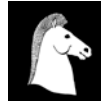




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## **Environmental Change and Chronic Famine in Manbhum, Bengal District, 1860-1910**

**Nirmal Kumar Mahato**

*Global Environment* 6 (2011): 68–94

The present paper examines the chronic occurrence of famine in Manbhum after the 1860s due to environmental degradation. Colonial intervention from the late 18th century onwards led to a process of transformation of the area. Ecological intervention was the prime factor behind this transformation. The agrarian conquest of Manbhum in the 19th century not only changed the local land use pattern, it transformed the agrarian structure and led to deforestation. The increase in commodity production and the expansion of monoculture badly shook the ecological balance of the area. Environmental change ultimately led to water and nutritional crises. The denudation of forests deprived people of alternative food sources during scarcity. Though the British idea of progress was based on agricultural advancement, this was carried out at the expense of the forest and was quite unsuited to the characteristics of the area. In general, monocultures of short-lived annual plants, a typical agricultural strategy in temperate zones, are inappropriate for tropical regions. The sustainable economy of the local *adivasis* (aboriginals) was permanently destabilised, and the district made vulnerable to famine. In the late 19th century the area faced several harsh famines. The *adivasis* tried to survive on the products of what was left of the jungle as their paddy crops failed. They not only collected starchy root tubers such as *pan alu*, a wild variety of *ole* (*Amorphophallus campanulatus* [Araceae]), and others, and the flowers of the *mahua* (*Madhuca indica*, Gmelin [Combretaceae]) as a primary food source from forests, and tamarind leaves (*Tamarindus indica* L., Family Leguminosae) as spice, but also cultivated indigenous low-cost cereals such as *eri*, *gundlu*, *marua*, *sama*, and others for survival. These cereals, although their yields were low, could be cultivated even under drought conditions because of their low water requirements (*jowar*, *bazra* and *ragi* were also used for the same purpose).

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# Environmental Change and Chronic Famine in Manbhum, Bengal District, 1860-1910

**Nirmal Kumar Mahato**

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his paper looks at the incidence of chronic famine in Manbhum (present Purulia district of West Bengal) as a corollary of environmental degradation. It also charts the multiple survival strategies adopted by the local *adivasis* (literally 'original inhabitants', an umbrella term designating the aboriginal tribal people of India) to cope with the recurrent famines that hit the area from the 1860s onward (Map 1). Recent



studies on famine focus on environmental changes. Agarwal and Sivaramakrishnan notice that ‘there is little scholarship... on the frequency, intensity, spread, and recurrence of famines, especially with a view to finding the connections between environmental change, the politics of environmental management, and agrarian relations.’<sup>1</sup> In her articles, Vinita Damodaran sets forth ‘a moral economy perspective’, which ‘attempts to ground famine theories more firmly in social and ecological context’. In her approach, ‘famine is seen as a process, a gradual development of impoverishment’.<sup>2</sup> Damodaran’s argument is quite different from the economist Amartya Sen’s ‘entitlement approach’. Sen argues that the traditional analysis of famines focusing on the food supply is weak and misleading. In his book *Poverty and Famines* he outlines his ‘entitlement approach’, which emphasizes ownership and exchange as a key to understanding people’s access to economic resources.<sup>3</sup> But Sen rarely takes account of the environmental aspect. Development analysts such as Melissa Leach, Scooner and Mearns have adopted Sen’s paradigm to examine what they call ‘environmental entitlements’, exploring the institutional dimension of resource use. Damodaran argues that arguments emphasizing entitlement and scarcity suffer from being too materialistic. They do not take adequate account of the role of the community or common rights. In Sen’s approach, food is not related to culture and is seen primarily as a means of assuaging hunger. This view fails to explain why starving people refuse to go on to relief works and choose to forage the forest for food instead. A ‘moral economy perspective’ provides a better historical and anthropological understanding of famine.<sup>4</sup>

<sup>1</sup> A. Agrawal, K. Sivaramakrishnan (eds), *Social Nature: Resources, Representation and Rule in India*, OUP, New Delhi 2001, p.13.

<sup>2</sup> V. Damodaran, “Gender, Forests and Famine in 19<sup>th</sup>-Century Chotanagpur”, in *Indian Journal of Gender Studies*, 9, 2, 2002, pp. 149-50. See also Id., “Famine in a Forest Tract: Ecological Change and the Causes of the 1897 Famine in Chotanagpur, Northern India”, in *Nature and the Orient: Essays on the Environmental History of South and Southeast Asia*, R. Grove, V. Damodaran, S. Sangwan (eds), OUP, New Delhi 1998, pp. 853-890.

<sup>3</sup> A. Sen, *Poverty and Famines: An Essay in Entitlement and Deprivation*, Clarendon Press, Oxford 1981, p. 1.

<sup>4</sup> Damodaran, *Gender, Forests and Famine* cit., p.160.

**Map 1. Map showing the Manbhum District (1869), made by Major J.L.Sherwill & Captain D. McDonald in 1869**



Sources: Photograph taken by author from Purulia District Record Room

## **Forest clearance and agrarian intervention**

From the late 18<sup>th</sup> century onwards, colonial intervention engendered a process of transformation in Manbhum, which led to major ecological degradation. In the early 19<sup>th</sup> century, the forest was primarily regarded as a 'resource'. The colonial policy of extending cultivable land at the expense of the forest resulted in large scale deforestation. It also exterminated dangerous predators.<sup>5</sup> H. Coupland mentions the paying of 'rewards... for the destruction of three tigers

<sup>5</sup> H. Coupland, *Bengal District Gazetteers: Manbhum*, Secretariat Press, Calcutta 1911, p. 12.



and seventy-nine leopards'.<sup>6</sup> Due to the growing demand of the railway system, which required immense quantities of logs of *sal* (*Shorea robusta* Gaertn. f. [*Dipterocarpaceae*]) to make sleepers for the railway, pressure was placed on the forest of Jungle Mahals.<sup>7</sup> Timber was also required for shipbuilding.<sup>8</sup> The opening of the main line of the Bengal Nagpur Railway through Kharagpur and Jhargram (1898) had a profound impact on the forests of the region. The introduction of the railways made areas in the interior more accessible. As forest products could be transported to distant places by railway, there was a sudden increase in the supply of these products.<sup>9</sup>

Deforestation was carried out by two groups of peoples. a) Indigenous: the *zamindar* (landowner) recruited indigenous people on different forms of contract, notably *nayabadi* (new tillage) and *junglebary* (land tenure).<sup>10</sup> b) Foreigners: the colonial ruler employed European companies to collect wood, such as the Midnapur Zamindari Company. Deforestation opened up crop fields for cultivation as well as providing valuable timber. From 1883 onward, the Midnapur Zamindari Company took on a lease of forest land from the *zamindars* and sold the timber for shipbuilding and the production of railway sleepers.<sup>11</sup>

The British idea of progress was based on agricultural advancement, and they tried to implement this idea in Purulia as well as else-

<sup>6</sup> Ibid., p. 2.

<sup>7</sup> M. Profenburger, "The Struggle for Forest Control in Jungle Mahals of West Bengal 1750-1990", in *Village Voices, Forest Choices*, M. Profenburger, B. MacGean (eds), OUP, New Delhi 1999, p. 135.

<sup>8</sup> West Bengal State Archives (hereafter WBSA), Revenue Dept., File No. 95/7/19, Govt. of Bengal, Forest Branch, May 1919, para. 7-9.

<sup>9</sup> West Bengal Directorate of Forests, *West Bengal Forests, Centenary Commemoration Volume*, Calcutta 1964, p. 133.

