

# Opportunities and Challenges of Climate Change Adaptation in Forestry

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## Abstract

Like all living organisms, the biology of forest trees is directly linked to variation and change in climate and, seasonal cycles of change in weather. For hundreds and thousands of years, farmers, agronomists and foresters have programmed their annual operations to coincide with seasonal weather changes. The predictability and gradual change in climate both in space and time has always driven evolution in plants. In turn, farmers, agricultural and forestry professionals use this natural relationship of animals and plants with their continually changing environment to design and implement agricultural and forestry practices to sustain production of food, fibre and other ecological goods and services to a rapidly expanding world population. It follows that any rapid and unpredictable change in climate and weather rightly invokes fear in our ability to sustain adequate supply of food, forest products and other ecological goods and services.

Climate change mitigation refers to activities intended to prevent emission and /or reduce greenhouse gases in the atmosphere where they cause global warming and climate change. In contrast, climate change adaptation refers to activities we do and decisions we make either to (i) reduce negative impacts of a changing climate to current operations and their outcome, or (ii) take opportunities a changing climate presents to improve outcome on current operations and/or adopt new activities that were previously unattainable. Viewed this way, climate change adaptation involves addressing the drawbacks while taking advantage of a changing climate in places where we live and operate.

This seminar on “*opportunities and challenges of climate change adaptation in forestry*” will examine and prompt discussion on climate change adaptation options in various aspects of forestry. A greater emphasis will be on climate change adaptation in planted forests through selection and use of reproductive materials such as seed and vegetative propagules. Trees owe their ability to survive, grow and reproduce (adaptation) to their ability to continually evolve with a changing environment. Silviculture can use this intrinsic characteristic of trees for climate change adaptation. The speaker will argue that, not all adaptation options will be applicable or equally successful in all countries. Hence, countries have an obligation to approach climate change adaptation in ways that suite their environments and forest operations.

Dr. Deogratias Rweyongeza is a graduate of Sokoine University of Agriculture in Morogoro, Tanzania (BSc in Forestry; class of 1991) and University of Alberta in Edmonton, Canada (MSc & PhD, specializing in forest genetics and tree breeding; class of 1997 and 2002, respectively). He previously worked at the National Tree Seed Centre in Morogoro, Tanzania (1992-1994). He is currently a scientist with the Forest Management Branch, Forestry Division, Ministry of Alberta Agriculture and Forestry in Edmonton, Alberta, Canada.

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