



- P. Madhavan

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Forests in Meghalaya are being denuded everyday. Charcoal burning has been a source of income and one of the survival strategies adopted by majority of population in West Khasi

hills people of Meghalaya. More than 85% percent of Meghalaya’s rural population depends largely on Firewood / charcoal production as the livelihood option. Yet, the charcoal is sold for a meagre amount (Rs.75 to 100 per bag of 35 Kg while in Shillong a bag fetches between Rs.150 to 200). Meghalaya consumes an estimated 24,915 tonnes of charcoal per year, generating around Rs. 90 million/year as compared to 172 tons of charcoal worth of Rs. 0.6 million just eight years back. The preset consumption figure will inflate further since there is no accurate data available

regarding the enormity of charcoal trade encompassing its use for domestic purpose, service industry as well as ferro alloy industry. More than eighty-five (85) percent of Meghalaya’s rural population depends largely on Firewood / charcoal as source of energy. The deforestation of the forest is proceeding at a rate of 19,932 ha/year. If this alarming trend prevails then in another 45 years Meghalaya is bound to become a mountain desert.

The Supreme Court’s judgement banning felling of trees in forests (December 12, 1996) based on the civil

writ petition filed by T N Godavarman Thirumulpad against the Union of India came as a positive respite. However, it was acknowledged that charcoal is a

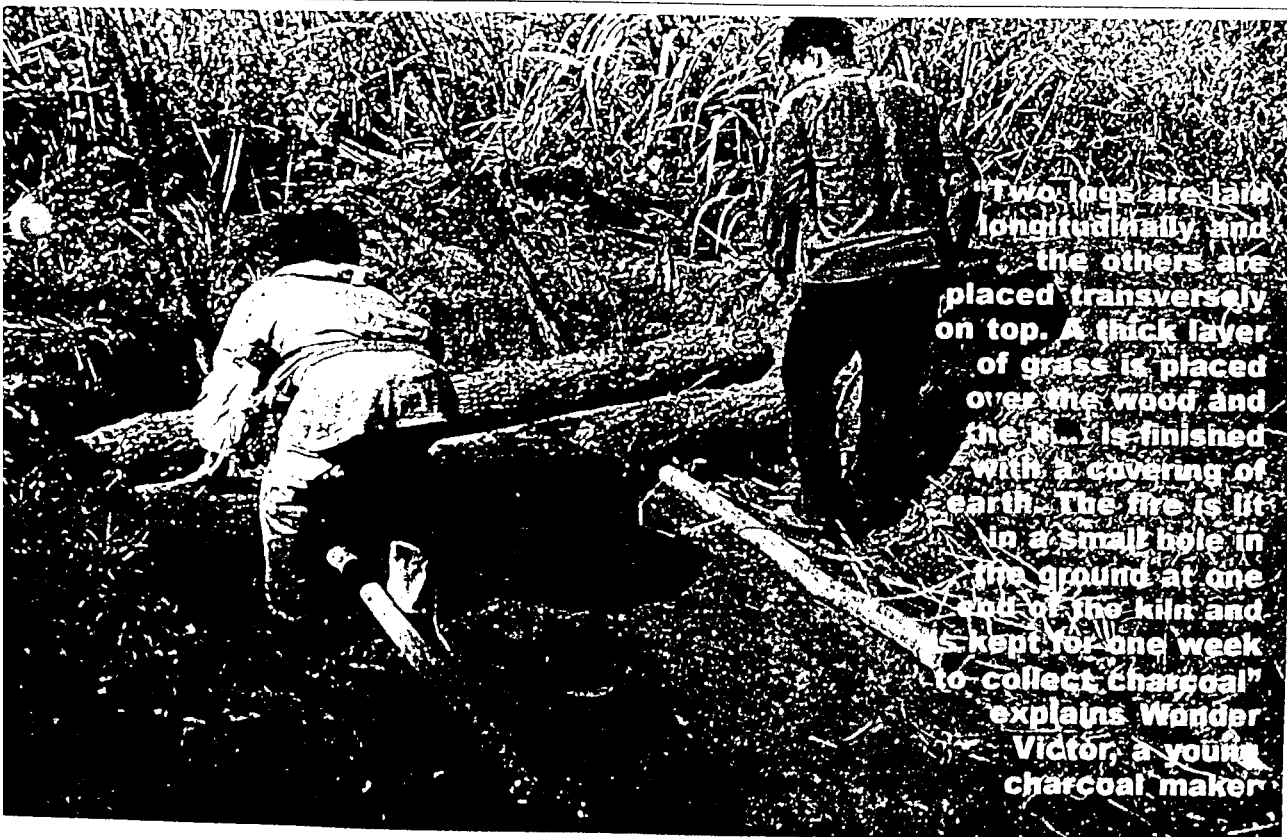
minor forest product. Supreme Court in its order on 8 March 1997, clarified that there is no ban on charcoal production.