<sup>10</sup> A *junglebari* tenure was a lease of a specific area of land at a fixed rent. This lease was given to a tenant in consideration of the grantee clearing jungle and bringing the land to a productive state. For *junglebari*, see W.W. Hunter, *A Statistical Accounts of Bengal*, Vol. XVII, 1887, p. 332. For *nayabadi*, Purulia District Record Room Correspondence (hereafter PDRRC), Circle Note of Attestation Camp No. II, Barabhum, Session -1904-1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, p. 51.

<sup>11</sup> PDRRC, Circle Note of Attestation Camp No. II, Barabhum, Session 1904-1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, p. 51.

where. In the latter part of the 18<sup>th</sup> and throughout the 19<sup>th</sup> century, the British continued their agrarian conquest of Purulia through the expansion of private land ownership. Their first priority was the expansion of agriculture and encouragement of cultivation.<sup>12</sup> The land revenue policy of the British was to colonize land aggressively for agriculture and commodity production<sup>13</sup> 'at the expense of forest tracts and to exterminate all wild and dangerous game'.<sup>14</sup>

In a letter dated 17 January 1768, Edward Baber addressed John Shore as follows: 'There is very little land cultivated in the whole extent and a disproportionate part of it capable of cultivation; the soil is very rocky, the country mountainous and overspread with thick woods which render it in many places impassable'.<sup>15</sup>

In the 1880s, W.W. Hunter noted that a large portion of the waste land was cultivable and was being cleared continually to be cultivated under three types of tenures: *nayābādi*, *ahrat* (embankment), and *jalsāsan* or water supply.<sup>16</sup>

The colonial rulers used *bandhs* (ponds) to water the crops, and encouraged the digging of new ones to increase the area under irrigation.<sup>17</sup> H. Coupland writes: 'Construction and improvement of *bandhs* should be encouraged in every possible way'.<sup>18</sup> When new

<sup>12</sup> R. Samaddar, *Memory, Identity, Power: Politics in the Jungle Mahals (West Bengal) 1890-1950*, Orient Longman, New Delhi 1998, p. 46.

<sup>13</sup> I. Thirumali, "From Hamlet to Villages: A Note on the Agrarian Conquest of Podu fields in the Godavari Valley", in *The Indian Historical Review*, 33, 1, 2006, p. 249. Thirumali has shown in his article that 'through the agricultural conquest and cultural superimpositions during colonial period the *adivasi* hamlets were attached with the revenue villages'.

<sup>14</sup> V. Damodaran, "Indigenous Forests: Rights, Discourses and Resistance in Chotanagpur, 1860-2002", in *Ecological Nationalism: Nature, Livelihood and Identities in South Asia*, K. Sivaramakrishnan, G. Cederöf (eds), Permanent Black, New Delhi 2005, p. 118.

<sup>15</sup> Samaddar, *Memory, Identity* cit., p. 46.

<sup>16</sup> Hunter, *A Statistical Accounts* cit., pp. 320-21.

<sup>17</sup> Extension of cultivation and encouragement of cultivation were tacitly allowed through *nayabadi* (new tillage), *ahrat* (embanking) and *jalsasan* (water supply). For details see Hunter, *A Statistical Accounts* cit., pp. 320-21. See also PDR-RC, Circle Note of Attestation Camp, Manbazar, Session 1920-21, pp. 17-30.

<sup>18</sup> Coupland, *Bengal District Gazetteers* cit., p. 118.

land was brought under cultivation, a *bandh* was first dug usually some way down the slope. It was subsequently filled with surface drainage and used mainly for irrigation purposes. With the extension of cultivation, the lower *bandhs* were converted into rice fields, except where they had been excavated to a great depth. The new *bandhs* were constructed higher up and hence got less water, but could serve a larger area.<sup>19</sup> In this respect, the role of the colonial administration in water management was one of continuity rather than disruption. The same can be argued of water management (*Kuhls*) in Kangra, as Mark Backer has shown.<sup>20</sup> There was significant disruption, on the other hand, of the natural, social and cultural values of the *adivasis* as regards the *bandhs*. The *adivasis* not only ascribed different ecological and economic qualities to the ponds than the British, but also personified them, as if they were family members or relatives. This made for wholly different conservational approaches towards the *bandhs* and the ecosystems they belonged to.<sup>21</sup> The colonial masters, instead, saw them merely as water bodies, and thus divested them of the holiness ascribed to them by the *adivasis*. They exploited the water resource for irrigation and fishery without regard for local biodiversity and the underground water regime. They thus valued the ponds only for the economic gains they could afford, while disregarding their ecological and environmental value. This approach persisted even in post-colonial independent India.<sup>22</sup>

To quote a recent study: 'In many areas the natural limits of arable expansion had been reached, especially the more open parts of southern and eastern Manbhum and in the Jharia coalfields'.<sup>23</sup> The

<sup>19</sup> Ibid.

<sup>20</sup> J.M. Backer, "Colonial Influence on Property, Community and Land Use in Kangra, Himachal Pradesh", in *Social Nature: Resources, Representation and Rule in India*, A. Agrawal, K. Sivaramakrishnan (eds), OUP, New Delhi 2001, pp. 47-67.

<sup>21</sup> For details about the *adivasi* perception of water and their methods of water management, see N.K. Mahato, "*Environment and Society of Purulia: A Study of Tribal Identity in a Bengal District during Colonial Rule*", Unpublished PhD thesis, Visva-Bharati University, 2010, Chapter 2.

<sup>22</sup> Ibid., Chapter 4.

<sup>23</sup> P.P. Mahapatra, "Class Conflict and Agrarian Regimes in Chotanagpur,

opening of coal mines, in particular, brought agricultural expansion to an ‘abrupt end’. The demand for land increased with growing population pressure. Restrictions were imposed on customary concessions. *Junglebary* leases replaced *nayabadi* ones.<sup>24</sup> The ‘agrarian invasion’ brought a dramatic change in the land-use pattern.<sup>25</sup> Cultivation was extended even to remote, hilly and wild areas like Tundi, Bagmundi and Matha. Writing in 1911, Coupland comments on ‘the extent to which the area brought under cultivation has increased during the last 20 years’.<sup>26</sup> From 1884 to 1904, the area terraced for rice increased by 80% in Tundi, by 15% in Matha, and by 43% in Kuilapal. Tundi is a hilly area in the extreme north, while Matha lies to the west of the Bagmundi range. Kuilapal was the ‘wilder’ portion of the district. In 1911, Coupland described ‘the extension of cultivation in the district as a whole during the last twenty five years as approximating to 20 or 25 per cent,’ and noted that ‘the destruction of jungle in order to bring land under cultivation areas which are unlikely to remain cultivable more than a few years at the outside is common almost everywhere that any jungle remains.’<sup>27</sup>

### Impact on land relations

As we have seen above, the British “agrarian conquest” led to large-scale deforestation.<sup>28</sup> According to Vinita Damodaran, it had ‘a greater impact in the context of increasing landlordism in rural Chotanagpur’.<sup>29</sup> Damodaran argues that colonial authority was grad-

1860-1950”, in *The Indian Economic and Social History Review*, 28, 1, 1991, p. 22. In this fine study, the author highlights the interrelationship between class structure, class conflict and rate of surplus extraction in the Chotanagpur division during the colonial period.

<sup>24</sup> Ibid., p. 24.

<sup>25</sup> J.F. Richards, J. Hagen, E. Haynes, “Changing Land Use in Bihar, Punjab and Hariyana, 1850-1970”, in *Modern Asian Studies*, 19, 3, 1985, pp. 5-6.

<sup>26</sup> Coupland, *Bengal District Gazetteers* cit., p. 120.

