

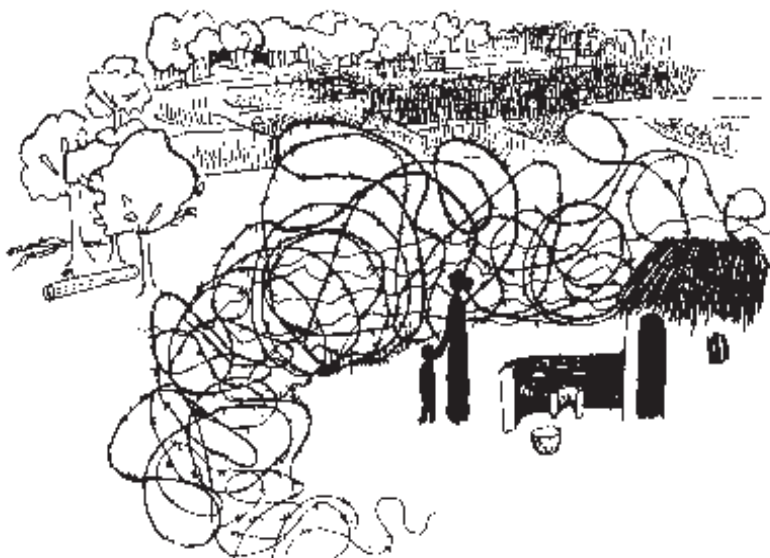
Anyone who reads this article is probably already aware that there is a serious fuel problem in Indian villages. One could even hazard a guess that the image conjured up in the mind of the reader is one of denuded hills and barren lands with women scrounging around hopelessly for whatever they can cut. But how many of us know that access to wood and crop stems can be a problem even in areas which are highly productive? It seems to be counterintuitive to be told that even green and prosperous villages have an acute firewood problem.

However, this is precisely what I found in Rampur,\* a village situated in the fertile plains of South Gujarat. In many ways Rampur is the epitome of a successful village in modern India. Agricultural productivity is high as are the incomes of cultivators; industrial enterprises and cooperatives have flourished and market networks are well developed.

Increasing inequality despite these overall indicators of prosperity, a majority of the villagers in Rampur, who were landless, poor and socially disadvantaged, faced tremendous hardship in obtaining enough cooking fuel. In fact, obtaining any of the basic things in life was difficult for them, even though there was so much around them. Within these households it was invariably the women who suffered most. Only the landed farmers, who were a minority, enjoyed the fruits of Rampur's success. This is by no means an isolated case; there is mounting evidence from other parts of India which suggests that access to firewood can be a problem in green villages.

The first impression of Rampur was that there was greenery everywhere. Hardly a patch of land

*\*This is not the real name of the village. I have called it by a different name to protect the identity of the villagers.*



## Fuel Rights

### Green Villages: Only for Some

by

Priya Deshingkar

was left uncultivated. Wherever I looked, my gaze was met by miles and miles of sugarcane and paddy fields. I could also see a few trees on the horizon.

Although the Bardoli region, in which Rampur is located, has not had any forests per se for a long time (*Surat district Gazetteer* 1961), the villages always had common woodlots from where people could collect twigs and branches for firewood. Many villagers spoke nostalgically of the lush jungles of the *seemada* or village boundary which had a dense growth of *babul* and tamarind trees. Nowadays all that one can see are a few trees along the main road adjacent to the village. These belong to the government. Most of the land of the *seemada* has been levelled and planted with sugarcane. Till about 20 years ago there also used to be large mango orchards in Rampur. But the land-owners decided to replace these top with sugarcane which was not so susceptible to theft

or climatic fluctuations. These days just enough mangoes are grown by the farmers for their own consumption. The net effect of these changes in the land use pattern has been a shift from wood as a major source of domestic fuel to crop residues (mainly sugarcane stalks) and dung.

Even the wealthy farmers are using more crop residues for fodder than they previously used to because traditional animal feeds such as *bajra* and *jowar* grain, jaggery and turmeric roots have become too costly. Although the farmers realise that buffaloes do not yield as much milk when fed on straw, there is little else they can do because the local dairy does not offer them a remunerative price for the milk. (In 1988-89 it was between Rs 5 and Rs 7 per litre depending on the fat content.)