Herein lies the crux of the problem. Taking advantage of this loop hole unchecked deforestation is taking place

The deforestation of the forest is proceeding at a rate of 19,932 ha/year². If this this alarming trend prevails deforestation continues at this present rate then in another 45 years Meghalaya is bound to become a mountain desert

Umjarain, a small village in West Khasi Hills District of the state of Meghalaya is about 130 km from Shillong, the state capital. Umjarain is more or less an untouched village since there is no connectivity with the outside world. The only way to reach the village is through riding on rooftops of a bi-weekly bus through an unsurfaced road. The rainfall is as heaviest as in any southern slope of Meghalaya. The soil is rich and fertile which houses a variety of vegetations. It is also one of the richest biosphere reserves in the state. Several indigenous tree species and fruit trees can be seen growing on the hill slopes. A carnivorous plant species called the Pitcher Plant (locally known as Tongsnoi) is found in abundance. During the summers, lush green meadows and the several rivulets make the place quite poetic and nostalgic.

Forest has been an important livelihood source for the people of Umjarain in the west Khasi hills of Meghalaya providing them not only fuel, fodder and timber but also food, fruits and medicine. For thousands of years the Khasis have lived on gathering both timber and non-timber products from the forests. With sharp insight gained through close and sustained interactions with nature, they have also learnt to adapt new modes of production to their forest life. Jhum, that is slash and burn or shifting cultivation, and horticultural plantations are two examples of the adaptation where the tribes efficiently use the basic skills of agriculture to grow food crops and fruit plants in their forest lands. Poor forest dwellers and the indigenous communities subsist on shifting cultivation and sale of timber from the forests. For more than 85 percent of people in west Khasi hills timber trade had proved to be a ladder into better future, a large number of people experienced remarkable change in their status.



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for charcoal production.

The state government and Autonomous District Council (ADC) owns 89% of forest. The government