<sup>27</sup> Ibid.

<sup>28</sup> Damodaran, *Indigenous Forests* cit., p.120.

<sup>29</sup> Id., *Famine in a Forest* cit., p. 864.

ually superimposed on the feudal authority of the Rajas. The British recognized the tribal chiefs as landowners (*zamindars*), imposed a new taxation system (including rent to be paid in cash, excise and other levies), set up markets and developed trade.<sup>30</sup> Thus, the British agrarian invasion led to the spread of different kinds of land tenure which extended horizontal stratification.<sup>31</sup> Chiefs or Rajas of Purulia were transformed into *zamindars*, and new intermediaries 'emerged from among the holders of jungle clearing tenures in the nineteenth century'.<sup>32</sup> Sub-infeudation also occurred during this period.<sup>33</sup>

### **Change in land use and nature of environmental degradation**

The colonial authorities parcelled out the *adivasi* landscape.<sup>34</sup> Survey and settlement operations were conducted, new 'villages' being created in the process.<sup>35</sup> In the Chotanagpur Tenancy Act, 'village' designated 'any local area in which a survey has been made and record of rights prepared under any enactment for the time being in force, the area included within the same exterior boundary in the village map finally adopted in making such survey and record, as subsequently modified by the decision (if any) of a court of competent jurisdiction'.<sup>36</sup> The colonial officials were striving to create villages as revenue units (Map 2). As Ranabir Samaddar writes, 'the whole process of defining a village, denoting boundaries of jungles,

<sup>30</sup> Ibid.

<sup>31</sup> PDRRC, Circle Note of Attestation Camp, Manbazar, Session 1920-21, p. 55.

<sup>32</sup> Mahapatra, *Class Conflict* cit., p. 22.

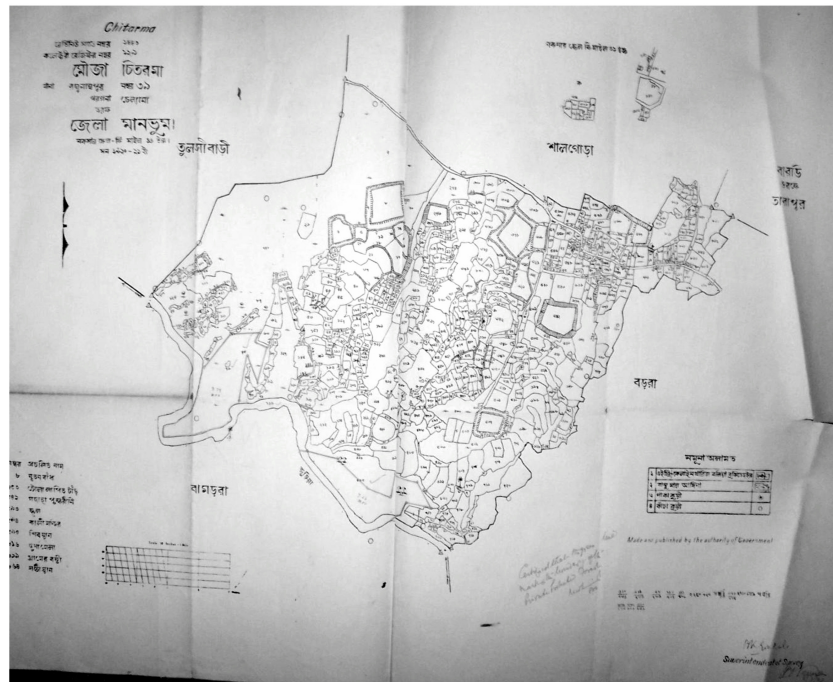
<sup>33</sup> Ibid.

<sup>34</sup> *Adivasis* managed the landscape by their own indigenous knowledge system. See V. Damodaran, "History, Landscape and Indigeniety in Chotanagpur, 1850-1980", in *South Asia: Journal of South Asian Studies*, 25, 2, 2002, pp. 87-91.

<sup>35</sup> K. Sivaramakrishnan, *Modern Forests: State Making and Environmental Change in Colonial Eastern India*, Oxford University Press, New Delhi 1999, p. 80.

<sup>36</sup> PDRRC, Circle Note of Attestation Camp No. II, Barabhum, Session 1904-1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, pp. 45-46.

**Map 2. Muoza Map of Village Chitorma**



Sources: Photograph taken by author from Purulia District Record Room

clarifying various types of settlement, locating various types of land and classifying them, became ridden with tension'.<sup>38</sup> With the transformation of villages from solidarities to settlement units in Purulia, there was a switch-over from 'custom to contract', a decline of the *mandal* or *pradhan* as an institution.<sup>39</sup> Private property was created by transforming the former tribute paying structure into rental property.<sup>40</sup> *Mukarari*<sup>41</sup> leases were increased through the appearance

<sup>37</sup> Chotanagpur Tenancy Act 1908, p. 6.

<sup>38</sup> Samaddar, *Memory, Identity* cit., pp. 89-90.

<sup>39</sup> Ibid., p. 93. The *mandali* tenure holders had a hereditary right of occupancy and rents were not subject to increase. Most of the tenures covered the entire village. There were sub-tenants under them with permanent occupancy.

<sup>40</sup> Mahapatra, *Class Conflict* cit., p. 11.



of middlemen. After gaining a foothold in the region, the money-lenders got both the Rajas and the tenants into their clutches. As Suchibrata Sen informs us: 'The *mandals* were forced to sell to Bengali *mahajans* who stepped into their places. In both cases the result was the break-up of the *mandali* system'.<sup>42</sup>

In Manbhum, the agrarian conquest of the 19<sup>th</sup> century did not just change the land use pattern: it transformed the agrarian structure and brought on ecological degradation. In 1867, 49.05% of the district was under cultivation (Fig. 1). By 1908-1909, the area under cultivation had increased to 59%, fallow land and cultivable wasteland was 7%, and the remaining 34% consisted of land not available for cultivation (Fig. 2).

In the wake of the agrarian invasion and forest destruction came environmental deterioration. In 1855, Henry Ricketts reported the total absence of trees in Purulia town.<sup>43</sup> In 1863, Major J. Sherwill and Captain Donald McDonald described the landscape as 'hilly, stony and broken', and added: 'The soil is poor.'<sup>44</sup> According to Vinita Damodaran, 'in the case of Chotanagpur the story of environmental degradation cannot be so easily challenged.'<sup>45</sup> This process can be viewed from different perspectives. Deforestation caused huge amounts of soil to be eroded by rainwater and deposited into the bed of the river, reducing its depth.<sup>46</sup> The shallowness of the river

<sup>41</sup> The term *mokarara* indicates a permanent tenure on fixed rent. These tenures were found in almost all the states. These tenures were created invariably on receipt of *pan* (a considerable sum of money). Thus, the tenures were sometimes described as *pan baha mukarari*.