#### Sources of Fuel

In terms of area, crop fields and boundaries were the largest source of fuel in the village. Over 300 hectares

or 70 per cent of the land in the village was under sugarcane which is the main crop. Cane plantations produce large quantities of fuel in the form of “stalks”. These are bits of cane which are left in fields because they have a low juice content and are not worth harvesting. The roots of the cane, which left in the ground after the cane is cut, are also used as cooking fuel. [Apart from crop fields, the village had small woodlot with a number of useful species such as acacia, toddy palm and mango. There was also a *gauchar* with some grass and a few trees, although large parts of it had been taken over illegally by fanners for cultivation.

Another source of fuel was dung from the large bovine population in the village. At the time of my stay (1988-89) there were 192 buffaloes, 87 bulls, 63 cows and 185 calves against a human population of 1,603. But now even this resource is inaccessible to the poor in Rampur.

I noticed that without any prompting whatsoever, many poor women identified fuel shortages as one of the serious problems in their lives. Take the case of Kantiben R. Halpati, a poor farm worker whose only source of livelihood was agricultural labour. She lived with her daughter in an extremely small hut, a long distance away from the centre of the village. Kantiben moved to Rampur a few years ago from a village in another taluka because her husband had left her and she thought that she had very little chance of making a living there. Everything in her hut looked markedly inferior and makeshift, even compared to other

poor households. She cooked on a three-stone fire and had only one aluminium pot. She and her 10-year-old daughter slept on a jute sack on the ground. Like most other huts belonging to poor people, hers had no electricity, piped water or drainage. The nearest well was half a mile away and the water was polluted. The villagers had put a turtle in it in the belief that it would clean the water. Her daughter Manju worked as a maidservant in the house of a landlord in the village. Manju swept floors, washed clothes, helped around the kitchen for a couple of hours everyday in exchange for Rs 20 a month, old clothes and some bits of food. She did not go to school.

#### Kantiben's Day

On a typical day, Kantiben would wake up at dawn to fetch water, make tea and the afternoon meal. Meals usually consisted of *rot la* (jowar bread) and vegetables or chillies. Work in the fields usually began at 8 o'clock. There was a two-hour break in the afternoon. Kantiben would eat her food quickly and then go out in search of fuel. She usually covered a radius of around half a kilometre. Getting enough fuel was a constant worry for Kantiben. She was always on the lookout for anything burnable, even on her way back home.

Food for the evening meal and other daily supplies were purchased after returning home from work. She bought everything in small quantities: a *seer* of broken rice, a *seer* of jowar flour, a *seer* of vegetables, a bit of cooking oil, a bit of sugar, a bit of tea and tiny quantities of spices. She had to do this because of cash flow constraints. If she did not earn then she did not eat. For the local shop-keeper this was an extremely profitable form of trade because the price he charged for the “bits” was often double the normal retail price of goods if sold by the kilo.

Kantiben said that the rainy season was usually the most difficult time of the year because there was hardly any work to be done in the fields. This meant that there was no income to buy food or fuel. She had no cash savings and had been forced to sell most of her belongings in times of scarcity. She had been without her husband for four years and each year left her poorer. She once borrowed Rs 200 from another slightly better off *halpati* woman in the village when her daughter was ill and had to go into hospital. Kantiben had intended to pay back the money from her wages but in the end she had to sell a brass pitcher and some other kitchen utensils.



A “street” in the *halpati* colony with muddy path and low huts

“How can I spend on fuel when I cannot even afford to feed myself?” she said. Most of the poor regarded the idea of buying fuelwood in the market as totally ridiculous because they had never done so and also felt that they ought to get it free since so much grew there.

Clearly, the relationship

between the users and fuel resources in Rampur was complex since high levels of production had not ensured that all households could gain access to desired quantities of fuel. There were a number of processes which had led to the deprivation of fuel in poor households.

