

of their shifting cultivation land.

The current large investments for bauxite mining, hydroelectric and irrigation projects, the influx of outsiders, existing and potential displacement through development projects, and the complete lack of accountability of the State to the local people are already creating tensions and conflicts. The high stakes in commercial exploitation of these areas have led to State repression and several incidents in which people have been killed by police.

Exclusion-based environmental conservation legislation such as the 1980 Forest Conservation Act and the 1972 Wildlife Protection Act is another major cause of displacement, as Forest Land and Wildlife Protected Areas cover over half of the region. These statutes do not allow settlements and cultivation in land categorized as forest, in spite of widespread shifting and settled cultivation. Effectively outlawing the customary use of over half the land resources of the tribal communities, the formal land tenure system has thus created conditions under which people can be displaced and uprooted without any compensation, and an explosive mix of disempowerment and resentment. For example, almost 70 percent of the case study area was under shifting cultivation on land categorized as Reserve Forest and Government land. Recent efforts to enforce the law have already led to conflicts.

It is desperately necessary to grant legal recognition and land tenure to the people who have been eking out a subsistence living in the region for generations, but who are without any legal protection today, in order to avoid a potential sharp increase in violent conflict.

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FORESTS AND ARMED CONFLICTS IN JAMMU AND KASHMIR IN INDIA: PROBLEMS AND PROSPECTS

By Chetan Kumar

In the Indian forestry sector, forestry and conservation practitioners, development cooperation professionals and researchers have paid little attention to the impacts of armed conflicts on forests and people living in these regions. This can be explained by the diversity of forests and of associated socio-political reasons for conflict, which obscures the relationship between the two. The key problems are hardly understood due to the anecdotal nature of evidence and lack of empirical research. This restricts the prospects of drawing the attention of decision-makers and development cooperation agencies to the issue.

The forested regions of India cover almost one-third of the total land area of the country. However, forest cover varies a lot between states. For instance, while some states in the northeastern part of India have over 50% geographic area under forests, other states in the north have only 5 to 8% forest cover.

Armed conflicts occur in both areas with high and low forest cover. These conflicts are manifested in different ways and have different ideological or political purposes. In India, forest and armed conflicts can be broadly related in two ways. First, armed conflicts can be a result of problems in the control of forest resources, for example problems of/ in land alienation, misappropriation of forest resources by contractors, and smugglers mainly in tribal regions. Secondly, violent conflicts may affect forest management and forest based livelihoods, and forest resources may be used for financing these conflicts. This article particularly deals with the latter case i.e. impacts of conflicts on forests in the northern state of Jammu and Kashmir in India.

The state of Jammu and Kashmir is located in the far north of the Indian Republic in a mountainous area in the north-west Himalayas, and shares international boundaries with Pakistan and China. Kashmir is a green, saucer-shaped valley with many fruit orchards surrounded by snowy mountain ranges. Forests cover about 10% of the state's land. The region has a long history of violent conflicts; since the late sixteenth century there have been various periods of occupation and military confrontations. Since 1947, India and Pakistan, both claiming the whole of Kashmir, have fought two wars over the territory. From 1989 onwards, a number of militant separatists groups have been engaged in armed conflicts with Indian security forces, resulting in massive use of violence by both parties. In Kashmir thousands of people have been killed in reprisals, mass and selective killings, assassinations, sabotage, or hijacking of aircrafts. The massive deployments of

armies on the borders of Kashmir, movements and activities of various militant groups and the conflicts between them have affected the state of the forests and forest based livelihoods in the area.

One of the major results of the armed conflicts was that the forests and conservation activities have suffered continuously. Valuable trees have become a source of easy money to finance weapons, for example, an old mature deodar tree could buy three AK-56 assault rifles. Hence many militant organisations have resorted to indiscriminate cutting of trees. As weapons are easily available in Kashmir, timber smugglers and poachers thrive and threaten wildlife. Throughout the valley, the wildlife population is declining rapidly due to loss of natural habitat caused by extensive deforestation. The widespread use of heavy weapons by both security forces and militants has further threatened wildlife. Rare species like the snow leopard, the Kashmiri otter, the flying squirrel, the long-tailed Himalayan marmot and the Kashmiri stag have almost become extinct. In addition, the forests have suffered from frequent fires due to the armed conflicts. The largest zone where these forest fires occur is located directly along the militarized line-of-control which divides the state of Jammu and Kashmir. Since this is a military zone, it is not possible to fight or control these fires.

Another major impact of the ongoing conflict in the region has been the loss of livelihoods for a large percentage of the population, which was dependent on income from forest-related products. The state's famed woodcraft trade, employing close to a hundred thousand people has been severely affected. Also, lack of other sources

of income due to the conflicts forced families to clear trees for farmland and increase grazing for supplemental income. Overall, in the last two decades, there has been a significant decline in the forest cover as well as in agricultural productivity. The deforestation and mismanagement of water resources have created environmental problems such as soil erosion and frequent the flash floods. The violent nature of conflicts and the political instability have also constrained the enforcement of forest and environmental legislation or regulations. Several forest officers have lost their lives in these conflicts along with scores of innocent local villagers.

In the last couple of years, the government, NGOs and other agencies have shown a growing concern for the loss of forests and associated environmental problems. Various prospects have emerged. An important aspect of this has been the focus on strengthening the institutional set up at various levels. However, this seems to be a difficult task as it is not only dependent on the efforts of local villagers and forest department staff but it also requires greater involvement of other agencies such as the military, or the police. The prospects involve creating awareness of all the stakeholders as well as strengthening the confidence of local people to participate in such processes. As there is very little experience of dealing with such a situation in the state, national and international development organisations could play a role by sharing their expertise and resources to restore Kashmir, once known as the 'Paradise on Earth'.

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EFFECTS OF WARFARE ON NATURAL ECOSYSTEMS AND BIODIVERSITY IN VIETNAM

By Dang Huy Huynh and Ho Thanh Hai

Destructiveness of warfare to humans and their civilization is well appreciated. Warfare can cause not only a tremendous loss of human life but also damage to ecosystems and biodiversity, and long-term effects on the natural environment. Thirty years after the end of the war in Vietnam there are still major hazards and long-term effects of the conventional munitions, and especially of the military use of herbicides.

Explosives. During the second Indochina war of 1961-1975, the total quantity of munitions used by United States forces alone was more than 14.3 million metric tons, about twice the amount used by United States during World War II. About half of the explosive tonnage was delivered from the air, half by artillery: about 20 million bombs of various sizes, 230 million artillery shells and more than 100 million grenades, plus additional millions of rockets and mortar