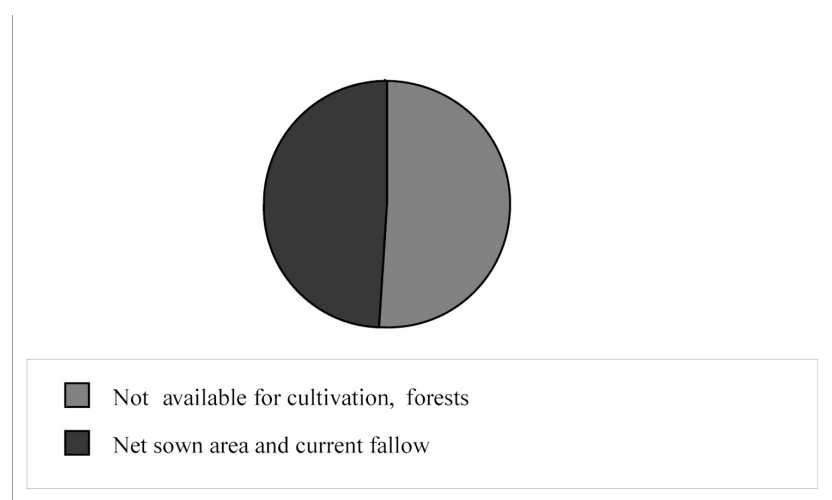
<sup>42</sup> For a breakdown of the *mandali* system, see S. Sen, "Erosion of the Mandali System of the Santals of South-West Bengal. A Threat to their Cultural Identity", in *Changing Land System and the Tribals of Eastern India in the Modern Period*, T. Banerjee (ed.), Subarnarekha, Calcutta 1989, p. 63.

<sup>43</sup> H. Ricketts, "Reports on the Agency Administration", in *Selection from the Records of Bengal Government*, vol. XX, Bengal Secretariat Press, Calcutta 1855, pp. 2-3

<sup>44</sup> Note of the Map of *pargana* Pandra, Sherghor, Mahesrah & Chatna, Main Circuit No. 5 & 9, 1862-63. The survey was conducted by Major J.L. Sherwill and Captain Donald McDonald.

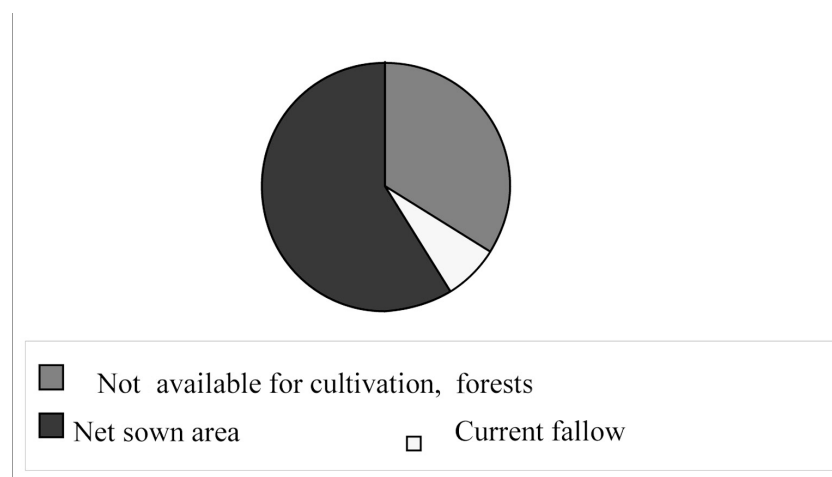
<sup>45</sup> Damodaran, *Gender, Forests* cit., p. 133.

**Fig 1. Land use in Manbhum 1867**



Sources: W.W. Hunter, A Statistical Account of Bengal, vol - XVII, 1887, p. 316

**Fig 2. Land use in Manbhum 1908-09**



Sources: Bengal District Gazetteers: Manbhum, Cal 1911, p.120

increased the turbidity of its waters, making them contaminated. This, in turn, affected the health of the hunting and gathering adivasis, in particular the Savars and Birhors.<sup>47</sup> The colonial authority used *bandhs* in total disregard of the adivasi perception of water. They only employed them for irrigation, taking no account of the land-water-vegetation relationship. The agrarian invasion thus accelerated both soil erosion and the filling up of ponds. In 1910, Assistant Settlement Officer Radhakanta Ghosh reported: 'I found that the beds of some bandhs have been encroached upon by unscrupulous pradhan and Bengali settlers who have recently settled in those villages. The beds of those *bandhs* are very fertile and yield rich crop. It is for this reason that the encroachment is made without any regard to the future injuries.'<sup>48</sup> As a result, the ponds silted up quickly and were reduced in size and, accordingly, water-holding capacity. The clearing of the vegetation surrounding a pond and/or upstream of it accelerated soil erosion. The resulting siltation of the pond<sup>49</sup> started a chain of ecological havoc, viz., a decrease in water volume, an increase in nutrient concentration, an increase in the productivity of the pond ecosystem, and, ultimately, decreasing oxygen levels in the water. This led to a decrease in green plants and their replacement by blue-green algae, which generated toxins and a foul smell, causing the death of the water fauna; a dreadful process known as 'eutrophication'. After the denudation of the soil, evaporation increased, rapidly leading to dryness.<sup>50</sup> This reduced organic matter in the soil, affecting soil texture. The change in the soil microhabitat resulted in a harsh microclimate. The soil regeneration cycle in the area was thus altered and the seed bank jeopardized. Denudation reduced rainfall as well as soil moisture. Temperatures increased and a process of desertification ultimately set in over the whole region.

<sup>46</sup> Coupland, *Bengal District Gazetteers* cit., p. 5.

<sup>47</sup> Interview with Sri Kalipada Savar, Sabar old man, Vill-Sidhatarn, Dist. Purulia, 27<sup>th</sup> March 2003.

<sup>48</sup> PDRRC, Circle Note of Attestation Camp No. II, Barabhum, Session 1904-1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, p. 46.

<sup>49</sup> PDRRC, Circle Note of Attestation Camp No. II, Barabhum, Session 1904-1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, p. 45.

Deforestation combined with monoculture has a devastating impact on tropical environments. In the tropics, a much larger portion of organic matter and available nutrients is contained in the biomass. This organic matter is recycled within the organic structure of the system, partly through the agency of a number of nutrient-conserving biological adaptations, which include mutualistic symbiosis between microorganism and plant remains. With the collapse of this elaborate and well-organized biotic structure, nutrients are rapidly lost to leaching under conditions of high temperatures and heavy rainfall, especially on sites that were poor in nutrients to begin with. E.P. Odum writes: 'For this reason, agricultural strategies of the temperate zones, involving the monoculture of short-lived annual plants, are quite inappropriate for tropical regions'.<sup>51</sup>

*Erosion of jungle rights:* The *adivasis* lost their traditional rights on forestland by the end of the 19<sup>th</sup> century. The landlords started to extract illegal jungle fees.<sup>52</sup> Due to increasing debt bondage, the peasants and even the *mukaridar* were obliged to mortgage land and tracts of jungle. In the fiscal district (*pargana*) of Barabhum, the Watson Company started to collect rents from *raiyats* for *mohua* and *lac* trees. As Radhakanta Ghosh, Assistant Settlement Officer of Manbhum informs us: 'Before that these rents were unknown in the *pargana*'. The *laha* (lac) producing trees were in the *baris* (uplands near the house) of the *raiyats* and had been planted or were being grown by the *raiyats*. It was most inequitable to extract these rents. The Company also introduced an equally unjustified 'jungle cess'.<sup>53</sup> The traditional jungle rights of the *raiyats* and *ghatwals* (local constables) were thus encroached upon. The Manbazar Circle Note wrote: 'They [the *ghatwals*] admitted plainly that they cannot take anything from the jungles except the most unimportant shrubs for legitimate domestic purposes, without the permission of the Deputy Commissioner'. In Mauza Chirudih and Jamda (wholly *ghatwali* villages)

<sup>50</sup> Coupland, *Bengal District Gazetteers* cit., p. 113.

<sup>51</sup> E.P. Odum, *Basic Ecology*, Saunders College Publishing, Holt- Saunders, Japan 1983, pp. 211-212.

<sup>52</sup> Damodaran, *Famine in a Forest* cit., p. 869.

