fungus and algae or other microbes require flushing every year. The flooding especially the early flood cleans the river beds and banks to a level so that the spawning fish can make their nest for the hatchlings. The flooding also provides the young fish ample space for play and movement including their uninterrupted travel during their migration downstream. However, due to the oil extraction in Manipur, the desirable contribution of flood will be changed completely into the uttermost ugly reality of human suffering and environmental destruction.

The Riparian Region of the Barak in Assam

The most of the lands for human settlement and cultivation in the following three districts are consolidated by the Barak River.

1. Cachar; 3786 sq km and population about 1.8 million, population density 500 sq km.
2. Hailakandi; 1326 sq km, population about 0.7 million, population density about 500 sq km.
3. Karimganj; 1809 sq km, population about 1.3 million, population density about 700 sq km.

The Barak is a principal water source in the valley for various purposes of human and other biological system including agriculture, fishing and other activities. This intensely meandering river covers extensive plain area of the southern Assam.

The Barak passes important towns and villages, Silchar, Badarpur, Panchgram, Katakhal, Salchapra, Kalinagar, Srikona, Ramnagar, Masimpur, Sonai, Banskandi, Lakhipur, Udharbond, Jirighat, Borkhola, Katigora, Dholai, Joypur, Kachudaram, Fulertal, etc. Population density is observed to be highest along the river. Agricultural activities and home gardens are characteristic along the entire stretch of the river.

Silchar, the headquarters of Cachar district, is a town of 15.75 sq km with a population of around 0.2 million and population density about 13,000 sq km. A major part of the district is encircled by the Barak. It is one of the busiest towns of northeast India and a commercial hub for the states of Tripura, southern Assam, Manipur and Mizoram. Approximately 90% of the residents of Silchar are Bengalis who speak Sylheti dialect, the rest being Dimasas, Kacharis (Barman), Meetei, Marwaris, Bishnupriya, Assamese, and some tribal communities like Nagas.

The Riparian Region of Surma and Kushiya in Bangladesh

After Silchar, the Barak flows for about 30 km. Near Badarpur, the river divides itself into the Surma and the Kushiya and enters Sylhet division in Bangladesh. The Meghna is formed inside Bangladesh above Bhairab Bazar, by the confluence of the Surma and Kushiya. The

Barak covers a total length of about 468 km in Bangladesh.

Box 1: The Course of River Barak

1. Sylhet District with an area of 3490.40 sq km is bounded by the Khasia-Jainta hills of India, Population 3.5 million; Muslim 91.96%, Hindu 7.80%, Christian 0.09%, and others 0.15%; ethnic nationals: Khasi (Khasia), Meetei and Patra (Pathar); Main occupations - agriculture 30.82%, agricultural labourer 15.59%, fishing 3.6%; Cultivable land 66%, fallow land 34%; single crop 54%, double crop 36% and treble crop 10%; Main crops and fruits are paddy, mustered, betel nut, mango, jackfruit, orange, litchi. Fisheries, dairies, poultries Fishery 110, cattle farm 112, dairy 12, poultry 228, hatchery 8.

Sylhet City lies on the bank of the Surma with a population estimated at 0.5 million in an area 10.49 sq km, density population about 50,000 per sq km; 85% of the population of Sylhet is Muslim. Other religious groups include Hindus (15%), and Buddhists and Christians (less than 0.1%).

2. Sunamganj District with an area of 3669.58 sq km with many *haors* and *beels* is bounded by Khasia and Jaintia hills. Population about 2.5 million ; Muslim 83.62%, Hindu 15.95%, others 0.43% ethnic nationals 6,643 (Meetei, Khasia, Garo and Hajong); Main occupations - Agriculture 43.43%, fishing 3.34%, agricultural labourer 24.10%; Arable land 294021 hectares, fallow land 51752 hectares; Main crops and fruits - Boro paddy mango and orange; Fisheries, dairies, poultries Fishery 604, dairy 105, poultry 697, hatchery 6.

Sunamganj Town stands on the bank of the Surma. The town has an area of 22.16 sq km It has a population of about 52 thousand; density of population is about 2500 per sq km

3. Habiganj District with an area of 2636.58 sq km, is bounded by Tripura State of India on the south. Population 21 lakh. Main occupations - Agriculture 42.26%, agricultural labourer 20.55%, fishing 2.73%; Total cultivable land 25299.3 hectares, fallow land 520.53 hectares; single

crop 51.6%, double crop 38.7% and treble crop land 9.7%; Main crops and fruits paddy, tea, wheat, potato, jute, ground nut, betel leaf, oil seed, mango, jackfruit, banana, litchi, coconut, lemon, pineapple and black berry; Fisheries, dairies, poultries Dairy 148, poultry 739 and fishery 638.

