Abstract template for the conference "A century of national forest inventories – informing past, present and future decisions"

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On page two, you are asked to fill in your abstract in the format and font size indicated. Please remember to include authors' affiliation information in the footer section of page two. The length of the abstract may not be more than one page including references.

Abstract title:		National Forest Inventory planning in Myanmar (Burma): Learning from past and present experiences and developing a demand driven NFI approach with a view on long term sustainability.
Take-home message:		*The increasing attention to NFIs, as part of wider NFM systems, primarily in the context of Climate Change mitigation programmes and policies, bears the danger of repeating errors from the past related to unrealistic expectations of content and speediness of availability of results as well as sometimes overly sophisticated and cost and time intensive approaches with long term sustainability issues. The planning of a new NFI requires therefore a careful balancing of technical-statistical, practical-operational as well as human resource, time and long term budgetary requirement criteria harmonised with national and international expectations toward a NFI.*
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General topic, see website: (please double click on the check box and activate the relevant one)	☒	Improving future NFIs by learning from the past
	☐	NFIs today and in the future
	☐	Cutting edge and futuristic inventory techniques and technologies
Preferred presentation form:	☒	Oral presentation
	☐	Poster
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Demand driven National Forest Inventory planning in Myanmar (Burma): Learning from past and present experiences with a view on long term sustainability.

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Introduction:

Myanmar (Burma) has a long tradition in forest inventory and is among the first countries in the world that historically had established sample based forest inventories (line taxations of teak forests in Bago-Yoma region in the 1850s/1860s), although mainly for operational management purposes.

The first national scale forest inventory with a probability sampling approach was carried out between 1980/81 and 1992 and supported by two UNDP/FAO projects. However, the NFI was never fully finished, and no national report on the state of the forests was developed, nor was the information produced used for national level policy decision making. This situation is not uncommon, since in other countries or regions similar developments could be observed (Kleinn and Stahl, 2006; Arnold *et al*, 2014). Overly supply driven approaches have been stated as reasons (Janz and Persson, 2002), the lack of integration of user perspectives in the planning process (Bell, 1998) or lack of adequate capacity building (Tewari & Kleinn, 2015), among others.

The planning process of a new NFI in Myanmar, supported by the UN-REDD Programme and the Finnish Development Cooperation through FAO is therefore intended to learn from the past and deliver a NFI approach that is technically and operationally feasible, reflects information needs from relevant policy processes (e.g. REDD+, FLEGT, NFP) while being consistent with technical guidelines (e.g. IPCC, GFOI) and the request for a harmonised national forest inventory system which integrates NFI and subnational (district and potentially project level) forest inventories.

Materials and methods:

The guiding principles for user-oriented NFM planning are being applied (Arnold *et al*, 2014) together with the Voluntary Guidelines on National Forest Monitoring (FAO, 2018), recommendations from a mission of University of Goettingen to Myanmar (Kleinn & and Fehrmann, 2015) and standard statistical planning approaches for (forest) surveys (e.g., Cochran, 1967; de Vries, 1986; Zoehrer, 1980). Open source NFM and GIS tools (Open Foris Collect, Collect Earth, QGIS, SEPAL, Google Earth and Google Earth Engine) were used for geospatial tasks.

Results:

(1) A general NFI design approach, sampling with partial replacement, and a nationally consistent, spatially aligned grid of sample plot locations which integrates NFI and FMU inventory plots.

(2) Sample size calculations based on pre-defined expectations of precision for estimating a key parameter (biomass) and practical criteria (time, cost, non-response areas, national capacities).

(3) Cluster plot design based on balancing the reduction of spatial autocorrelation and on practical considerations of transport and ability to move in tropical forests.

Conclusion:

The planning of a new NFI requires a careful balancing of technical-statistical, practical-operational as well as human resource, time and long term budgetary criteria. Many discussions are needed to harmonise the expectations of different actors and gain legitimacy and support for an NFI approach for which multi-stakeholder structures of existing policy processes (e.g. REDD+) can be used.

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