### Firewood Commercialised

Foremost was the fact that firewood resources had become commercialised in the sense that they were traded for money in well organised markets. LPG was always a facility which only those with “contacts” in the right places got. Now, even kerosene seems to be going the same way. Several poor people in Rampur reported that they could not buy more than 25 paise worth of kerosene at a time. In the monsoons even that little ceased to be available. The general impression was that merchants sold the kerosene in the black market for high profits rather than through ration shops at controlled prices. The poor in Rampur could not afford to buy these resources because their wages had not kept up with inflation. This situation was compounded by the fact that sources of free firewood had also deteriorated over the years. Most of the poor people I spoke to in the village told me that things were much better in the past “We were always poor but it was easier to get fuel in those days because we could collect it free from the village commons or were given produce from private land by the farmers as part of the old system of employment,” said

Manchhabhai Nayka, a frail old labourer, remembering how things were when he was younger.

Fuel and fodder shortages in Rampur have also arisen as a result of the newer uses that are being found for crop residues. For instance, in the past when cane was crushed in the village, bagasse — the fibrous material left over after the juice has been extracted from sugarcane—was used as a fuel to boil the juice for making jaggery or it was fed to cattle. Now it is used by the Bardoli sugar factory as boiler fuel or sold off to paper mills or cattle feed factories.

At one time rice bran was also used extensively in the villages around Bardoli as a nutritious feed supplement for cows and buffaloes. However, these days most of it finds its way from the rice mills of Bardoli to factories which extract rice-bran oil for use in edible hydrogenated oil mixtures and the soap industry. Rice bran is a valuable commodity and mill owners get a good price for it. Businessmen are keen to set up plants which, use bran oil because the government has offered incentives. As a result of increasing demand for

rice bran, the cattle owners of Rampur can no longer afford to feed their animals with bran.

Amongst the residues produced within Rampur, paddy straw, sugarcane tops, stalks, roots and “trash” are the most important. Of these, the first three are traded between different classes in the village and also exported to outside users. Over the last couple of decades, these three residues have become very important as sources of biomass. Apart from its traditional use as fodder for cattle, paddy straw provides a good source of cellulosic material for pulping for paper mills.

Similarly when cane is harvested, the dry outer leaves are discarded in the fields and left there in heaps. This dry, brittle mass is known as *raad* in local parlance. In factory jargon it is called trash which is not justified because it fulfills the vital role of water-proofing leaky thatch and tile roofs in the monsoon. The landowners usually set the *raad* on fire after the cane has been cleared away. They believe that the heat from the fire helps to destroy pests and disease and that the ash is good for the soil. There is some scientific basis

to these beliefs because intense heat at the surface is known to kill the larvae of pests which can survive in the soil even in the absence of the host plant. Burning also releases certain beneficial inorganic elements such as potassium which locked up in plant material. Thus it evident that an increase in traditional mand has been accompanied with a simultaneous introduction of new



**The inside of a *halpati* woman’s hut. Note that she has hardly any space left to conduct her daily activities because stored fuel has taken up most of it. This photo was taken just before the monsoon when the poor collect and store fuel to last them through the rains**

demands for crop residues.

### A Village of Contrasts

When I took a walk through the village it seemed very small at first. After the board marking the village entrance, was a metalled road with *pucca* houses on either side of it. This was the Patel *faliya* or locality. There were also a few Bania and Brahmin households, on either side of the road. There were also five or six barber, tailor and carpenter households. Judging from the decor of the Patels' houses and the possessions displayed, I would say that their economic position ranged from reasonably well-off to stinking rich. I was surprised to see cable TV, satellite antennas, videos and the latest models of cars in the village. Although agriculture is an important occupation of the Patels, many of them have become wealthy through remittances received from relatives who have settled in the US and other foreign countries. The Patels, however, have many other sources of income such as diamond polishing, paper mills, sugarcane cultivation, real estate and other business and industrial ventures. The Patels dominated the village because they owned nearly all of the land, cattle and business enterprises. They also controlled all political and educational establishments in the region.

