

# Common Property Resources: Present Condition and Impact on Poor People's Livelihood

(A Case Study in Two Villages of Purba Medinipur in West Bengal)

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Common Property Resources (CPRs) are important sources of livelihood of the poor village people in our country. A considerable number of poor village people depend on CPRs for their sustenance. The CPRs in rural India have not only fulfilled poor people's wants to some extent, they also help in maintaining the local environment. But in modern times, CPRs have come under attack by contemporary development processes. These attacks have resulted in the shrinkage of CPRs, marginalization of the poor people, farmers, women and children along with other socio-economic and ecological problems like poverty, migration, unemployment and environmental pollution or degradation. This paper attempts to assess the deteriorating condition of CPRs and its impact on poor people's livelihood in two villages of district Purba Medinipur in West Bengal.

In order to grasp the condition of CPRs in rural area and its relation to or impact on environment and society, I would like to conceive CPRs as a component of environment. Environment consists of biotic and abiotic components. Biotic components refer to the living organism such as plants, animals, fungi, bacteria and others. Abiotic components refer to physical components such as soil/land, air, water, temperature, etc. The CPRs come within both biotic and abiotic components of environment. Biotic components such as snails, fish, wildfood, *kucho* and water cress vegetables are available in land and ponds controlled by rich farmers and government institutions. But the poor village people enjoy customary rights to collect and use them for their sustenance.

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So they are regarded as CPRs. Abiotic components like fallow land, culturable waste land, vested land and marshy land are directly treated as CPRs. All these biotic and abiotic components constitute ‘ecological infrastructure’ of any society. The availability and quality of such infrastructural elements influence all aspects of human society, i.e. economy, polity, social structure and culture. So, environment and society are related in many ways. But these relations are very complex. Humans have the capacity to change the shape of nature, and any substantial change in the natural surroundings result in several socio-economic and ecological problems. These problems inversely influence humans to rethink about their thoughts and actions and consequently there arise several policies, regulations, norms or organizations which guide human activities appropriate to environment. But these human-environment interactions do not occur in a self-regulated fashion in which human societies and environment work together to maintain the environment. Rather, there is a self-reinforcing process of ecological disruption induced by economic development which leads to disequilibrium between human society and environment (Dunlap – Catton: 1979a).

### **Common Property Resource**

The term Common Property Resource connotes an economic resource or a facility which is communally or collectively owned by an identifiable community or a group of people. The group has the right to access and to use the resource which is regulated by conventions, traditions, customs and others. There are two types of resources (i) Natural and (ii) Artificial. Natural resources encompasses land, water, air, plants, animals, fish, minerals, etc. Artificial resources include public transport system, places of entertainment, parks, hospitals etc. Collective ownership of any resource means that there are lack of well-defined individual private property rights of co-users of the resource. So common property resource implies that there is open access to resources for certain groups of people and there is free use rights of co-users of the resource, but there exists ambiguity in the ownership rights of the resource.

The CPRs are popularly known as Open Access Resources (OARs). In other words, resources like air, water, grazing land, river, forest, etc. are CPRs. But some conceptualize CPR as ‘private property (PPRs)

for a group with organisational rules circumscribing the nature of rights and responsibilities existing within the group with respect to them' (Bromley: 1989). But this argument is critical in the sense that divergent interests among members of the social group lead their varying access to CPRs which often ignores rules regarding the nature of the rights and the responsibilities in the maintenance of resources. So there are varying degrees of open access to CPRs. This is due to the breakdown of organisational structure associated with it. Therefore, whenever one deals with common property, one distinguishes between ownership rights and use rights. Ownership to any resource such as land means how people relate to resource and use it. People's relation to resource and its use is not absolute at any point. Analysts refer to a continuum of property rights over the resources with the dominant control of ownership and user rights over the resources changing from point to point. So we can locate four important kinds of property rights arrangements within the continuum. These are private property resources (PPRs), common property resource (CPRs), state control resources (SCRs) and open access resources (OARs). An individual's or any corporate body's secure claims to a resource constitutes private property. This claim is legitimated by law. On the other hand no such claim is possible for the use of CPRs. Individual or any corporate body uses CPRs as a member of a group. And their uses do not go all the time in accordance with groups norms. In a village, common property is complementary to benefit stream. That is, villagers use any common property in addition to their main benefit stream, and therefore, the linkage between the uses give rise to common property regime of different kind (Chopra, Gulati:2001:22). So we can identify three types of CPRs: (i) altruistic (ii) free-riders and (iii) conditional types. The altruistic type of CPRs arises when people contribute to maintain a resource without expecting others to do likewise. Free riders emerge when people fail to contribute to maintain a resource with the expectation that others will contribute to maintain it. Conditional types arise when all members of a group fail to subscribe to the rules governing the use of a resource. Here anarchy prevails and CPRs disappear (Gibbs and Bromley: 1989:25).