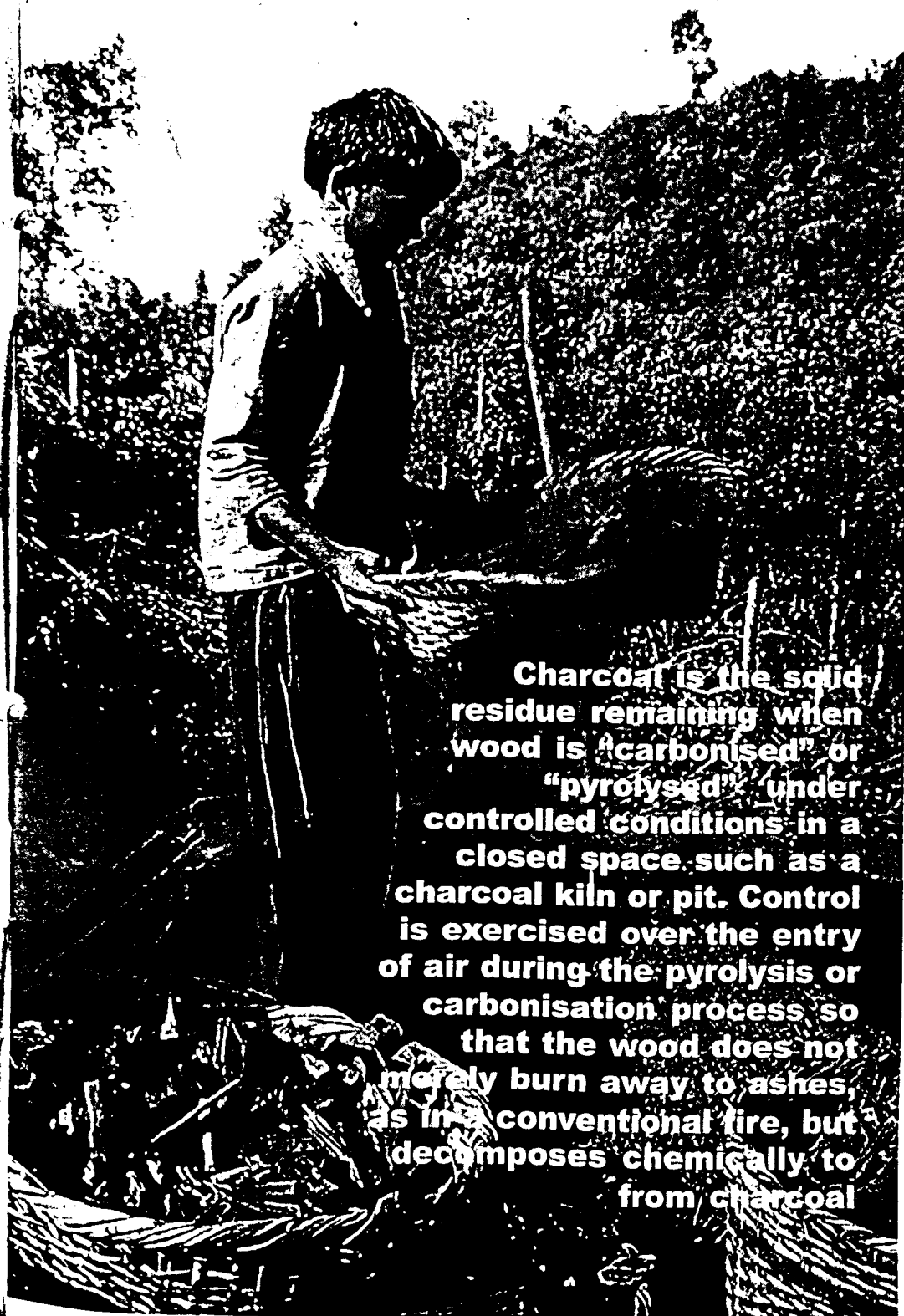
and the ADCs in Meghalaya have exhibited consistent apathy to grapple

Repercussion of human activities will drag nature into the vicious circle of depletion

cover story

with this human vs nature crisis. Eight years since the landmark judgement there is no sustainable working plan/scheme implemented for the management of Private Forests of the State. At present, even if the Government, the ADC's and the Land/Forest Owners Association agree to have a working plan in place, it will take a long time to materialize. "Working plan for Private forest, rules and guidelines have not been framed so far. As and when these rules are framed and sent by Autonomous District Councils to us, they would be examined and cleared" said Mr Y. S.Shullai, conservator of forest, Shillong. Till then the people who eke out a living from the forests will continue to bear the brunt of government indifference. Repercussion of human activities will drag nature into the vicious circle of depletion.