Between Surma and Kushiyara, there lies a complex basin area comprised of depressions (*haors*) usually used for fishing and fishery. Most of the Surma system falls in the *haor* basin, where the line of drainage is not clear or well defined. In the piedmont tract from Durgapur to Jaintiapur, the network of streams and channels overflows in the rainy season and creates vast sheets of water which connect the *haors* with the rivers.

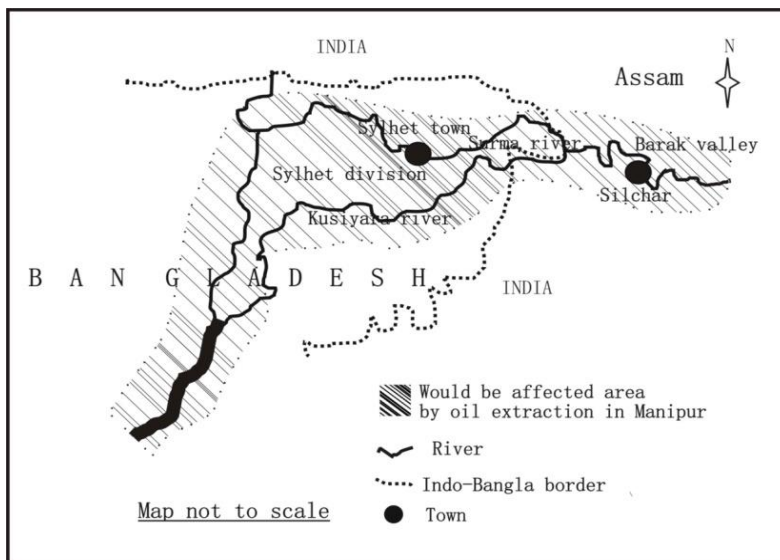


Figure 4: The areas in the Assam and Bangladesh will be affected by the hydrocarbon project in Manipur

IV. Results and Discussion

Dynamics of Conflict

At the source of the Barak

By assessing the future tendency, the experience of past attitude and the context of armed groups in Manipur, one can say that the peace endeavour is exposed to high risk of inter-ethnic conflict. There has been already violent conflict associated with bargain among certain armed groups on the extraction project. The fear of emergence of interested armed groups in bargaining line will soon aggravate the already compounded ethnic and community conflict. The large presence of the Indian army and paramilitary forces with the impunity of the controversial Armed Forces (Special Powers) Act, 1958, and their contentious activities, will continue to destabilise normal life. The fear of the human rights violations by the security personnel and their alleged nexus in the inter-ethnic and inter community violence will prolong situation of the armed conflict in Manipur.

In the downstream

The impact of the project may be critical in the downstream because, first, the water will not be fit for human consumption, agriculture, the environment, flora and fauna. Second, the frequent floods of the Barak Valley and of Sylhet division will spread the oil and other hazardous pollutants through the riparian region. There will be long term deterioration of land, water, vegetation, air, and public health. One of the crucial impacts will be of the destruction of paddy fields and fishing areas. Rice and fish is the staple food in the region. Most importantly, water shortages will become acute. For instance, Sylhet city faces severe water scarcity. The city corporation is supplying only 22,500 gallons of water, far less than the requirement of about 65,000 gallons.

Economic activities will be ruined, peoples will lose their livelihoods. Consequently, conflicts

over the limited livelihood resources will exacerbate affecting the population of 3.8 million of southern Assam of India and 9.8 million of Sylhet Division in Bangladesh.

The challenge may be abetted with the various aspects: the demographic pattern itself display that a potential for communal and religious strife is very high. . The religious break-up of the population in the Barak Valley; Hindu 42%, Muslim 50%, Christians 4% and others 4%. Hindus are majority in Cachar district (57%) and Hailakandi district (58%) while Muslims are majority in Karimganj district (53%). A great apprehension is that the violence may not be confined to certain geographical locations, but could spread across the entire North East India namely Assam, Arunachal, Pradesh Manipur, Mizoram, Meghalaya, Tripura, Nagaland and across Bangladesh.

This oil project impact will add-up to another cause to the already existing conflict of the region.

The information revealed by the UN Department of Economic and Social Affairs (UN-DESA) shows that in 2013, India was home to 3.2 million Bangladeshi residents who had migrated into the country. Though there is no state-wise break-up of the Bangladeshi migrants, the problem is most severe in Assam.