The CPRs fulfill some 'wants' of the village people. There is a plurality of wants such as food, shelter, medicine, recreation and others which people fulfill by divergent uses of various kinds of rural resources

(VRRs). But such processes may become possible only with the mutual help of these resources like agricultural land, water and forests. So, all these resources, i.e. CPRs, agricultural land, water, forests, fish and others are mutually helpful or dependent in the fulfillment of requirements of the village people. Therefore, CPRs or any other rural resources should not be treated as a distinct entity. Rather, it should be treated as one of the components of environment. As a component of environment, CPRs are inextricably linked with other components such as land, water, plants, animals and fungi bacteria of the environment. So, CPRs should be viewed in relation to other components of the environment, such as land, water, plants and animals because any change or exploitation of any component of the environment like CPRs affects others including man and his society.

In the present situation, CPRs are treated in terms of market value or use value. This treatment of CPRs emerges from the narrow definition of resources like CPRs because this definition of resource ignores the interdependence of the various components of ecosystems and understates the ecological value of the resource. So, the broader view of the human nature system, or the ecosystem approach, as the basis for sustainable development broadens the definition of resources. In this way resource may be defined in terms of human wants. They should not be treated as mere tradeable assets or utility, because much of the ecological value of resources are not reflected in the short-term market value or use value. Therefore, the ecosystem or holistic view is capable of including all ecosystem components and their interactions with human societies.

In modern times, privatization and commercialization are the processes through which CPRs, as well as other rural resources enter into the market. The market oriented exploitation of CPRs results in economic development in the short-run but leave many socio-economic and ecological consequences in the long-run. In the market economy, the value of any natural resources like CPRs is priced by the value it produces for the market. That is, CPRs or any other resources are treated in terms of its utility. So, the logic of the market disregards the logic of nature by discarding and replacing many of its creations, i.e. natural resources like CPRs as useless, and thereby invites many socio-economic and ecological problems. For example, when some marshy land or low-lying land is dumped with flyash for the construction of a

hotel or any business centre. This results some cash income for some people but leaves many long-run socio-economic and ecological problems like poverty, marginalization of the poor people, farmers, women and children who depend on this land (CPRs) for their sustenance, shrinkage of CPRs, floods, and also ruin of many biota, fish and wild foods

**Condition of CPRs in two study villages:**

I have conducted a survey in two villages, namely Rakshachwok and Santipur for collection of necessary data during the year 2004-5. The villages are located in two blocks, Panskura-II and Sahid Matangini respectively in the district of Purba Medinipore of West Bengal. These villages are adjacent to the Kolaghat Thermal Power Plant (KTPP) situated on the bank of the Rupnarayan river. Both these villages are affected by flyash disposal by KTPP. Rakshachwok, where the plant's ash pond No-1 is operating now, is affected by flyash extremely. On the other hand, Santipur village is adversely affected by flyash used by highway authority for the construction of a highway (NH – 41). In these villages flyash have occupied various kinds of land including CPRs. Dumping of flyash on CPRs and other kinds of land causes many socio-economic and ecological problems in the area which are still unexplored.

**Flyash disposal by KTPP:** The Kolaghat Thermal Power Plant is situated on the bank of the Rupnarayan river in the district of Purba Medinipur of West Bengal. It covers the Santipur-I and Amalhand-IV Panchayats with an area of 900 acres in addition to some acres of land for the colony for its workers. It uses non-renewable fossil-fuel, i.e. coal for the production of electricity. Like others, KTPP requires renewable water resources for mobilizing heavy turbines and for the flyash slurries, which it takes from the nearby Rupnarayan river. It uses large volumes of coal per day for its production of electricity from coal mines situated in Bihar, Jharkhand and West Bengal. Currently, it generates 5,000 metric tonnes of flyash per day following the consumption of 14,000 tonnes of coal.

The mechanism of flyash disposal of the plant is conventional. The production capacity of electricity of the plant is 1,250 MW per day at present. It has six units of 210 MW each. For its usual disposal of flyash one acre of land is required for each MW of electricity produced in the whole life of the plant, which is about 30 years. So, the KTPP

requires 1,250 acres of land for the disposal of flyash generated in the whole life. Presently, the plant has only 250 acres of land on which five ash ponds are operating. Flyash is dumped with water flow in ash ponds through the disposal tubes. Here the ‘filling and evacuation’ system is followed for the whole disposal mechanism. Dumped ash in ash ponds are evacuated by contractors at the average rate of Rs.40 to 50 per cubic metre of ash slurries. There are 5,000 to 6,000 tonnes of ash generated per day. The authority tries to ensure 100 per cent ash evacuation by inviting tenders and other ways.

