

COVID 19 AND FORESTS: THE GREEN COMBAT

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Abstract

According to UNEP 2016, 60 per cent of all transmittable diseases reported in humans and 75 per cent emerging contagious diseases originate from pathogen transfer from animals to humans and are thus zoonotic. Such diseases rapidly rise with anthropogenic interference in natural ecosystems which include deforestation and degradation of forests. COVID 19 has brought in a never before paradigm shift towards environment and sustainable life styles. As the world attempts a neo-normal it is now apparent that forests have been at the fore front during this global pandemic providing the essentials for life and livelihoods. Post COVID economic recovery programmes and stimulus packages are to be initiated to improve livelihoods and build resilience of the indigenous local communities through increase in forest area by investment in forestry-related jobs as afforestation, reforestation, conservation, watershed protection, agroforestry and urban forestry.

Keywords: COVID 19, forests, sustainability, deforestation, community-based natural resource management

Introduction

The end of 2019 witnessed the arrival of the COVID era and by March 2020 people had accepted that COVID was a harsh reality and would continue to thrive and also ‘prosper.’ According to UNEP (2016), 60 per cent of all transmittable diseases reported in humans and 75 per cent emerging contagious diseases originate from pathogen transfer from animals to humans and are thus zoonotic. Such diseases rapidly rise with anthropogenic interference in natural ecosystems which include deforestation and degradation of forests. Habitat loss in forests result in loss or reduction of established buffer zones which separate humans from animals and their associate pathogens and thus unleash such pathogens world-wide. Trends in human development and

biodiversity loss results in a few species replacing many — and these species tend to be the ones hosting pathogens that can spread to humans. [1,2]

HIV and Ebola both of which have captured global attention are zoonotic and have clear forest origins. Other lesser-known pathogens associated with trees and forests include Henipa viruses, and new pathogens are being identified all the time, such as the SARS-CoV2 virus that caused the current COVID-19 pandemic. While it is not yet possible to determine exactly how humans were initially infected, COVID-19 is also assumed to be of zoonotic origin (WHO 2020).

Climate change influences prevailing environmental conditions which in turn affect the spread of pathogens, vectors and hosts. With accelerating global climate change epidemic diseases would continue to rise rapidly. Conservation of land, control of deforestation, habitat fragmentation, conversion of forests to agricultural zones, restoration of buffer zones minimizing human-wild animal interaction could go a long way in controlling diseases of the likes of COVID 19 [3]. In an article published in Science [4] an interdisciplinary group of scientists emphasized that governments can take strong measures to reduce the risk of future pandemics by controlling deforestation and curbing wildlife trade involving the sale and consumption of wild — and often rare — animals that can host dangerous pathogens.

Forests and Sustainability

COVID 19 has brought in a never before paradigm shift in consumer behavior and lifestyle approach. A pro-environment and sustainable life style is now the order of the day [5,6]. The ‘sustainable wood’ is now a powerful tool to replace plastics and fossil-fuel based products. Renewability and recycling are the accepted modes.

Along with many other sectors the Forest sector was also severely affected. Forests have a significant role to play in achieving the SDGs ranging from climate change to carbon sequestration and sustaining lives and providing livelihoods. As the world attempts a neo-normal it is now apparent that forests have been at the fore front during this global pandemic providing hygiene products, personal protective equipment, biomass for energy, ethanol as cleanser and as source of universal packaging material.

On 1 March 2019, the United Nations General Assembly declared the decade from 2021 to 2030 the United Nations Decade on Ecosystem Restoration, with the goals of preventing, halting and reversing ecosystem degradation, raising awareness of importance of ecosystem restoration and accelerating progress towards reaching existing global and regional ecosystem restoration goals. Restoration is a key part of the CBD’s Strategic Plan for Biodiversity and the Aichi Targets and forest landscape restoration has been recognized as a means by which to achieve Aichi Targets.

Forest restoration can have a variety of objectives relating to reversing land degradation or loss of productivity of ecosystem goods and services such as food, biodiversity and water. These include:

Rehabilitation: restoration of desired species, structure or process to an existing ecosystem; **Reconstruction:** restoration of native plants on land used for other purposes; **Reclamation:** restoration of severely degraded land devoid of vegetation; and **Replacement:** the most radical form of restoration, in which species or provenances maladapted for a given location and unable to migrate are replaced with new vegetation as climates change rapidly [7] Forest restoration, if executed accurately, helps restore habitats and ecosystems, create jobs and income and is an effective nature-based solution to climate change [8,9]. The Global Partnership on Forest and Landscape Restoration has developed **six globally agreed principles of forest and landscape restoration:**

- i. Focus on the landscape scale
- ii. Engage stakeholders and support participatory governance
- iii. Restore multiple forest functions for multiple benefits
- iv. Maintain and enhance natural ecosystems within landscapes
- v. Tailor restoration approaches to the local context
- vi. Manage adaptively for long-term resilience

In some areas, migrant workers constitute a major proportion of the workforce in the forest sector. The pandemic has only aggravated the already vulnerable situation. Travel restrictions and border closures have made it difficult for migrant workers to enter those particular areas where they are needed for work like tree planting, fertilization, pruning, land clearing or harvesting. Food insecurity and decrease in household incomes tend to increase the reliance of lower income group on forests and forest products for subsistence, including medicinal plants and wildlife, which can result in overharvesting of natural resources. COVID-19 and the reverse migration from cities to rural areas due to lack of employment is also expected to put increasing pressure on forest resources through illegal charcoal production, conversion of forests to agriculture and other unplanned activities where legal livelihoods are lost.