<sup>53</sup> PDRRC, Circle Note of Attestation Camp No. II, Barabhum, Session 1904-

there were jungles fit for all kinds of domestic and agricultural purposes, but with the rising demand for lumber for purposes such as house building, permission of the Deputy Commissioner for access to jungle resources became mandatory.<sup>54</sup>

With the destruction of the forest environment, landlords usurped the traditional forest rights of the indigenous peasantry.<sup>55</sup> A Report of the Administration of Bihar and Orissa complained of serious 'economic loss to the neighbouring village population by the wholesale clearing of timber'.<sup>56</sup> The villagers lost their free or cheap supply of wood. Their grazing grounds were reduced and their cattle suffered severely. Wood being no longer available for fuel, cow dung replaced it and was hence lost as manure, with a negative impact on soil fertility. In times of scarcity, the aboriginal population could no longer fall back on jungle produce, the fruits and plants that had always been their famine reserve. Industrial development caused a contraction of forestland in the area. The activities of timber contractors aggravated the damage already caused by landlords and tenants, and by the depredation of the graziers.<sup>57</sup>

There was constant protest in Purulia against this British physical and cultural invasion. In earlier protest movements such as those of the *Chuar*, *Bhumij*, and *Santal Hul* in 1855, and in the revolt of 1857, land and liquor (especially in the case of the Bhumij) were the main concerns. Forest-based protest movements began to spring up from 1870 onwards. All shared a nostalgic longing for the past, for their community rights on *bandhs*, their sacred landscape, and their medicinal system.<sup>58</sup>

*Debt bondage*: Cases of bondage by debt began to spread rapidly in Chotanagpur. Peasants were forced to borrow money from the landlord or money-lender to meet their daily needs.<sup>59</sup> The condition of the

1910 by Mr. Radhakanta Ghosh, Assistant Settlement Officer, p.121.

<sup>54</sup> PDRRC, Circle Note of Attestation Camp, Manbazar, Session 1920-21, p. 60.

<sup>55</sup> Damodaran, *Famine in a Forest* cit., p. 870.

<sup>56</sup> Bihar State Archives Library, *Bihar and Orissa in 1923*, Published by Authority, Patna 1923, p. 58.

<sup>57</sup> Ibid.

<sup>58</sup> For details, see Mahato, *Environment and Society of Purulia* cit., Chapter 4.

*ghatwals* of Barabhum was deplorable. In the words of an Attestation Officer: 'If these men are deprived of their *raiya* rights over their lands and are made liable to ejectment by the new coming Ghatwal their case will be very hard, as in these days of hard competition for lands these men will no longer find a place for them in that country and will be forced to migrate to *poorob desh* [the tea plantations in Assam]'.<sup>60</sup> Another Attestation Officer, Babu Sisir Ranjan Chatterjee, bears witness to the indebtedness of the people and the legal and illegal transfer of their (tribal) land to Attestation Camp No. XIII.<sup>61</sup>

There is evidence from the period of *adivasis* living close to the utter poverty line. In Manbazar Pargana (fiscal district), indebtedness was widespread among the Bauris. In *mauza* Manpur (*thana* No. 311), a very large number of land transfers (*sudhbandhak khaikhalsi*), both legal and illegal, took place. The poorer *raiya*s had to borrow paddy for consumption and for *khedan* (cost of cultivation) from the *mahajans*. The rate of interest in the former case was 100% (*debar*) and later on 50% (*dedhia*). Those who did not have a plough had to borrow one under a system called *banhicha*. The *banhicha* consisted of the payment of three *maunds* (roughly 37.5 Kgs) of paddy for cattle to draw the plough and five *maunds* for cattle to draw both the plough and the cart. After the paddy was harvested, first of all the following debts had to be cleared: i) food and seed paddy, ii) *khedan* paddy, iii) *garu banhicha*, including a payment called *hal pajni* (repair cost of the plough) to the blacksmith at the rate of half a *sali* ( $\frac{1}{4}$  of a mound) for each plough. After payment of all these charges, salt, spices, tobacco, and *kalsi* and *khapri* (earthen pots) were purchased in exchange for paddy. The cost of two *sers* (roughly 946 grams) of paddy was one *anna*<sup>62</sup> (one 16<sup>th</sup> of a rupee). The remaining paddy was left for consumption. Nothing could be set aside for emergencies, however, such as the need for medicinal treatment or festive social occasions. Thus, the cycle of debt led the peasants to malnutrition and disease.

<sup>59</sup> Damodaran, *Gender, Forests* cit., p. 146.

<sup>60</sup> PDRRC, Circle Note of Attestation Camp, Manbazar, Session 1920-21, p. 65.

<sup>61</sup> PDRRC, Circle Note of Attestation Camp No. XIII, Session 1922-23 by Babu Sisir Ranjan Chatterjee, Assistant Settlement Officer, p. 121.

<sup>62</sup> PDRRC, Circle Note of Attestation Camp, Manbazar, Session 1920-21,



The Manbazar Circle Note provides interesting information about the various imposts (*abwabs*, *beths*) levied in old times. It mentions, for example, the paying of taxes in rice (*sama ghee* or *chawal*); gourds (*dingla*); cash (*nagdi*); manure; and *mohul kachra* (oil extracted from *mohua* fruits). Other taxes included *hal beth*, the “plough tax”; the “paddy cutting tax” (*dhan kata beth*); and a “cart tax” (*gari beth*). The most common *rakumat* impost was the levying of *sama ghee* or *chaol* (rice) for the worship of the Goddess Durga, claimed even in villages where no such worship was performed. In one or two villages of Manbazar Pargana (fiscal district), as noted by the Attestation Officer, manure was claimed at the rate of one cart of cow dung per house in lieu of house rent. *Shud* (interest) was realized regularly from the *raiya*s at the rate of four *annas* per rupee, but frequently at any rate which the landlord could squeeze from the *raiya*.

In the pre-colonial period or early colonial period, *beths* had been unknown. An Attestation Report notes: ‘It was also an admitted fact that during the time of the Bhumijis who were formerly *malik* [owners] of *mauzas* [village revenue units] no *rakumats* and *begaris* were prevalent’. It also noted that *maliks* could harass a *raiya* for not rendering *beths* by i) not allowing him to graze cattle, ii) not allowing him to take water from the owners of a *bandh* to irrigate his lands and iii) not allowing him to go into the jungle to take his cattle to graze or collect fuel.<sup>63</sup>

## Resource Scarcity and Chronic Famine

The colonial domination of nature dangerously threatened the *adivasi* landscape. The activities of the colonial state and rapacious landlords did not show any regard for the sacred institutions of the *adivasis*. With the destruction of the forest resource, scarcity began to affect the indigenous people as they were deprived of various food supplements. The impact on the primitive hunting and gathering *adivasis* was severe.<sup>64</sup> Their blissful life of dependence on nature came to an

Material condition of the cultivators, p. 45.

<sup>63</sup> PDRRC, Circle Note of Attestation Camp, Manbazar, Session 1920-21, p. 153.

<sup>64</sup> D. Sinha, “Proletarianization of a Hunting and Gathering Tribe. The Case of Hill Kheria of Purulia”, in *Changing Land System and the Tribals of Eastern India in*

end. There is a story about how their sacred hill lost its sacredness. The forefather of the tribes used to place an empty winnow in the morning at the entrance of a cave on a hill. By grace of the local deities, the winnow was found full of good things to eat in the evening. But one day, to their dismay, they found the entrance to the cave closed and the winnow empty.<sup>65</sup> And this is how the area lost the blessing of the gods.

