Know the forest

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Management inventory

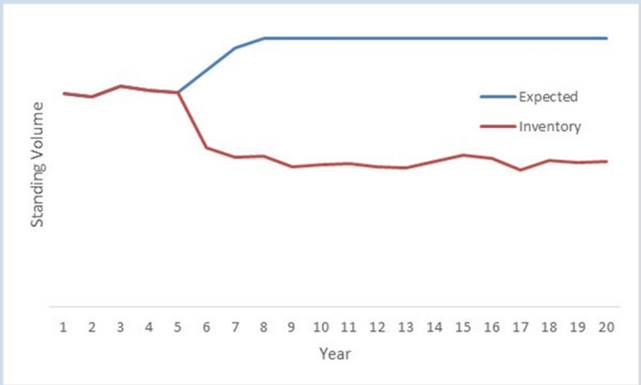
A thorough basic inventory of 0.5 to 1.0% of the forest areas (which should be spread over the complete forest area and cover all pre-identified forest types), will provide a solid base for establishing the long-term potential of the forest and the feasibility of a forestry enterprise.

Harvesting inventory

Based on pre-harvest forest inventories a proper selection of the right species and sizes can be made, taking into account accessibility of certain tree locations and avoiding areas in which the density of commercial interesting species is too low. This will improve the harvest planning and finally reduce harvesting and extraction costs per harvested volume. Due to the pre-harvest forest inventory (commonly conducted 6 to 12 months prior to harvesting) the available stock is known, which makes sawing to order possible. Pre-harvest inventories do result in higher upfront costs, they are however partly or completely paid back by more efficient harvesting e.g. higher daily output, less roads to be constructed and maintained, and a stronger position in the market due to the possibility to saw to order.

Inventory turned expectations down

A company operating in the Amazon expected very high volumes for the future based on visual expectations in several locations of the forest. However, based on a stratified forest inventory these expectations needed to be turned down. Expected commercial volumes dropped with about 25% compared to current harvesting levels (see figure). The reason was behind this dramatic decrease was a change in combinations of forest types in the future harvest areas. The prevailing forest types in future harvest areas contain much less volumes of commercial tree species, some species were even completely or almost absent. This company also put a lot of investments and energy in introducing Lesser Used Species on the international market (and they are actually quite successful). However, several of these species' volumes would hardly or not occur in future harvest areas.

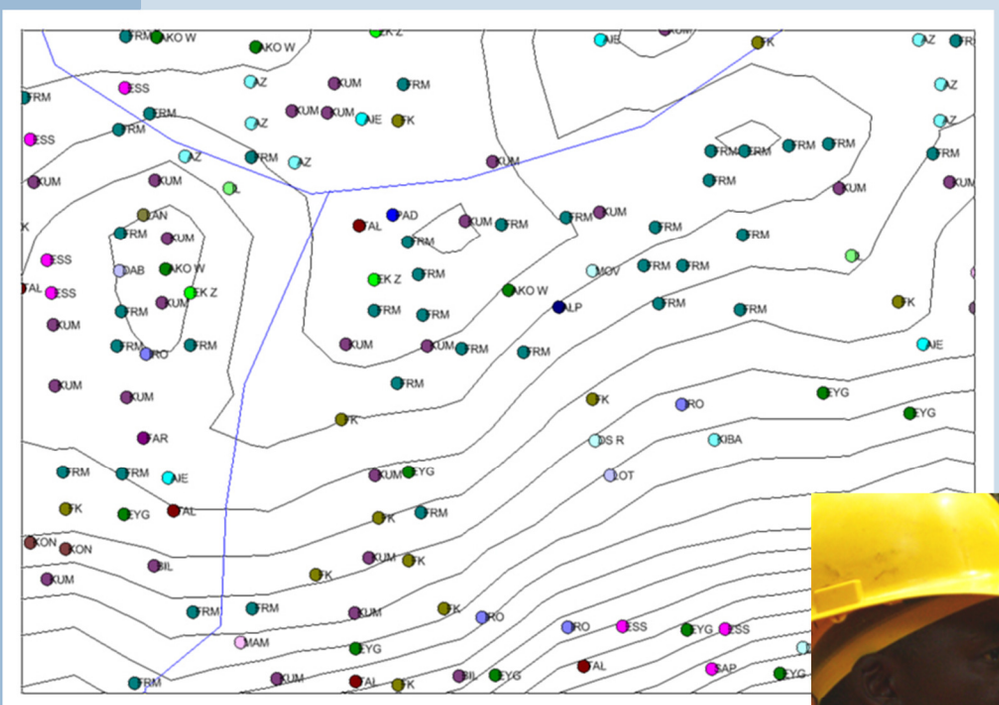


“What happened and how can we improve it?”

A company operating in the Congo Basin applies a post harvesting inventory. This post control is used to check if all selected trees are felled, and to inspect why some trees are left standing and / or left after felling. The main purpose of this inventory is to check the quality of the pre-harvest inventory, and to optimize the volume expectations from the forest. After the post-harvest inventory, a meeting is organized with both the harvesting and inventory teams to share the outcomes of the post control and to provide training, with the aim to improve the inventory quality.

Increased harvesting efficiency

A company operating in the same region was able to increase its harvesting efficiency largely due to inventory and planning. Planning and mapping of harvestable trees and future crop trees as well as planning of roads resulted in less damage to future harvests and more efficient harvesting. Felling of trees has become more selective and less waste is produced. Whereas in the past they too often harvested poor quality trees, quality of trees is now better assessed and selection better done. This increased the exploitation efficiency and resulted in less damage to high value trees.



40% less workers needed

The introduction of detailed exploitation planning in combination with RIL techniques and training of forest exploitation teams, resulted in a gradual decrease of workers needed in the forest exploitation teams of another company operating in Africa. Over roughly ten years this reduction was about 40%, whereas the production levels could be kept at the same level. As a consequence labour costs also reduced, though less than 40% as better trained personnel also received higher salaries to stimulate them to perform at the trained level.

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