The restriction on timber felling has affected the forest owners and contractors who have a lucrative stake in the business. However, the disproportionate share of livelihood burden has more seriously affected thousands of farmers and wood cutters for whom forest has always been the primary source for survival. The economy of the State of Meghalaya is extremely fragile and it is mainly agricultural and forest based. Meghalaya is a non-industrial State with no



Charcoal is the solid residue remaining when wood is "carbonised" or "pyrolysed" under controlled conditions in a closed space such as a charcoal kiln or pit. Control is exercised over the entry of air during the pyrolysis or carbonisation process so that the wood does not merely burn away to ashes, as in a conventional fire, but decomposes chemically to form charcoal

alternative employment opportunities for the rural population except the paltry earning made from agricultural cultivation and forest plantations. In its affidavit submitted to the Supreme Court in May 1997 the government of Meghalaya had reported that in all 5,396 persons were employed in wood based industry in the state. However, working out the number of people affected on the basis of family members who essentially depend upon forests for their livelihood, H S Lyngdoh, ex-minister of forest, government of

Khasi became a viable livelihood option. A crisis situation has reached when more and more dependence on the forest as the only source of income has led to over exploitation, lower regeneration and reduced growing stock of the natural resources. "With the banning of timber people are not getting the saw dust or chips which they used to get from sawmills to be used as fuel. So they look for charcoal as an alternative, both as livelihood and as a substitute to keep them warm during the bitter winter months. This also leads to a lot of

Umjarain forest is proceeding at an shocking rate of 50.4 ha/week or 2621 ha/yr.

The price of charcoal in Shillong is Rs.150 a sack (Rs 4/Kg). The price is reported to increase by 20 to 30% when sold piecemeal. "We get charcoal from the villages in west Khasi hills. The farmers come and sell the sack which we buy for Rs. 120 to 150 depending on the quality of charcoal and sell it for Rs 150 to 200 a bag to people in Shillong. We earn something between Rs 150 to 200 a day", iterated Bishno mai a woman

After wood was banned in Meghalaya a lot of unemployment and insurgency problems came up because there were no other means of livelihood, but soon after the ferro silica industries started setting in and a lot of employment opportunities for the local youth was generated

Meghalaya, made a conservative estimate of 2,31,980 persons. This is over 78% of total population. Ms. Tiplut Nongbri, professor of North East Hill University incensed with government said, "I am surprised at the state's attitude which is blindly following the court order and is totally unresponsive to the livelihood needs of it's own people".

Unsustainable trade

Following liberalization of the economy, in the changed environment, the New Industrial Policy was declared in August 1997. With increase in industrialisation and commercialisation, the direct dependence of people on natural resources was expected to decrease. However, opportunities for employment in the business sector and in government sector were limited. Thus the lack of employment opportunities drew people, especially the poor, to exploit natural resources, to generate income or to engage in some other undesirable activity to make ends meet. In this context charcoal making and selling by the poor and marginalized people living in forest areas in west

pollution apart from the environmental degradation due to cutting of trees." feels Professor Tiplut Nongbri.

Since, unemployment in rural Meghalaya is extremely high human labour costs a pittance. "I make 3 sacks of charcoal (105kg) and get Rs. 50 per bag i.e. in a day I can earn Rs 150. But the income is only in winters from October to March and should suffice my family requirements for the entire year", said Mr. Bha Do, a full time charcoal producer from Umjarain village. (His work includes cutting trees, making pits, producing charcoal, and loading it into the trucks). In West Khasi Hills, approximately 2, 37,2816 persons are employed directly or indirectly in the production of charcoal. According to District council report an equivalent of 24,915 tons of charcoal / wood was consumed in 2003-2004 with the value of Rs.99.66 million.

Around 63 MT of charcoal is transported from Umjarain every week to Shillong and Byrnihat. Production of one metric ton of charcoal requires about 8m³ of wood (8m³X63 = 504 m³). This indicates that deforestation of the

trader. Like her there are about 40 traders in Shillong. The peasant who produces the charcoal receives Rs.25 to 30 per sack. The transportation costs are reported to be as high as Rs.50 per sack when transported by bus to shillong i.e. 130 Km and Rs.4000 per truck.