Valentine Ball pointed out that the reservation of forest tracts, which prohibited farming by the locals, caused food scarcity and forced people to migrate to other regions.<sup>66</sup> Here they lived in isolated, unreserved jungles, harvesting jungle products and exchanging them with settled farmers for paddy.<sup>67</sup> These people thus became 'ecological refugees', a condition reflected in a song by Kalachand Savar:<sup>68</sup>

*Hamra lodha Savar Kheria jatil Bhulayechhe hamader ritiniti /kader kachhe a duksha janai?! Sakal hale bane jharel kat kate ar alu tanga tarel sanj bela bike kine ghare ami bhail raite Police bale chor tuil marer chote jiban bancha dail*

[We, the people belonging to Lodha, Savar and Kheria have been forced to forget our own rules, customs and norms, but there is nobody there to sympathise with this pain. From the morning, life starts with the search for food, tubers and other products, and we end our day of hard work, half starving, in the evening when we return home after selling and buying. At night, policemen come to accuse us of theft. They beat us so hard that we risk dying].

In 1880, Valentine Ball pointed out that 'the reservation of forest tracts, which prohibits the inhabitants from taking a blade of grass from within the boundaries, has resulted in the people being cut off

*the Modern Period*, R. Banerjee (ed.), Subarnarekha, Calcutta 1989, pp. 73-74.

<sup>65</sup> Interview with Kalipada Savar, a Savar old man of Sidhatarn Village, Purulia District.

<sup>66</sup> V. Ball, "On Jungle Products Used as Articles of Food in Chutia Nagpur", in *Tribal and Peasant Life in Nineteenth Century India*, Originally published in 1880, Usha Publication, New Delhi 1985, Appendix E, p. 695.

<sup>67</sup> V. Ball, "Notes on the Kherias, an Aboriginal Race Living in the Hill Tracts of Manbhum", in *Proceedings of the Asiatic Society of Bengal*, The General Secretary (ed.), Baptist Mission Press, Calcutta 1868, p.192.

<sup>68</sup> D. Dey, "Lodha Savar Padabali", in *Anrifu*, Year Twentieth, Issue *Basanta*,

from these food sources throughout wide areas, and many have been forced to migrate in consequence to other regions, not yet included in reserves, where they can continue to supplement their scanty cultivation with the productions afforded to them by nature.<sup>69</sup> The tremendous pressure ultimately drove forest dwellers to resort to crime to put food on their tables.<sup>70</sup> Having become ecological refugees, they no longer had the potential to survive through drought and famine. Damodaran observes that 'they [the tribal people] then became more vulnerable to the inroads of rapacious landlords, money lenders and private capital in general', and adds: 'While similar development took place throughout the colonial (and post-colonial) period in many parts of 'tribal' India, the ecological background to the 1897 Chota Nagpur famine throws useful light on the very sharp correlation between ecological degradation, forest reservation and the onset of famine conditions.'<sup>71</sup>

*The famine of 1866:* After the 1860s, scarcity became a common phenomenon, as reflected not only in colonial reports of the period but also in indigenous songs:<sup>72</sup>

*Baro mas akall/ tero mas sakal/ O Raja ! Ki khayen kataba jiban? Panchet pahare  
ache ek gachha bell sei khayen katale jiban.*

[Scarcity for twelve months / It seems like thirteen. / Oh Raja! How are we going to get food for subsistence? / There was a *bel* [wood apple] tree loaded with fruits on Panchet hill. / We once could subsist on its fruit].

Hunter noted: 'General droughts have occurred in Manbhum district within the memory of the present generation in 1851 and 1865. The latter of these was the most severe'.<sup>73</sup> Following a cyclone in 1864, rice was exported in large quantities to the neighbouring districts. Crop

2005, pp. 35-36.

<sup>69</sup> Ball, *Tribal and Peasant* cit., p.695.

<sup>70</sup> Sinha, *Proletarianization of a Hunting* cit., pp. 76-77. Interview with Kalipada Savar cit.

<sup>71</sup> Damodaran, *Famine in a Forests Tract* cit., p.885.

<sup>72</sup> I have collected the song from Sri Bhutnath Mandi, a Santal *horopathist* (medicineman), Village Jagannathdi, Pabra, Purulia District, 6<sup>th</sup> June 2008.

production was somewhat scanty in 1863 and 1864. As a result, the grain stocks of the district fell below their usual size. The autumn rice crop of 1865 was affected adversely by excessive rainfall. This was followed by a severe drought threatening the winter crop rice, the main crop of the year. In November 1865, the Deputy Commissioner issued a notice to the *zamindars* (landowners) recommending them to use their influence to check on the export of rice. All over the district, the yield of the winter crop estimated by the Deputy Commissioner was between one third and half of the normal yield. Beginning in March 1866, scarcity began to affect the whole district, and there was an increase in robberies.<sup>74</sup> In the Famine Commission report, it was stated that Manbhum and the adjacent part of Singhbhum were affected in a similar fashion as Mohurbhanj, part of the laterite country.<sup>75</sup> The very populous south-eastern part of the district was the most impacted.<sup>76</sup> Grain looting increased. On 15<sup>th</sup> March, 1866, the District Superintendent of Police reported: 'The *dakait*s that have taken place lately are entirely owing to the scarcity of all provisions. This may be proved by the fact that the property stolen consists of nothing but eatables, any valuables in the possession of the person whose houses have been broken into being left by the *dakait*s as useless'.<sup>77</sup> Dalton reports that in 1866, the famine year, crime increased enormously.<sup>78</sup> Even normally well-to-do people were forced to eat *mahua* and similar items. Most of the people subsisted on *mahua* and grass, or anything they could get. They were not able to collect rice.<sup>79</sup>

Early relief measures were negligible. The Deputy Commissioner called a meeting after being informed of a robbery. Colonel Dalton, while approving of the meeting, considered that there was no need

<sup>73</sup> Hunter, *A Statistical Account* cit., p. 339.

<sup>74</sup> Ibid., pp. 340-41.

<sup>75</sup> Report of the Commissioners Appointed to the Inquiries into the Famine in Bengal and Orissa, 1866, Vol. 1, Secretary to the Government Printing, Calcutta 1867, par. 322.

<sup>76</sup> Ibid., pp. 323-24.

<sup>77</sup> Hunter, *A Statistical Account* cit., p. 341.

<sup>78</sup> PDRRC, From Colonel E. T. Dalton, C.S.I. Commissioner of Chotanagpur, To T. B. Lane, Esqr., Secretary to the Board of Revenue, L.P. Fort William, No.1693, dated Chotanagpur, the 14<sup>th</sup> June 1869, para.12.

of relief by distribution of food. He observed that prices were lower in Manbhum than in other districts of the Division. Robberies were committed in most cases by the landless low castes of 'semi-Hinduised aborigines', who were most impacted by the famine. Colonel Dalton thought that this class could best be dealt with by encouraging them to migrate or employing them in relief work. The Deputy Commissioner countered Colonel Dalton's argument by pointing out that in the interior of the district all transactions were carried out through barter and the recorded market price was therefore no indicator of the supply of grain. In Raipur, there were no monetary transactions in markets and no rates could hence be reported. In fact, coins received at the treasury from Calcutta never passed into circulation at all.<sup>80</sup>

After receiving Rs. 2000/- from the Government, the District Relief Committee opened depots for relief in the south of the district. These depots were placed under the authority of the *zamindars* (land-owners) and a British Inspector of Police. It was resolved that at each centre 150 persons should receive half a *ser* of rice daily. Employment was provided for 1000 persons daily and relief for 450. Distress continued to increase all over the district. In Barabhum the price of rice rose. A rupee now only bought 9 *ser*s while it had previously fetched 11. Grain robberies occurred at the rate of four every night. The Deputy Commissioner reported that the *ghatwals* were wholly dependent on their land production and a revolt might be expected to break out unless their subsistence was provided for. The Government granted a special allotment of Rs.4000/ to the *ghatwals* for their maintenance.<sup>81</sup> A depot for gratuitous relief was opened at Purulia and placed under the charge of Mr. Onasch, a Lutheran Missionary and the Secretary of the Relief Committee. With the opening of the grain depots in the south of the district there was a marked decrease in the number of *dakaitis*, but distress began to spread towards the north. On 25<sup>th</sup> June, the Assistant Magistrate in Charge of Govindapur Subdivision reported a sudden spurt in the price of rice, whereby a rupee would now fetch 7 instead of 11 *ser*s.<sup>82</sup> Through August, distress and mortal-

<sup>79</sup> Hunter, *A Statistical Account* cit., p.341.