Recommendations for Green Combat

The time is now ripe to reassess our forest goals and objectives.

Sustainable forest management is to be promoted and implemented in every possible level globally by executing the UN Strategic Plan for Forests 2030 for the achievement of Global Forest Goals and targets.

The interests and security of the forest-dependent indigenous communities must be well looked after. This is especially important as unemployment and poor economy are looming large and will target the long-term economic role of forests. The limited forest resources and products are

to be conserved involving the local communities by community based approaches as afforestation, agroforestry, watershed protection and others [9-11]. Illegal felling and trade in wildlife must be strictly controlled with reverse migration from urban to rural as an aftermath of the pandemic. Conversion of forests to agricultural land, undue pressure on forest resources for illegal activities can accelerate forest degradation and deforestation.

With food insecurity and dwindling income looming large during the pandemic, the tendency to over-exploit forest products and forest resources including medicinal plants and wildlife will definitely rise. With the advent of COVID the use of herbal-based medicinal plants is on the increase.

There must be coordinated efforts for establishment of **community-based natural resource management**. There must also be incentives for community monitoring which can actually improve forest governance and long term control of forest degradation and deforestation [9,12,13]. Independent monitoring must be encouraged along with quick response conflict resolution. Technology along with tradition can go a long way in wise and sustainable forest governance [14-16]. In India, the Ministry of Home Affairs relaxed the lockdown rules for the collection, harvesting and processing of minor forest produce by scheduled tribes and other forest dwellers, while the Ministry of Tribal Affairs has encouraged the governments of states with tribal populations to offer a guaranteed price for the procurement of forest produce from communities.

Wood production particularly in developing countries is a crucial means to livelihood. Strengthening the regional as well as national markets by providing easy and quick access to legally harvested wood with upgraded technology in terms of training, technical assistance and equipment would boost the sagging economy. Successful sustainable forest management would provide legally harvested timber.

Food, agriculture and timber need not be addressed as water-tight compartments but rather as an intricately connected sector where deforestation is a common challenge. Worth US\$509.8 billion in 2019, the global forestry and logging industry is predicted to grow at 4 percent CAGR in 2021 to US\$544.2 billion in 2023. From the late nineties till the present, global forest area decreased by 178 million hectares, nearly equal to the area of Libya.

<http://www.fao.org/3/ca8642en/CA8642EN.pdf>

Natural regeneration of forests is a biological process that can be assisted and managed to increase forest cover and achieve the recovery of the native ecosystem or some of its functions. Assisted natural regeneration (ANR) refers to the human interventions or efforts which aim to enhance and accelerate the natural regeneration of native forests e.g. by protecting against disturbances (from fire, stray domestic animals and humans) and by reducing competition from grasses, bushes and vines which oppose the growth of naturally regenerated trees. ANR is a simple, inexpensive and effective technique for restoring forests by removing or reducing

barriers to natural succession. In addition to enhancing resilience and supplying multiple forest products and ecosystem services, ANR can be highly effective for recovering biodiversity, species interactions and movement within landscapes. During ANR, local biodiversity is enriched by: **Natural establishment** of trees and shrubs from seeds, root sprouts, stumps or coppices; **Regeneration of local genetic resources** adapted to local soil and climate conditions; **Associated pollinators**, herbivores and seed-dispersal agents of colonizing trees.

The crisis of COVID-19 must be attempted to turn into an opportunity with sustainable production and pliant supply chains leading to diverse and alternative livelihoods. Legal sustainable products with nature-based solutions can safeguard the interests of the vulnerable rural communities while strongly combating the influx of illegal trade and products. Comprehensive environmental policies which integrate environmental protection with poverty alleviation may successfully address the prevention and mitigation of future pandemics, while simultaneously addressing the looming threats of illegal trade, habitat loss, climate change and various sources of pollution. (Source: S-G Report, March 2020).

Post COVID economic recovery programmes and stimulus packages are to be initiated to improve livelihoods and build resilience of the indigenous local communities through increase in forest area by investment in forestry-related jobs as afforestation, reforestation, conservation, watershed protection, agroforestry and urban forestry. Production of timely and accurate official statistics on the status of forests must be ensured by undertaking research and analysis on the impact of the pandemic and the progress made on the path to sustainable forest management.

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