Industrial Charcoal: major cause of destruction

The charcoal produced in Meghalaya is an important industrial fuel apart from being used as domestic fuel for cooking and heating purposes. In the industrial sector large amount of charcoal is used in foundries and forges, in the extraction and refining of metals, especially iron, and in numerous other metallurgical industries.

"Meghalaya charcoal is very good; it not only acts as a reductant but also has very good porosity and helps in the reaction in the furnace. "Charcoal as a raw material came into picture in recent times. Before 2001 it was used more for heating in winter. It became an industrial product when ferro alloy industries sprung up in early 2001", said Mr. K. B. Sapat, Dy. Managing Director, Shyam Century Ferrous Limited, Byrnihat.

A working plan is a document where a detailed study about density, prescription, etc. are spelt out. It is a very elaborate document. Working scheme is an abridged version of a working plan. Working plans are normally prepared for ten years whereas working schemes are prepared for five years. Secondly, working schemes can be prepared on the basis of secondary data though some ground work is needed but it takes very less time.

Ferro Silicon alloy units use charcoal as the main raw material for production along with Quartzite. Easy availability of both quartzite and charcoal in Meghalaya influenced the setting up of ferro alloy industrial units in Bymat. Ferro-alloy is made in a submerged arc furnace where carbon in the form of coke or charcoal is used as a reductant to obtain a specific grade of ferro-alloy. To produce one ton of ferro Silicon 1.4 to 1.7 ton of charcoal is required. In Meghalaya the ferro alloy units produce close to 700 to 1000 ton of ferro Silicon alloy per day. Electricity availability also plays a vital role in the operation of these industrial units. Power availability for 13 to 14 hours a day allows an output of 500 to 600 tons of processed ferro alloy. According to the available production figures to be 600 ton / day, it is estimated that the total amount of charcoal used in this industry alone amounts to 960 ton / day. The industrial purchase of one ton of charcoal is Rs. 3700 to Rs.4000, implying the total cost of 960 ton of charcoal to be Rs. 3800- 40,000.

"After wood was banned in Meghalaya a lot of unemployment and insurgency problems came up because there were no other means of livelihood, but soon after the ferro silica industries started setting in and a lot of employment opportunities for the local youth was generated. For people involved in timber trade other earning avenues opened up again", says Mr. Rahul Bajaj, Managing director of RNB Group

Charcoal plays an important role in both the Industrial sector and the local economy of Meghalaya. However, the inefficiencies inherent to the production

and use of Charcoal, rapid urbanization, and increase in charcoal based industries put a heavy strain on local wood resources. This in turn has severe environmental consequences.

In conclusion

Policies must consider environmental as well as human needs

One of the main reasons why people produce and sell charcoal is economic in nature. They need a source of livelihood. The free availability of fuelwood from the forest allures the poor unemployed people to produce and sell charcoal to make a living. This economic reason is grave enough to undermine the sustainability factor of this natural resource, thus being a sole cause of forest depletion and deforestation.

"When we are doing timber trade we used to cut only specific trees with specific thickness but now we cut all trees, we even cut small stems to make charcoal" said Wonder Victor. Currently, most of the charcoal making practice involves clearcutting; a process where every tree and plant in an area is chopped down or destroyed. Clearcutting has demolished one of richest botanical habitats of Meghalaya along with the animal habitat.

Private forest owners who are all indulged in charcoal making do not replant forests to the same level as they were first found. After a clearcut, the only trees planted are ones that will produce lots of wood. This replanting is better coined as planting of a tree farm, which does not support the same animal and herbal plants that forests had leading to a loss in bio diversity.

The increased supply of charcoal to meet the demands of urban and

Industrial consumers is frequently seen as a major cause of deforestation. It is for this reason that there have been calls to discourage the use of charcoal or even for the total / partial banning of charcoal making.