**Table 1: Nature of Flyash disposal and/or utilization among different stakeholders.**

<b>Users</b>	<b>Quantity</b>	<b>Nature of Flyash</b>	<b>Main stakeholders.</b>
Cement companies, brick kilns.	0.5% to 1% of per day production.	Dry Ash	Plant Authority.
Development agencies.	70% of 79% of per day production.	Wet Ash.	Contractors.
Individuals (farmers, common people etc.	20% of per day production.	Wet Ash.	Contractors.

*Source: Field data based on Survey and Interview.*

Table-I shows that a small amount of dryash is used by cement companies and brick kilns for production of cement and bricks respectively. Here the plant authority itself makes direct contract with the companies for the dryash. It is a positive sign for the solution of flyash problems partially. Development agencies such as the Haldia Development Authority (HAD), the National Highway Authority (NH-41), the Kona Expressway (KEW) and Ambuza Housing Company Ltd. use 70 to 79 per cent of wet ash generated per day. Individual users of wet ash from different localities within five-kilometer radius of the plant have consumed twenty per cent of wet ash generated per day for various purposes.

Table-I further shows that the development agencies and individual users of flyash have in all consumed more than 99 per cent of flyash generated per day by KTPP. Development agencies use flyash for the development of various kinds of land, such as fallow land, culturable

waste land, other waste land, vested land and even agricultural land for construction purposes including housing and others. The highways authorities such as NH – 41 have filled many pools ditches and pits with the wet ash for their construction of roads, etc. Individual users have consumed flyash for filling low-lying land, ponds, etc, and to improve water logged/marshy land and even culturable waste and crop land for construction and other miscellaneous purposes.

So, flyash has occupied various kinds of CPRs, such as fallow land, culturable waste land, other waste land, vested land, low lying land, ponds, water logged/marshy land, pools, ditches and pits to a considerable extent and also agricultural land.

**Socio-economic and ecological impact of dumping of flyash on CPRs and other land:**

The usual consequence of flyash dumping on CPRs and other land is the shrinkage of CPRs and other land. This process has some other important consequences which are presented in the following Table.

Table-II shows that in Rakshachwok, a significant amount of agricultural land are acquired by the plant for the construction of ash pond. But other lands such as fallow land, culturable waste land and vested land are occupied by flyash to a considerable extent for the construction of dwellings and others. In a similar way in Santipur various kinds of lands such as low-lying land, marshy land, pools, ditches, pits, ponds are filled with flyash for development of highway (NH-41) and construction of dwellings, hotels, shops, garage etc. Table-II further shows that most of these lands are converted from common lands, i.e. CPRs and OARs to private property land. In other words, dumping or filling of these lands by flyash changed their use as well as ownership pattern. These lands are used for development, construction and other related activities. These changes have led to the following socio-economic and ecological consequences.

In Santipur, the highway authority (NH-41) has filled many pools, ditches, pits, etc. for construction of roads. But villagers use these kinds of lands as common water reservoirs for their irrigation and fishing. The irrigation system and fishing activities are operating here by the customary use of pools, ditches and pits as common water reservoirs. But these customary use rights on pools, ditches and pits

Table II

as a common water reservoirs for irrigation and fishing are destroyed by the filling of these lands with flyash for the construction of the highway. So, farmers are now increasingly depending on ground water for their irrigation which has further lowered the ground water levels.

Fishing and collection of biota such as snails are important sources of livelihood of the poor village people, particularly women and children in the area. But these types of sustenance are adversely affected by the filling of pools, ditches and pits with flyash for construction of the highway. It is a fact that collection of fish, snails, wild foods, vegetables, etc. have made a self-provisioning economy for the rural poor. But this self-provisioning economy is being destroyed now by the filling of such land with flyash. Thus, in the village poor people have lost their access to these resources. On the other hand, the quality and quantity of fish, snails, vegetables are being reduced due to flyash contamination. All these changes have mostly affected poor people, farmers, women and children. These people have now increasingly become dependent on market economy which has further impoverished them by creating real material poverty because they have no access to the market in terms of purchase capacity.