After the last Patel household, the metal road ended suddenly and I found myself on a dirt track. I followed this for a couple of miles through the fields. At first I could not see much except vast stretches of sugarcane and paddy plantations. The road was becoming more and more impassable because the monsoon rains had created a viscous, stinking mess

of mud. Then I reached the *halpati faliya*, the colony of labourers in the village. Here there were hundreds of tiny huts with dilapidated mud walls and thatched roofs. It immediately became apparent to me that there was a shocking contrast between the way the Patels lived and these people's lives. There was an overpowering feeling of absolute poverty. The people looked starved and wore tattered, discoloured clothes. What I found most disturbing was the completely apathetic look in their eyes. I thought to myself that they had been deprived of all dignity because of their desperate poverty.

The *halpatis* (so named by Mahatma Gandhi in order to replace the derogatory term "*dubla*"; *halpati* literally means master of the plough) formed the majority in the village. There were 252 *halpati* households and only 66 Patel households out of a total of 334. Most of the *halpatis* worked as agricultural labourers though a few had found jobs in the diamond polishing workshops of a neighbouring town. Even though there had been much progress in South Gujarat, the *halpatis* had failed to take advantage of it because they were so severely discriminated against when it came to better jobs. There was

also a third group—the harijans—who had a small settlement of 20 odd households set apart in the village.

The harijans have done well for themselves, given the limitations imposed on them by their caste and class. They have exploited the advantages of primary education granted to them by the state; so, many of them find jobs in cities as barmen, waiters and peons (messengers). They appear to be a fairly self-sufficient community. Many of them own small plots of farmland and also keep milch cattle.

### Poor Denied Fuel

I soon found out that the poor *halpatis* had almost no legitimate rights to firewood produced in their own village. The women told me that the Patels did not allow them to gather fuel from their woodlots or fields any more. "They give it to the migrant workers and do not like us to collect anything," complained Sukhliben Halpati, a young woman labourer for whom fuel collection was a major chore. The Patels preferred not to employ the *halpatis* as they were considered lazy and dishonest. So, they were giving more and more work to the migrants who were thought of as hardworking. In the previous year the migrants from Khandesh were brought in a week earlier than usual

to finish off the paddy harvesting. The result was that many of the local casual labourers were without employment. Gangaben Nanubhai Rathore, who had been waiting for two weeks to be called for work said that she had not eaten properly for several days. Even at the best of times she could rarely afford milk or tea. Obviously in conditions like this,



The Patel highstreet in the village with *pucca* houses and cars

finding money for fuel and fodder was next to impossible. The casual labourer households, thus received a double blow. They neither got paid enough, nor did they find enough employment.

The migrant labourers, who, although not strictly a part of the village, had a huge effect on its firewood economy because they were in competition with the *halpatis* over local resources. These labourers, who were also very poor, came to the village for at least eight months every year from Khandesh in Maharashtra to harvest the sugarcane. They were hired by the cooperative sugar mill in Bardoli (the nearest town) and lived on road-sides in the village in temporary, wigwam type structures made with grass mats.

Apparently the welfare rules laid down by the sugar cooperative in Bardoli stated that migrant workers must be provided with fuel by cultivators. Otherwise the cost of the fuel was deducted from the farmer's profits. The Patels therefore reserved the fuel produced on their fields and the village woodlot for the migrants. They were within their legal rights in preventing the *halpatis* from collecting sugarcane sticks and wood because they owned the woodlot and fields privately. But the *halpatis* felt cheated because they were allowed to collect fuel in the past.

Almost all the dung produced in the village was kept by the landlords for their own family-sized biogas plants. Collection of dung was done very meticulously; so

much so, that the cowherd who took the animals out grazing was sent with a pail to collect whatever dung was dropped on the roads. Those who did not own animals faced slim chances of getting any dung for fuel.

The only legal option left for the poor was to use less preferred fuels such as sugarcane roots and the sticks of the *Ipomoea* plant, locally known as "*naphattia*" due to its semi-explosive qualities. The problem with these fuels was that they were less dense and at least one heaped basket was re-required for a day's cooking.