Thus the emergence of a surface conflict may become more visible than ever before in such a very vulnerable atmosphere. The nature of the possible conflict and violence may be very similar to the communal violence in Kokrajhar, Chirang and Dhubri in Assam which is caused by land and livelihood issue rather than the religious hostility.

Here, we may acknowledge the condition and cause of the recurring Assam conflict. There is implication of "outsiders" encroaching on "others' land". Many unskilled or semi-skilled people have crossed over from Bangladesh to Assam and neighbouring states in search of livelihoods. It is a fact that for those living in Bangladesh's border areas with a population

density of 1,150 per sq km and a per capita income of INR 46,870, Assam with a population of 397 per sq km and a per capita income of INR 84,400 is a greener pasture. According to the Supreme Court of India, the all India percentage of decadal increase in population during 1981-1991 is 23.85%, whereas in the border districts of Assam, the decadal increase is 42.08% in Karimganj, 47.59% in Cachar, and 56.57% in Dhubri. It can be assumed that the infiltration of foreigners from Bangladesh contributed

Significantly to the sharp increase in Assam's population.

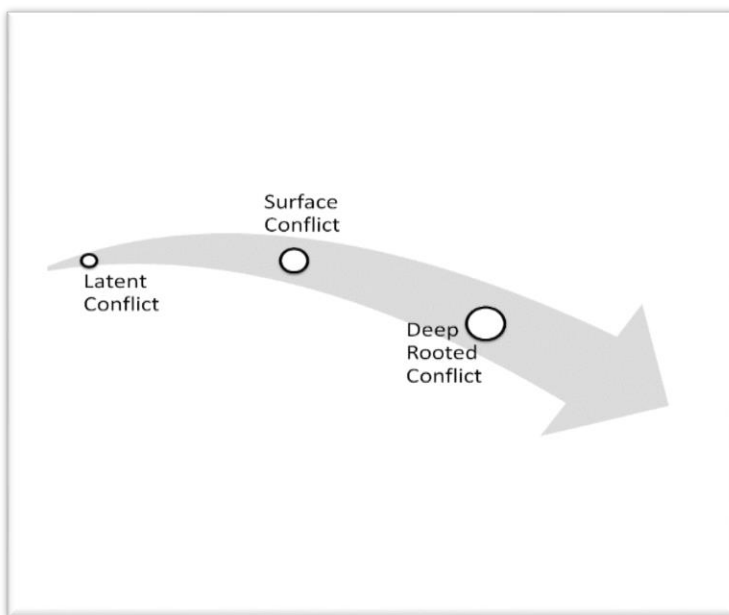


Figure 5: Shifting tendency of conflict in Indo-Bangla region

Owing to the impact on the downstream by hydrocarbon extraction, the conflict in the region may turn more violent; the latent conflict have already turned into a surface conflict, which may in turn become deep rooted. The conflict could be intra-community – within Hindu or Muslim or ethnic communities themselves; inter-community – among the Muslims, Hindus, Christians and others; between the state government and their peoples; inter-state – more or

less among the different peoples of the Indian states (at the peoples level); among the Indian states (at the state governments level) and between the peoples of North East India and Central Government, and international and trans boundary – between India and Bangladesh. An exacerbation of the armed conflict is very likely.

V. Conclusion

The campaign for sustainable development has been revitalised by the United Nations Conference on Sustainable Development, Rio+20, which took place in Rio de Janeiro, Brazil in June 2012, twenty years after the landmark 1992 Earth Summit. It underlines that we are to ensure that the world is liveable for our children and grandchildren, with a greener, sustainable economy. Towards this end, we must consume energy wisely. Sustainability calls for a decent standard of living for everyone without environmental deterioration, and without compromising the needs of future generations.

The two Environmental Impact Assessment reports for the two blocks of hydrocarbon project in Manipur prepared by SENES Consultants India Private Ltd. for Jubilant Company mentioned possible damage to the biological environment, the flora and fauna of the forests, aquatic ecology, water resources, demography, and ambient air. A critical impact of oil extraction that is not mentioned fairly in the assessment reports is the long term pollution of the surface and ground water resources due to drilling activities, the release of saline water, accidental crude oil spillage, etc. A very important potential pollutant known as Formation Water is not highlighted in the EIA reports. When crude oil is produced, this pollutant comes out as well, as it is inherent to the oil. Since it is very rich in minerals, hot and highly saline, it is unsuitable for human use and endemic forest and fauna systems. The contaminated water with various pollutants will hinder cultivation, destroy flora and fauna, pollute drinking water and

damage other associated utilities in the southwest part of Manipur.