In Rakshchwok, fly ash has occupied some amount of agricultural land on which ash pond is operating. Its direct consequence is eviction of nearly 1,000 people from this village and other adjacent villages. The evicted people are from both Hindu and Muslim community. They have gone here and there in the countryside for settlement. But some of them have settled themselves near the plant area. They have got employment in various down-stream activities including self-employment. So, an informal type of employment opportunities have been growing here like bidi making, vending, hotels, restaurant, health centre/nursing homes, communication and information centres. These have attracted people from nearby villages for their settlement on the places adjacent to the plant area. As a result, the area has been becoming crowded and congested day by day. These have changed land-use pattern of the area. But people of the area have improved their economic condition to some extent by some cash income from employment and other kind of trades. But civic amenities such as drainage, sanitation, garbage disposal and sewerage are in a poor condition. Moreover, the life of the people of the area are affected by air, water and soil pollution.

**Air Pollution:**

The KTPP produces huge proportion of flyash and releases large quantities of sulphur-di-oxide, arsenic and other poisonous gases into the atmosphere posing serious health hazards and other dangers.

**Water Pollution:**

The KTPP pollutes or spoils water in two ways. First, it requires huge quantities of water for mobilizing its heavy turbines and for the flyash slurries, which it takes from the nearby Rupnarayan river. So, it spoils a CPR, i.e. water. Second, it discharges ash-mixed water into the Rupnarayan river by the sedimentation process which is the prime cause for the ruin of Hilsa in the river. Ash-mix water contains some amount of silicon, sulphur and other toxic which affects upbringing of biotic communities in the river including Hilsa.

**The Soil / Land Pollution:**

Sporadic use of flyash by individuals and others and its dumping on land particularly on CPRs/OARs cause soil erosion and contamination of ground water in the area. So the agricultural activities are largely hampered by the dumping of flyash on land. On the other hand, increasing contamination of ground water due to flyash dumps on land causes serious health hazards like stomach problems, liver and intestine related diseases in the area.

An analysis of the socio-economic conditions of 50 respondents shows that people from the low-income group (below Rs.1000.00 p.m.), women and children are mostly hit by air, water and soil pollution. Several diseases like skin disease, T.B., bronchitis, stomach, liver and intestine related diseases affect low-income people, women and children. Their lack of awareness about the problems like air and water pollution and their failure to adopt necessary protection to protect themselves from these effects have led them to suffer from the diseases.

Excessive use of water from the nearby Rupnarayan river for mobilizing the plant's heavy turbines and its discharge of ash mix water into the river have left some consequences for the ecosystem and society. First, it has silted up the river's basin up to 3-4 km and near half km. radius along the shore which also changed the river's natural route of flow. This causes the dissolution of another shore and consequent sufferings to a number of poor people, like collapse of mud houses and

others, eviction, loss of valuables, etc. Second, effluents from the plant pollutes the river's water which affect fishing of Hilsa and others on which a number of poor fishing communities depend for their livelihood.

From Table-II, it is further stated that the CPRs/OARs are used in most cases for construction of hotels, garages, shops or business centres and also for dwellings. These are the ongoing processes here in which CPRs/OARs have been converted to private property resources. But these processes neglect the ecological functions of CPRs/OARs and their relation to nature and society. Negligence of the ecological value of CPRs /OARs results in the disappearance and consequent marginalization of the poor people who depend on them for their sustenance. Disappearance of CPRs/OARs such as low-lying land and ponds also cause problems like water stagnation or flood in the area. In Santipur some amount of marshy land/low-lying land along the Mecheda-Tamluk road is dumped with flyash for the construction of garages, workshops and hotels. This has disturbed ecology in the area in the form of water logging, air pollution, water pollution, etc. along with breakdown of self-provisioning economy of the poor whose sustenance depends on the collection of biota, fish and wild foods from this land, i.e. CPRs/OARs.

So, market-oriented treatments on CPRs/OARs have resulted in socio-economic and ecological problems. But people in the area are indifferent to these problems because their economic priority forces them to act in favour of market oriented use of CPRs/OARs. But my field experience reveals that people having a high income (above 10,000.00 p.m.) and moderate education (above Madhyamik) are more aware about these problems and their possible causes. But they hardly talk about these problems in public forums or take any initiative to solve them, although some of them have adopted norms to protect themselves from harmful effects of flyash in the air.

So, protection of CPRs/OARs has become an urgent need in the maintenance of our environment and society. An awareness building programme should be launched in this regard. This awareness building programme will make people more concerned about the ecological value of CPRs/OARs. The Government-NGO (Non-Governmental Organization) collaboration can do this job in a better way. On the other hand, development agencies should launch policies and programmes

from the ecological perspectives which may reduce or limit environmental hazards/pollution. It would be unwise to suggest that a market-oriented cost-benefit analysis of development schemes may be very handy for solving the problems of poverty and unemployment. Contrarily, the development scheme should adhere to a new kind of environmental reasoning for coming out of the 'risk' that modern society furnishes.

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