The use of *Ipomoea* has become widespread throughout India. It is known by various names like "*ultrapulta*", "*besharm*" and "*gaarvale*". *Ipomoea* is poisonous and is planted as a hedge around crop fields to prevent grazing animals from getting in. The use of this fuel is a disturbing trend because the plant is poisonous and gives off harmful fumes when lit. Many women in Rampur complained of the effects of the fumes. "Every time I cook, my eyes become red and my throat gets sore," said Manjuben Dhodhia, a *halpatis* worker, while she was fanning an extremely smoky fire for cooking the

evening meal. She went through this ordeal at least twice every day. Little is known about the long-term effects of this on their health. Although poor households somehow got by with these two fuels for most of the year, they were compelled to go in search of high quality wood just before the monsoons began. This is because they had to store fuel in their huts which had to last over the rainy season. Since storage space in the huts (often measuring no more than 10 sq ft and housing four or more people) was extremely scarce, the aim was to collect denser fuels. Since the poor had no legitimate rights to good fuels such as wood and sugarcane stalks, they had to steal them. They did this in the middle of the afternoon when the Patels were usually taking their siesta or after dark when there were fewer chances of being caught.

At times poor women would forego work in the pre-monsoon period to make special day trips to woodlots in neighbouring villages or to stretches of trees planted by the state along highways. The opportunity cost could therefore be quite high. Also, if they were spotted

by government guards who regularly patrolled the area on motorcycles, they were fined on the spot. The fines were as high as Rs 100-200 and the women also stood the risk of being beaten up.

It was a shock to realise how poorly agricultural labourers were paid.\*\* A farm worker in Rampur earned between Rs 5 and 12 depending upon the nature of



**The outside of the *halpatis* woman's hut—so small that the man standing at the entrance has to crouch to get in**

the work and the type of employment contract. If workers were employed as “permanent labourers”, a position akin to bonded labour, they were paid Rs 5 a day and also given basic provisions such as food and clothing. This system was a remnant of the older system

wherein labourers provided faithful service to landowners in exchange for having their subsistence assured. The older arrangement included the provision of fuel whenever it was required by the labourer’s household.

On the other hand if workers were employed on a casual basis, they were paid between Rs 8 and Rs 12. Casual workers were not bound to any one master and were not guaranteed employment everyday. Wages were according to how strenuous or skilled the work was.

### Women Earn Less

Though casual labourers were paid a bit more than the permanent workers in fact they were in a far worse condition than any other group in the village. A permanent worker was being paid Rs 5 a day with some payments in kind and received some perks. The bundle of payments in kind varied from household to household. There was always some food and if the employer was generous it also meant access to other useful items such as cane roots and paddy straw

*\*\* My field work was done in 1989. The wages are likely to be higher now.*



**A family collecting sugarcane roots**

from the farm. Payments in kind and perks were welcomed by the labourers because they helped to preserve, to an extent, the real value of the wage. Bundles of food and fuel from the employer became crucial in times of scarcity. The four months of the monsoon were particularly tough. Firstly, there was very little work to be done in the fields because the soil was so wet that it became impossible to enter the fields. Secondly, getting fuel became a major problem because everything was damp and the field paths were flooded.

The casual workers, on the other hand, suffered not only from a lack of any such protective mechanisms during bad periods but also because they were severely underpaid. A casual farm worker got Rs 8 at the end of a day’s weeding or fertiliser application. If the job was more strenuous or the need for labour was urgent, as happened at paddy harvesting time, then the wage went up to Rs 10 or 12 a day. But, even that was much below the minimum wage prescribed for unskilled agricultural labour by the government. (It was recommended to be Rs 10.50 per day in 1985. Given the high inflation rates

of the last four years, the minimum wage should be much higher now.)

In spite of everything, casual labourers continue to be paid paltry sums of money in most parts of South Gujarat. One reason is that agricultural wages are sticky; they do not move with prices.

However, there were other factors which worked against the interests of the poor landless labourers. Agricultural workers in Rampur enjoyed very little bargaining power and, therefore, could not demand higher wages. This was because of their large numbers in relation to the landowners. Because of the abundance of labour, the employers had the upper hand when it came to fixing the wage rates. The labour market in Rampur was further distorted by the influx of migrant labourers for at least six months every year.