In West Khasi hills, large areas are to be stripped off their trees to make charcoal which is supplied to meet the ever rising demands of urban and Industrial consumers. The question is what can be done about it.

Attempts to ban charcoal making and make people use alternative fuel instead will always be difficult to enforce as this requires a change in the mindset of the consumers. The ban may further destroy the livelihood of large numbers of charcoal makers and distributors. Moreover, this is likely to stimulate an illegal trade in charcoal on which even the inadequate controls exercised at present are swept away and the opportunities for corruption and evasion of regulations are further multiplied, and, "In the absence of alternative employment people will again do it", feels Mr. Dutta Ray Secretary, North-East India council for Social Science Research.

Mr Samuel Jyrwa said "We do not oppose charcoal making totally. But this is another trade that affects environment and has to be regulated". Mr. Rohit Jain, Secretary General of Confederation of Industries Meghalaya (CIM) expressed that "Industrialists have invested close to 3000 million rupees in Ferro alloy industries in Meghalaya based on the availability of charcoal and quartzite. Now charcoal is banned, industrialists have no other option than getting it from Tamil Nadu

“Charcoal as a raw material came into picture in recent times. Before 2001 it was used more for heating in winter, it became an industrial product when ferro alloy industries sprung up in early 2001”, said Mr. K. B. Sapat, Dy. Managing Director, Shyam Century Ferrous Limited, Byrnihat

and Kerala or Importing it from Austria if needed”.

It also calls for diverting the attention on charcoal yields, which if improved scientifically, will decrease the amount of wood needed by charcoal makers and hence substantially diminish the pressure on forests. However, the solution to depletion cannot be found entirely within the framework of an improved charcoal making programme. While this may help slow down the rate of deforestation if adopted widely, the basic problem remains untouched. As long as massive replantations do not take place, depletion will continue unabated. “As a corporate social responsibility we can educate the farmers to do replantation in forest but as of now we have not started anything like this” says Mr. K. B. Sapat Dy. Managing Director, Shyam Century Ferrous Limited.

Replantation will work when the open forests are protected from overgrazing and cutting so that trees have a chance to regenerate. Alternatively, it can happen when private farmers and the community are made to raise plantations for making charcoal. Similar industrial forests have sprung up widely at places like Tamil Nadu and Kerala, where large areas are being planted to supply wood to make charcoal for the ferro alloy and steel units.

“If charcoal is banned we will go back to our basics i.e. clearing the forest and doing agriculture. We have no other earning options” laments Mr. Wonder Victor.

The economics of charcoal making can be improved by associating the people with improved charcoal making programmes which focus heavily on the

economics of the combined plantation and charcoal making operation. This will enable tree growing for charcoal to become economically viable opening the way to a sustainable cycle of exploitation and replenishment of wood resources of West Khasi Meghalaya.

The Meghalaya Government and Autonomous District Council, has to face a tough choice. Either it has to decide to ban charcoal production at the expense of the poor rural and urban households who depend primarily on the product as alternative income and cheap energy source choose to allow charcoal

production thereby allowing the trade to thrive. This scenario will surely expose the poor rural households to higher scales of chronic food insecurity in the future as a result of depleted forest cover. The challenge that the government faces is to balance the employment needs of the poor along with managing natural resources in a judicious manner. The question is can the government rise up to successfully confront this crises. After all Nature has enough fulfil once need but greed – Mahatma Gandhi.

MEGHALAYA

Together with the rest of the Country
Celebrates the *55th Anniversary* of the
REPUBLIC DAY

The Republic Day marked the beginning of self governance

It give to us the Constitution

Ensuring for all

Justice, Liberty, Equality and Fraternity

And bestowing upon its people

The fundamental Rights

On this auspicious occasion

Let us, the people of Meghalaya too,

Join the rest of the country

To not only rejoice

But to also renew the pledge

To uphold and strengthen

The ideals enshrined in

The Constitution of India

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