<sup>80</sup> Ibid.

<sup>81</sup> Ibid.

ity continued to increase. In the south of the district conditions were worse, as there a rupee would fetch only 3½ to 4½ *sers* of rice. The people had eaten up much of the early rice crop from the field before it attained maturity.<sup>83</sup> In spite of the scarcity, the Sonthals would not go to the relief depots for food. They hated begging and receiving alms, as well as stealing.<sup>84</sup> This ecosystem-dependent people hence tried to fall back on their old nourishing mother forests.

After visiting famine-affected areas, Valentine Ball (1867) wrote that the people living in jungle villages were more independent and less affected by famine than those who resided in the centre of cultivation and had no access to jungles. If a census had been taken it probably would have found that the ratio of deserted houses in villages as a result of the famine to those still inhabited was higher in the open cultivated area than in the dense jungles. The jungles were a life-saving resource for the lower classes of the population, supplying them with products such as fruit, honey, and tubers.<sup>85</sup> Those who were excessively dependent on rice were more prone to succumb to drought. Some Kherias obtained rice in exchange for jungle products such as honey, *lac*, *dhuna* (from *sal*), *tassar* cocoons, *sal* leaves and bundles of bamboo slips called *khurki* (used to stitch *sal* leaves into plates). Most of them, however, died, because, Ball notes, 'they lost heart on being depressed of what had been a regular source of supply, and failed to exert themselves in the collection of an extra quantity of roots.'<sup>86</sup> A somewhat similar account was given to him by a Santal speaking of his own people: those who went looking for food in the jungles, he said, survived, while those who sat in their houses hoping for better times died.<sup>87</sup>

<sup>82</sup> Ibid., p. 349.

<sup>83</sup> Ibid., p. 344.

<sup>84</sup> Report of the Commissioners Appointed to the Enquiries into the Famine in Bengal and Orrissa, 1866, Vol. 1, Secretary to the Government Printing, Calcutta, 1867, par. 303.

<sup>85</sup> V. Ball, "On the Products Used as Articles of Food by the Inhabitants of the District of Manbhum and Hazaribagh", in *Journal of the Asiatic Society of Bengal*, 36, 2, 1867, pp. 73-82.

<sup>86</sup> Id., "Notes on the Kherias, an Aboriginal Race Living in the Hill Tracts of Manbhum", in *Proceedings of the Asiatic Society of Bengal* cit., p.192.



After 1866, the district of Purulia faced several harsh famines. In the pre-colonial period, the *adivasis* had rarely experienced starvation thanks to their deep knowledge of the forest environment. Edible jungle products were of critical importance in their diet.<sup>88</sup> But the colonial agrarian invasion, which went on until the 1890s, wrought dramatic changes on the land use pattern. Traditional forest rights were eroded by the landlords and the Forest Department. The *adivasis* were deprived of their traditional food sources. H. Coupland gives us a sense of the importance of forest products in the *adivasis*' diet. He does caution against the danger of overestimating the value of these products as a safeguard, as by his time not only had the population increased, but jungle areas were considerably reduced. But even in 1911, when he was writing, a devastating famine was still improbable, if not impossible, in the wilder parts of the district.<sup>89</sup> In times of scarcity, the *adivasis* not only collected starchy root tubers such as *pan alu* – a wild variety of arum – and *mahua* flowers as primary food resources from forests, and leaves such as tamarind as spices, as well as other products, but also cultivated low-yield indigenous cereals such as *eri*, *gundli*, *marua*, *sama* and others.<sup>90</sup> In spite of their low nutritional value, such cereals presented the advantage of having low water requirements, and hence being cultivable during drought periods (*jowar*, *bazra* and *ragi* were also planted for the same purpose).

Eventually, even the *adivasis* were impacted by the severe famines which had been affecting the lowland population for a much longer period. The penetration of the colonial economic system into the deep forest regions severely disturbed the age-old balance between people and the environment.<sup>91</sup> After 1866, more famines occurred one after the other in 1874, 1892, 1897 and 1907-08. Purulia suffered persistently from periodic droughts which usually lasted from April to early July.<sup>92</sup>

<sup>87</sup> Ibid.

<sup>88</sup> Damodaran, *Famine in a Forests* cit., p. 857.

<sup>89</sup> Coupland, *Bengal District Gazetteers* cit., p.128.

<sup>90</sup> Interview with Sri Barendra Singh (Munda), a Munda old man, Midnapur (West). He heard from his grandfather how the *adivasis* collected and prepared their food in times of famine.

<sup>91</sup> Damodaran, *Famine in a Forest Tract* cit., p. 885.

<sup>92</sup> *West Bengal District Gazetteers: Purulia*, Govt. of West Bengal, Calcutta

In 1872, the rice harvest was a total failure in the eastern *pargana* (district) of Manbhum, the estimated yield of the entire district being only five-eighths of a full crop. In 1873, rains came late, and only 2.21 inches fell in June. On the other hand, rainfall was excessive in July, making the condition more adverse than in the preceding year. In the month of August there was no rainfall, and only three inches fell in September, and seven in October. Though the total rainfall was slightly better than in 1865, the subsequent *rabi* (spring) crop was still below average. The area under cultivation was reduced to a minimum by the absence of moisture and water in the local *bandh* due to early cessation of rains. Prices had been rising due to considerable drain of district resources to other distressed areas, from 15½ seers to a rupee in January to 13 seers in April. The district official mentioned that during April the ripening of the *mahua* harvest prevented distress from getting more acute. Deputy Commissioner writes: 'Had it not been for this very timely supply of food, great distress, if not actual starvation, would have taken place'.<sup>93</sup> In the areas where the circle of distress had widened, *mahua* trees were few in numbers.<sup>94</sup>

Food scarcity became a problem again in 1892. In this year rainfall was deficient and badly distributed, and as a result both the winter and autumn crops were poor. The price of rice had been rising steadily.<sup>95</sup> Though it was a partial scarcity, the district faced severe famine in 1897.<sup>96</sup> The official explanation of the cause of famine, as in the two previous cases, was that it 'lay in a succession of bad seasons rather than in a single failure of the crops.'<sup>97</sup> As compared with the normal rainfall of 53.27 inches, in 1895-96 the district had had only 35.77 inches. Though the *bhadoi* (autumn) crop was average, the winter crop amounted to only 5/8 of the normal one. Prices began to rise from the beginning of 1896. By September, the paddy price had risen to 14 seers a rupee at Purulia and 11 at Govindapur.

1985, p.183.

<sup>93</sup> Coupland, *Bengal District Gazetteers* cit., p. 135.

<sup>94</sup> Ibid., p. 136.

<sup>95</sup> Ibid.

<sup>96</sup> For details about the 1896-97 famine in Chotanagpur, see Damodaran, *Famine in a Forest Tract* cit., pp. 854-890.