Each year, from mid-October to late May, a large number of workers were brought in by the sugar factory from neighbouring regions of Maharashtra. The workers usually came with families and were hired in couples, each one known as a *koyta*. Each couple was paid a wage of Rs 26-28 a day.

Although in theory the women could earn up to Rs 12 a day, they rarely managed to do so because all of the tasks normally given to them such as weeding and transplanting had been designated as “less strenuous”, whereas in fact they were back-breaking. So, in practice women always earned Rs 8 per day.

Only in the paddy harvest season, when the farmers were bound by time, could women expect to earn Rs 12 a day. But they complained that the landlords were employing migrant workers more frequently to do even the paddy operations and pushing the *halpatis* out of the labour market. This story was confirmed by the Patel landlords who said that they preferred to hire migrant workers, whom they regarded as hard-working, instead of *halpatis* whom they described as “lazy and dishonest.”

The life of poor women was further complicated by the fact that their husbands often did not share the expenses of running the household. I was told that many *halpatis* men blew up all of their earnings on gambling and drink. So, even if there was a man in the household, it was operated more or less like a female headed household because the woman had to support it.

The women ended up doing everything: working in the fields, looking after young children, old parents or in-laws, cooking, fetching water and collecting fuel.

### **Better in the Past**

In the past, markets did not play such a central role in deciding how much fuel a household could obtain. The poor could meet their fuel needs by collecting wood from the village *gauchar* or woodlot. The landlords allowed the woodlots to be used as common property resources even though they were privately owned. They also gave their workers fuel as part of the traditional system of employment known as *halipratha*.

*Halipratha* was a system of bonded labour. The bond was set up usually when a labourer borrowed a sum of money (often a pittance) and he would continue

working for the landlord till the debt was paid up. More often than not, the debt was never cleared and the labourer (and his family) would end up working with the same master for the rest of his life. In exchange for his faithful service, the farm worker would be provided with basic necessities. The provision of fuel was also included in this arrangement.

Over the years *halipratha* broke down due to the penetration of markets and contractual relationships as well as pressure from Gandhian workers who wanted to abolish bonded labour. So, fuel from privately owned land is no longer a fringe benefit of employment for the poor. At the same time the condition and area of the village *gauchar* has also deteriorated with the result that this source of free fuel has also gone.

These changes have meant that the poor can no longer rely on non-market channels of procuring firewood. They also cannot buy fuel from the market. They have become caught between two processes: the demise of the traditional “moral economy” and the spread of markets.

One must be sceptical about the capacity of markets to allocate resources fairly and the belief that commercialisation of natural resources would improve matters.

It has been advocated by some biomass energy planners in India that the overexploitation of forests for fuelwood and other produce would be checked if proper markets for these were developed, since the ‘private cost’ of using them would become equal to the ‘social cost’. Thus rural energy experts argue that the “free” use of biomass resources is damaging to the environment and

correct costing should be carried out to deter wasteful consumption. They believe that, if allowed to run without obstacles, market forces will ensure a proper allocation of resources.

However, we have seen that in conditions where wages are low and land reforms do not appear to have had any significant impact, monetisation of crop residues, whether obvious or disguised, deprives the poor of these resources. A large number of projects have been undertaken by various government and private institutions all over the country to improve the digestibility of straw for ruminants through fungal treatments, increase the burning efficiency of residues through briquetting and so on. These technological developments will have a beneficial impact on the lives of the poorest only if they are accompanied by measures to ensure access to resources.

Perhaps the effects of development will eventually come to the poor of Rampur and other villagers in India so that they can earn more and improve their lives. But when will this happen? Wherever I went in Rampur, I was asked by poor women, “What good is your research going to do for us?” I could not give them an answer. What good would it be to tell them that perhaps my research might create a little bit of awareness amongst the planners, the rich and the international agencies about their condition? I could not bear to think that they would probably see no improvement during their lifetime. But perhaps things could be better for Manju and her sisters if there was more recognition of the barriers which come between the poor and nature’s bounty. □