

: Political and socio-economic limits to counteract the bark beetle calamity in South Tyrol

Christian Hoffmann

Eurac Research, Institute for Regional Development, Bolzano, Italy,
christian.hoffmann@eurac.edu

■ ABSTRACT

Significant transitions are taking place in South Tyrol's forests. In recent years disturbances like windthrows (VAIA 2018) or snow-pressure events (2019/2020) have formed an optimal substrate for an explosive bark beetle calamity, which had never been experienced before in South Tyrol. Each bark beetle pair has a reproduction rate of 2.5 generations per vegetation period, including at least one sibling brood. 6,400 ha of spruce forests were destroyed in 2022 alone. With high probability it is expected that the calamity will continue even more extremely in 2023. Thus, South Tyrol, with its 50 % forest landcover in the middle of the Alps that hosts millions of tourists every year, fears enormous societal and economic consequences, as 24% of these forests are object protection forests. Accordingly, this has risen an enormous media attention and awareness among society on the health situation of local forest ecosystems. Hence, divergent discussions on woodlands are evolving among people, between local authorities and even experts from abroad. Different views from protection, ecological functions, and recreation to economic usage, generated a never-before-seen level of controversial debates about South Tyrol's forest management practices and strategies. Discussions are fueled as forest authorities, which would be obliged to mark every single tree to be felled, are overwhelmed. Additionally, there is uncertainty about the right balance of keeping dead bark-beetle trees in forest stands to guarantee a certain protection of forest soils but also of infrastructure objects and for also avoiding a significant change of the micro-climate for the surrounding tree-stands as this may increase their predisposition to bark beetle attacks. These controversial debates about felling bark beetle-affected forest stands, inevitably leads to conflicts between forest authorities, logging companies and forest owners. In addition to forest ecological considerations, the forest owners' room for manoeuvre are practically limited due to the lacking availability of freight companies and the declining prices for spruce logs.

The concept of natural forest management, which was highly appraised until recently, approaches its limits on some forest sites. Less than 20 years ago, the forestry expert Hellrigl published that Norway spruce in South Tyrol reaches its optimum at the montane and subalpine altitudes between 800 and 1800 meters and that, as a result of near-natural forest management practices, bark beetles will not pose a significant threat in the future. Therefore, there is now a lack of experience in dealing with such a large-scale calamity and the processing of the damaged wood. This high degree of uncertainty

about the stability of forest stands and the consequences for the forest-based value chain and climate change on forest ecosystems are causing societal concerns. Forest owners are worried, whether the timber market can absorb the large quantities of calamity without lowering the timber price below producer costs. And people are wondering, which tree species will be able to adapt to the changed climatic conditions in the future, because they fear that the calamity harms the ecological balance of forests and thus their multifunctional services for society.

The forest authority in South Tyrol, which is in close contact with forest owners, has thus issued in the Forest Agenda 2030, a seven-point plan to meet these current challenges for managing forests in South Tyrol sustainably. It gives the highest priority to strengthening forest owners and their forest mindset, as only they can initiate the transformation towards climate protection, conservation of the forest's biodiversity, and a sensitive management of the forest soil and its water cycle. To ensure their motivation, the forest-based value chain must also be strengthened, by increasing the policy's reliance on wood as a building material and by securing appropriate prices for the various wood assortments. Communication and the creation of trust are essential in this regard, and thus the 7th point of the Forest Agenda 2030 aims to pay more attention to this.

However, when looking at European forest policies, a less harmonic impression emerges. Although forest topics are high on the agenda of Europe's Green New Deal through the LULUCF directive, the EU Biodiversity and New EU Forest Strategy for 2030, and the Deforestation-Free Products Regulation, the impression arises that the more distant the decision-makers in Brussels are from the sector, the more impractical appear the forestry decisions taken in the Commission. Ambivalently guided discussions lead to a twofold view on the role of forestry for climate mitigation. Firstly, forests suffer from geopolitical crisis and climate change, we are all responsible for. Secondly, we place great hope in the forest's capacity of carbon sequestration to become climate neutral by 2050, whereby it is questioned whether sustainably managed forests store more CO₂ than those put off-use. Even the use of forest biomass for heat production has recently been intensely debated under the principles of cascading usage in the Renewable Energy Directive III, whether it is a renewable source contributing to climate neutrality. And with the Covid-19 pandemic, public services of forests close to settlements and urban areas have moved into the spotlight of socio-economic and socio-ecological interests from the general public to apply recreational activities in forests or to collect non-wood forest products. The associated increased demand from society to co-determine the multifunctional use of forests, how their multiple ecosystem services can be optimally delivered, is putting increasing pressure on forest governance and the interests and objectives of forest owners.

Now, under these more than complex framework conditions, the Commission tightens its influence even further on EU member states by granting itself the right to exercise delegated acts, e.g., to set reference values for CO₂ sequestration in the LULUCF guidelines, to comply with the Deforestation-Free Products Regulation, or the cascading use of wood flows under the Renewable Energy Directive III. Here, with just involving a committee of experts from the member states, who need not to be political

representatives, the Commission can directly specify implementation guidelines within the regulation's framework. This is seen critically by the member states as an interference in the democratic process because it would limit their participation in the legislative process.

Despite contradictory policy settings, we target to support the affected small forest owners in South Tyrol with a quadruple helix approach. Because its them, who are facing the tremendous task to cope with disturbances properly and to apply appropriate strategies to adapt their forests to climate change. We need to show solidarity as forest damages have destroyed the entire forest stands of some forest owners. Their forests will not be usable for the next generations. Hence, we see it as our task, to inform provincial decision makers in time on emerging legal novelties through our international networks of forest actors, such as IUFRO, ERIAFF, EUSALP or the contact group for international forest policy in Vienna, so that forest owners can adapt to them more easily. The aim is to encourage them in their responsibility to keep managing their forests despite the bark beetle disaster and not to abandon their forested areas. In that case, we would lose the autonomy of action over an ecosystem that contributes decisively to meet climate neutrality in 2050.

■ KEYWORDS

Small-scale forest owners, natural disturbances, bark beetle, diverging interests, forest-based value chain, forest policy