According to the environmentalist Dr. R. K. Ranjan, "The area where the two blocks lie is within the Indo-Burma mega biodiversity hotspot zone. The region is very rich in endemic species of both flora and fauna, and is the second largest riverine ecosystem of North-East India. Its botanical and biological systems have not been studied sufficiently. Medicinal plants, dense bamboo jungles and other forest resources are very abundant sources of the sustainable development. As an alternative, an economy of such resources that also fulfils the principles of justice and sustainable development will be best argument to avoid oil and gas extraction." It is also important to assess the extent to which the green forests that will be destroyed by the project are contributing to oxygen production and mitigating climate crisis and how much carbon emission from the extraction process and the consumption of fossil fuel from Manipur will add to global climate change and warming.

The Assessment of Ogoniland, Nigeria by the United Nations Environment Programme (UNEP) in 2011 revealed the tragic history of pollution and its severe hazardous impacts on people and the environment due to oil spills and oil well fires. The Ogoniland community is exposed to petroleum hydrocarbons in the air and drinking water, sometimes at elevated concentrations. The Assessment confirmed that it will take 25-30 years to restore environmental health and reverse the damage. The UNEP recommended the creation of an 'Environmental Restoration Fund for Ogoniland', with initial capital of USD 1 billion with financial inputs from the oil industry operators.

The hydrocarbon extraction will ruin people's lives and the environment. The conflict along the Barak River and its downstream region due to the impending oil extraction in Manipur can be avoided or checked. The Government of India as a principal stake-holder in this conflict

should re-evaluate the oil project. Reviews of the two EIA is required since they did not fairly mention the important aspect of the impacts. It will be helpful to identify the critical threat to the water resources and its eventuality on the human population in terms of livelihood and conflict. If the Government reconsiders the voices of the peoples and civil societies it will be a favourable response towards the issue. In fact, there could be a trade-off calculation between the greater loss and smaller profit of this hydrocarbon project.

■ References

1. Abhik Gupta. Development of Barak Valley: the Question of Sustainability. (2009). Last visit 27 Aug 2014.

http://www.academia.edu/1001779/Development_of_Barak_Valley_the_Question_of_Sustainability.

2. Bangladesh (Geography and Demography). Last visit 1 Aug 2014. www.banglapedia.org.

3. Environmental Assessment of Ogoniland Report. United Nations Environment Programme. (2011). Last visit 17 Sep 2014.

<http://www.unep.org/disastersandconflicts/CountryOperations/Nigeria/EnvironmentalAssessmentofOgonilandreport/tabid/54419/Default.aspx>.

4. Environmental Impact Assessment (EIA) for Proposed Exploratory Drilling Activity in AA-ONN-2009/2Block and AA-ONN-2009/1Block Manipur for Jubilant Oil and Gas Pvt. Ltd. (29 Feb 2012). SENES Consultants India Pvt. Ltd.

5. Hydrology and Water Resources Information System for India. Last visit 2 Aug 2014. http://www.nih.ernet.in/rbis/basin_per_cent20maps/barak_about.htm.

6. Mr. Bedanta Kr. Dutta, Dr. S. S. Das. An Inquiry into the Problem of Illegal Migration from Bangladesh and its Impact on the Security of India. (Oct -Dec 2013). International Journal of Research in Social Sciences and Humanities. Last visit 21 Sep 2014. http://www.ijrssh.com/images/short_pdf/Dec_2013_Bedanta%20Kr.%20Dutta.pdf.

7. Oil and Violence in Sudan, African Centre for Technology Studies Canadian Centre for Foreign Policy Development. (2002). Last visit 12 Sep. 2014.
http://www.academia.edu/4962187/Oil_and_Water_in_Sudan.
8. Prabin Kalita. UN report boosts Assam's fight against Bangla influx. The Times of India. (14 Sep 2013). Last visit 21 Sep 2014. http://articles.timesofindia.indiatimes.com/2013-09-14/guwahati/42061955_1_foreigners-tribunals-illegal-migrants-bangladeshi-migrants.
9. Shell in Niger Delta: new United Nations report confirms massive oil pollution. (4 Aug 2011). Last visit 24 March 2014. <https://www.amnesty.org.uk/press-releases/shell-niger-delta-new-united-nations-report-confirms-massive-oil-pollution>
10. United Nations Conference on Sustainable Development, Rio+20. Last visit 24 March 2014.
<https://sustainabledevelopment.un.org/rio20>

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