

THE GROWTH OF LOSS

With high unemployment and rising fuel bills, Armenia is in danger of losing all of its forests in the next 30 years. **Jamie Maddison** reports



Winter sits harshly over the snow-laden village of Saratovka. In Soviet times, the surrounding valley was awash with fruit trees; now a biting wind rakes unsparingly across bare steppe, beating itself against the homes of a people forced by necessity to place yet more of their country's forests into wood-burning stoves just to keep warm.

Across Armenia, a combination of high unemployment and rising utility prices has turned many workers to the focused exploitation of their country's once-plentiful forests. Such is the rate at which trees are being felled that according to the World Bank, Armenia's foremost natural resource will be exhausted within just 30 years.

'Now people are more prone to gain as much money as possible, as quickly as possible, and the worst part is that our government is supporting it,' says one of Armenia's leading forestry experts, Professor Hovik Sayadyan of the Armenian State Agrarian University in Yerevan, the country's capital.

The down-to-earth academic, himself from a small rural Armenian village, explains that Armenia has one of the highest levels of biodiversity outside the tropics. With seven distinct climatic zones, this small South Caucasus republic - not much larger than Wales - can lay claim to hosting a quarter of all plant and animal species found within the 22 million square kilometres that make up the former Soviet Union. Many of these species reside in the country's

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forests, which up until 1993, covered 11.2 per cent of its territory.

However, the break-up of the USSR, a war with neighbouring Azerbaijan, the resulting economic blockade and subsequent energy shortages have all contributed to a rampant legal and illegal logging industry that has, in 20 years, cut forest coverage by close to a third. It's a devastating statistic for the traditionally dry-climate country, which now faces a bleak future of desertification.

'Because of the logging, the protective capabilities of the forests has decreased, erosion and other negative processes have been activated - the ecological balance of the environment has been disturbed,' says the minister of environmental protection, Vardan Aivazyan.

At the imposingly monolithic Academy of Sciences, Inga Zarafyan, president of environmental NGO EcoLur, elaborates. 'There are no forests in Armenia that are not subject to illegal cutting, but of course the areas closest to infrastructure are suffering most,' she says. 'We usually hear that the people are cutting down trees to remain warm as they are poor. But they are not cutting down trees;

OPPOSITE, CLOCKWISE FROM TOP LEFT: a boy working at a teahouse near the crater; at night, the glow emitted from the crater is visible for almost 40 kilometres; burning gases on the crater's walls; a *tamdyr*, the earthen bread oven that's sacred to the Turkmen people; many local residents make a living providing refreshments and accommodation to visitors

they are buying the wood, which is an important distinction, as it means that money is already in the relationship.

'Our team conducted an investigation of 30 villages situated inside forest areas,' she continues. 'We found that in each community, there was a minimum of six kilometres of deforested land surrounding them. The people who are living in these areas are in a very difficult position; they are very poor and business is coming in and taking away their forests while just ignoring them.'

ILLEGAL DECIMATION

According to official government estimates, about 60,000 cubic metres of wood is legally harvested in Armenia each year, but EcoLur suggests that the figure is much higher. Independent assessors affirm that a strong black market for cheap lumber has created an epidemic of unlawful logging that is more than ten times greater than its legal counterpart industry, felling up to 700,000 cubic metres of wood annually.

'Those trees are keeping the soil in place, protecting the ground from erosion, stopping landslides and, most important of all, retaining our underground water resources,' says Zarafyan. 'The forests are not diminishing by themselves. Tree cutting is ruining our peoples' places to live; it is ruining full communities and already people are leaving. It is devastating.'

According to official estimates, some 233 communities are situated inside active landslide zones; the 'most active' zones endanger 131 villages and hamlets. It's yet another concern to add to the growing stockpile of environmental, economic, social and health issues that have - in 20 years - encouraged more than 700,000 Armenians to leave their homeland for good. Some observers have suggested that the same number might leave over the next five to ten years.

Pensioners Hanisyan Jirik, 82, and Hakob Sergv, 75, have watched the rising utility prices that have helped fuel the demand for such cheap, dubiously sourced, firewood. Jirik, an ex-forester himself, is downbeat. 'Under the Soviet system, we didn't pay for gas a lot of the time,' he says. 'Now, the cost of gas for heating is going up continually and people can hardly pay for it; it's 40,000 drams (£67) a month, that's about how much we get in our pension.'

MINING CONCERN

But in their northern town of Shnogh (population roughly 3,000), the issue on many residents' lips isn't the environmental damage brought about by the demands of the needy but rather of a coming destruction wrought through the machinations of the wealthy. Nearby, Armenia's newest mine - a copper and molybdenum opencast pit that was set up in November 2007 - is about to start operating.