Though the rainfall was slightly heavier than the previous year, its distribution could hardly have been worse. After an absolutely dry April, rainfall was only 1½ inches in May in the Sadar Subdivision. In the month of August only 9 ½ inches fell and in September it was half of normal. Though rainfall in May and June was more favourable, it was well below average in the succeeding months and there was not a drop in the month of October. The entire district was affected and the spring crop harvest failed entirely. Furthermore, *mahua* was seriously damaged by untimely rain in March 1897. The district faced severe distress. The price of rice rose to 10 and 9 seers a rupee at Purulia and Gobindapur respectively, so that relief measures had to be undertaken at the end of April. Again, in Gobindapur, the price of rice rose to 8.5 *seers* to a rupee in April and 7.62 *seers* in May. In Purulia, the price was higher. Two months later, the price had risen even further, to 7 seers to a rupee at Gobindapur. Relief work was stepped up marginally during May and June. The main rice harvest, the autumn (*bhadoi*) crop, did not begin till November. Again, relief oriented works and gratuitous relief centres were opened and the number of persons enrolled on relief works had risen to over 13,000 by the end of September. By this time, prices were steadily falling and the prospects of the new crops assured.<sup>98</sup> The total area affected by the famine was 3373 square miles, with a population of 991,000.

After 1897, there were comparatively low crops in 1904-05, 1906-07 and 1907-08. The worst low was in the last of these three agricultural years, when in the month of October the price of rice soared to 7 *seers* per rupee. When the crops came in, though there was a slight recovery, prices still ranged between 7 and 7 ½ *seers* at Purulia and at times rising as high as 4 ½ and 5 *seers*. There was a marked increase of beggars or 'underfed wanderers' during this period of scarcity. Rs. 32,000 was distributed in loans, Rs. 20,000 under the Land Improvement Loans Act, and Rs. 12,000 under the Agriculturists' Loan Act, mainly in the north of the district during the first sixth months of 1908. Beyond this, however, no direct or indirect expenditure was incurred.<sup>99</sup>

<sup>97</sup> Coupland, *Bengal District Gazetteers* cit., p. 137.

<sup>98</sup> *Ibid.*, pp.138-139.

According to the official explanation, in the famine year of 1897 the mortality rate increased due to a severe epidemic of fever, not starvation.<sup>100</sup> However, there is a debate over the relationship between famine and epidemic diseases. David Arnold, for example, argues that there is a problematic relationship between the two. In Vinita Damoradan's paraphrase of his argument: 'It is a mistake to attribute all excess mortality to famine as if epidemics had no aetiologies and rhythms of their own.' Damodaran, on the other hand, argues 'for strong linkages between diseases and famine as it is quite clear that the scarcity was directly responsible for the diminished resistance against disease.'<sup>101</sup> According to V.R. Muraleedharan, leprosy and tuberculosis were found to be common among people suffering from an ill-balanced diet. These diseases were more common in regions such as Bengal and Madras where people used rice as their staple food, containing little protein and vitamins. They were less prevalent, instead, among people who relied on wheat, *jowar*, or other grains richer in protein for their staple diet, or people who regularly consumed milk and dairy products.<sup>102</sup> Coupland writes: '66 per cent of persons admitted to jails during the months April to October 1897 were classed as [of] bad or indifferent health as compared with only 24 per cent in the previous year'.<sup>103</sup> Thus, general health conditions in the district deteriorated. Furthermore, there was an extraordinary drop in the birth rate in 1908 as a result of food scarcity and emigration of women. Since 1900 there had been a fairly steady rise of the death rate, culminating in the high figure of 41.78 per square mile. The causes were food scarcity, rising prices, and diseases such as cholera, smallpox, plague and fever. This is clearly shown by the statistics about age at death: out of 54,375

<sup>99</sup> Ibid., pp.140-42.

<sup>100</sup> Ibid., p.101.

<sup>101</sup> D. Arnold, "Social Crisis and Epidemic Disease in the Famines of Nineteenth Century India", in *Social History of Medicine*, 6, 3, pp. 385-404. V. Damodaran, "Famine in Bengal: A Comparison of the 1770 Famine and the 1897 Famine in Chotanagpur", in *Medieval History Journal*, 10, 1-2, 2007, p. 177.

<sup>102</sup> V. R. Muraleedharan, "Diet, Disease and Death in Colonial South India", in *Economic and Political Weekly*, 29, 1, 1994, p.60.

deaths, 8949 or 16.46 % were of infants less than 1 year of age, 6940 or 12.76% of children between 1 and 5 years of age, and 6515 or 11.98% of persons of 60 years and upwards. Thus, over 41% of deaths were of children of tender years or of old people.<sup>104</sup> Blindness and leprosy were very common in Manbhum, where the number of blind persons and lepers in 1901 was, respectively, slightly over 35 and 30 per 10,000, as contrasted with only 18 and 9 ½ for the province as a whole.<sup>105</sup> The dry laterite soil of the region is regarded as being connected to the high rate of leprosy there.<sup>106</sup> The Leper Asylum at Purulia was started on a small scale in 1886-87 by Rev. Hemrich Uffmann of the German Evangelistic Mission in collaboration with the Mission to Lepers in India and the East.<sup>107</sup>

Apart from diseases, famines were accompanied by sudden increases in crime, which can be viewed as a form of social protest.<sup>108</sup> Coupland, again, writes of a 'large increase in dacoities and burglaries, from 9 and 426 respectively in 1896 to 34 and 1179 in 1897.'<sup>109</sup> There was an even more marked increase in the southern and eastern parts of the district in 1908.<sup>110</sup>

## Conclusion

Chronic famines in Purulia between 1860 and 1910 had important ecological connections. Through the agricultural conquests, the British aggressively colonized land for the expansion of commodity production, adapting the water management and land tenure system of the *adivasis* to their own purposes. As a result, the agrarian structure was transformed. The dramatic changes in the land use pattern led to a huge increase of cultivable areas at the expense of the forest. Large-scale deforestation caused massive soil erosion, reducing soil

<sup>103</sup> Coupland, *Bengal District Gazetteers* cit., p. 140.

<sup>104</sup> Ibid., pp 99-100.

<sup>105</sup> Ibid., p. 103.

<sup>106</sup> *West Bengal District Gazetteer. Purulia* cit., p. 388.

<sup>107</sup> Coupland, *Bengal District Gazetteers* cit., p.111.

<sup>108</sup> Damodaran, *Famine in Bengal* cit., p. 173.

<sup>109</sup> Coupland, *Bengal District Gazetteers* cit., p.140.

fertility and causing the siltation of ponds. Denudation and cultivation of short-life annual crops in the Purulia district increased dryness and decreased moisture in air and soil, causing a drop in rainfall and ultimately inviting aridity and desertification. The Forest Department and landlords usurped the traditional forest rights of the *adivasis*. Thus, the sustainable economy of the tribal people was permanently destabilised and the district became drought prone. When crops failed, scarcity was the inevitable outcome. Due to the denudation of forests, people were also deprived of forest products for food. When the *adivasis* tried to depend wholly on single crops they failed. Their agrarian misery, the result of inappropriate agrarian intervention, thus deepened with the passage of time.

### **Acknowledgements:**

I express my sincere gratitude to my teachers, Professors Suchibrata Sen, Arabinda Samanta and Chhanda Chatterjee, and to my friend Sri Archan Bhattacharya for their sustained help and encouragement. Also, I thank the reviewers of *Global Environment* for their valuable suggestions, which have helped improve the final version of this article.

<sup>110</sup> Ibid., pp. 140-42.