The mine will eventually double Armenia's copper output but has received widespread and fierce public criticism for both the potential health hazards it could pose to nearby villages and for the



scheduled mass-felling of trees in the Teghut forest, a large area of virgin woodland located high in the mountainous region of Lori, more than 200 kilometres north of Yerevan.

One of the last old-growth primary forests in Armenia, Teghut is also one of the country's richest biodiversity hotspots. Various estimates suggest that it could support as many as 208 species of bird, 21 species of fish, ten species of reptile and 55 species of mammal. Many of these animals are listed in the Armenian and international red books of endangered species, including the rock eagle, snake eagle and gray bear. There are also nine endangered plant species in the forest, two of which are found nowhere else.

According to environmentalists, some 170,000 trees across 357 hectares of forest will also be cut down to build the extensive workings. However, Sona Ayyazyan, chair of the Armenian Transparency International Anti-Corruption Centre, believes that the damage could be three times greater. 'The area [of the mine] is on the bottom slopes of the surrounding hills, and it would be very dangerous to cut trees at these lower levels as this can stop water penetrating further up the hills; more than 1,000 hectares could be damaged,' she says.

Ruben Papoyan, deputy general director of Teghut CJSC, the company behind the mine, is dismissive about the forest destruction. 'Well it doesn't matter,' he says. 'Even small things such as driving or having a barbeque can cause environmental destruction. And in a new country such as this, mining and extraction will cause environmental damage; we do not deny this.'

He is also keen to point out the wider benefits of the project, which is expected to produce 28,000 tonnes of copper and about 1,500 tonnes of molybdenum a year. It currently employs 870 people, a figure that should rise to 1,412 once the plant becomes fully operational. '[If we don't have mines such as this], it will be impossible for Armenia to move forward, create jobs and provide the Armenian people with economic opportunities so that they do not leave and go to other countries,' he says.

POSITIVE CHANGE

Ongoing schemes to ameliorate the country's deforestation do exist. One of the most notable organisations is the diaspora-funded Armenia Tree Project (ATP). The group, set up in 1994, grows more than 350,000 trees a year in its nurseries for a variety of community and forest replanting projects.

It's also undertaking an extensive environmental-education campaign to help enlighten young Armenians about the plight of their diminishing forests. 'The ATP trains teachers around Armenia, from village schools to town schools,' explains education programme manager Alla Berberyanhe. 'Every year, more than 1,000 children, parents and teachers take part in lessons at our nurseries.'

'Many people are still not aware of environmental issues,' he says. 'It is very important to know about them before there can be any pressure for change.'

The windswept northern village of Saratovka is one example of this growing drive for positive transformation, and the newest site of the ATP's large-scale forest-creation programme SEEDS (Social, Environmental and Economic Development for Sustainability). This year, the charity will plant about 186,000 trees over 62 hectares near Saratovka.

The village's mayor, Garnik Mardoyan, welcomes the planting. 'These trees will act as a windbreak from the mountains behind us; they will reduce soil erosion; some of the trees bear flowers so it may help with beekeeping; and they may also be a source of fuel in the future, if needed,' he says.

'The trees are a trust,' adds the grizzled 53-year-old between drags on a cigarette as we stand in the cold outside his house on the village outskirts. 'They are something that will go from generation to generation.'

SEEDS manager Vardan Melikyan hopes that the woodland will also invigorate the area's birdlife, which may, in turn, lead to the possibility of opening a birdwatching hide. Such a micro-project could signal the welcome appearance of ecotourism and job creation in the small community of 460, which, like so many others, has been hit by emigration to Russia. 'We hope to create an emotional link for people to understand that the forests will grow and after, wealth can come with it,' he says. 'We realise that we are planting a lot less than is being cut, but it is good to have a kind of hope; to show that there's not only cutting, but planting as well.'

ORGANISED RESISTANCE

Indeed, there's still hope in Armenia. Environmental activists are, through online social networking tools, becoming increasingly organised and vocal. The green movement is already widely viewed with considerable credence, as it was Armenia's environmental protesters who sparked a chain of demonstrations that played a role in the dissolution of the USSR. But while poverty, especially in rural areas, remains rife and corporate accountability remains poor, significant change looks unlikely.

Back in Yerevan, environmental protestor Maro Matosian gets to the crux of what she believes is the problem. 'The choice should not be between job



creation and the short-sighted destruction of Armenia's forests,' she says. 'The pressure should lie with the government to find jobs for the people, not for private companies to offer them the bare minimum in exchange for decades of environmental damage and destruction.'

However, if deforestation continues at its current pace, then all that Armenia's next generation will inherit will be empty, desiccated steppe, where once the beauty and plenty of its verdant forests had so proudly stood. G



TOP: research indicates that the poor are no longer cutting trees themselves but buying illegal timber on the black market;

ABOVE: the outskirts of Yerevan where citizens cut trees for firewood in the absence of gas and electricity during Azerbaijan's blockade of Armenia in 1990s