

Export of bushwood from Namibia - Impact on the Namibian labour market

GIZ wants to establish biomass industrial parks in Namibia for an intercontinental export of bushwood to Europe. It is questionable whether this way of valorising of bushwood is beneficial for Namibia. Especially the effects on the labour market could be very harmful for Namibia. As Namibia is suffering from very high unemployment, a reassessment independent of the objectives of the GIZ should be carried out.

Wood chips
191 500 t/a



Charcoal
20 000 t/a



Char Briquettes
12 000 t/a



Animal Feed
160 t/a



Bio-fuel
4 500t/a



Biochar (AC)
600 t/a



Compressed FW
4 800 t/a



In Hamburg, the energetic use of large quantities of bushwood from Namibia has been examined for one year. A [Memorandum of Understanding](#) (MoU) between the [Institut für angewandtes Stoffstrommanagement](#) (IfaS) and the [Hamburg Environmental Authority](#) (BUKEA) was already signed on 7 May 2020. The [Deutsche Gesellschaft für Internationale Zusammenarbeit](#) (GIZ) and IfaS had already submitted a [dossier](#) to the Hamburg environmental authority one year before, in which the use of Namibian bushwood in Hamburg's heating and power plants was proposed as part of a "Transcontinental Biomass Partnership Namibia - Hamburg". [Biomass industrial parks](#) were to be established in Namibia for the harvesting and processing of bushwood.

In such a biomass industrial park, bushwood should be used almost exclusively to produce fuels for export.

Picture: Production quantities of a biomass industrial park in tons per year. 310,000 tons of bushwood are processed per year (Source: [IfaS](#))

The obligations of the Hamburg grid decision

The second sentence of Hamburg's referendum on the buyback of energy grids in Hamburg on 22 September 2013 reads as follows

"The compulsory goal is a socially just, climate-friendly and democratically controlled energy supply from renewable energies."

What does this sentence mean when applied to an extensive use of bushwood from Namibia for energy purposes in Hamburg?

Effects of industrial bushwood utilisation on jobs in Namibia

An [expert report](#) commissioned by the Hamburger Energietisch (HET) "Utilisation of bushwood from Namibia in Hamburg. Impacts on the global climate" came to the conclusion that the energetic use of bushwood from Namibia in Hamburg is definitely **not climate-friendly**. (Short forms in English [here](#) and [here](#).)

It is questionable whether **democratic control** can take place if, in accordance with the Memorandum of Understanding, an examination of the GIZ-IfaS proposal is carried out in the next one to two years without public participation only by persons selected by the Hamburg environmental authority, who for the most part support the proposal.

Finally, the question remains whether the planned use of bushwood would be **socially just**. In the case of the intended intercontinental timber export, the social effects on the country of Namibia must be considered from this point of view.

Promises for Namibia

The [GIZ-IfaS dossier](#) describes the expected effects of the proposed "Transcontinental Biomass Partnership Namibia - Hamburg" in this way:

"The expected effects of the partnership for Namibia include the urgently needed, significant scrub clearance of the savannah landscape and the associated effects:

- a) Increase of the general biodiversity
- b) Increase of specific biodiversity (e.g. cheetah)
- c) Groundwater level recharge
- d) Restoration of grazing land of agricultural importance
- e) Ensuring tourism opportunities
- f) Job creation
- g) Technology transfer and investment. "

High unemployment is a problem of outstanding importance in Namibia. In 2018, the figure was 33 %. Among young people under the age of 25 it was over 60 %. The CORONA pandemic has certainly increased unemployment even further. Therefore, when assessing the "expected effects", **job creation** should be the first issue to be addressed.

Which social impacts are to be expected in Namibia?

If the plans of GIZ and IfaS were implemented, the harvest of bushwood in Namibia would increase dramatically. A [presentation](#) of Prof. Dr. P. Heck (IfaS) from January 2020 mentions a bushwood harvest of at least 9 million tons of wood per year for 2024. If 310,000 tons of dry matter per year were processed in a biomass industrial park (hub), at least 20 biomass industrial parks would be built within five years in Namibia. By 2030, 18 million tonnes of wood per year would mean more than 40 biomass industrial parks.

Compared to the current largely manual harvesting of bushwood, highly productive, fully mechanised harvesting machines would be used, which should significantly reduce the specific costs of bushwood harvesting. Therefore, a drastic impact on the labour market of the entire bushwood harvest must be expected.

Up to now, the harvesting of bushwood has largely been carried out by unskilled workers, but in precarious employment and with very low incomes. The introduction of highly productive timber production would not come without consequences on the already long-established sector of bushwood harvesting. However, in all studies, which were largely financed by GIZ, this retroactive effect was completely ignored.

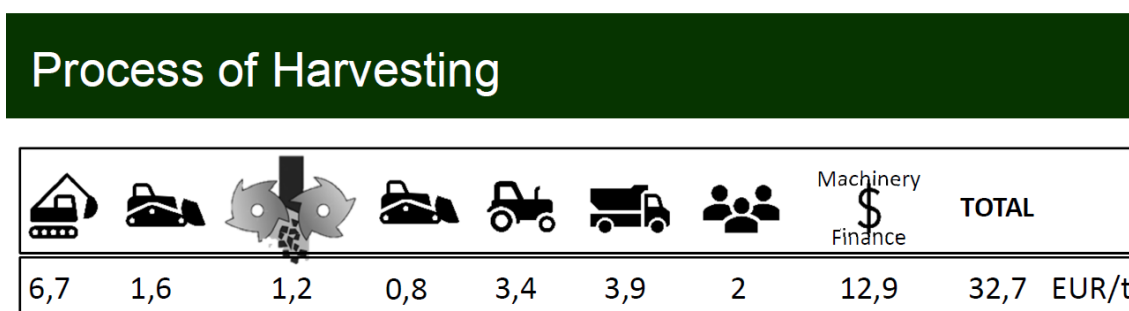
Creating jobs in Namibia with biomass industrial parks?

The [GIZ-IfaS dossier](#) makes impressive promises for job creation:

"The government of Namibia has made bush control a priority in its fifth National Development Plan (NDP5, 2017 - 2022). A "National Strategy for the Optimisation of Pasture Management and the Use of Bush Biomass" has been developed for implementation. Its implementation would create over 17,000 jobs and lead to the creation of 460 small and medium-sized enterprises (SMEs)".

The GIZ author of the dossier could not answer the question to how much harvested wood these data refer and how they were obtained. However, he assured that he can confirm these figures in the order of magnitude (sic!).

Prof. Dr. P. Heck's [presentation](#) from January 2020 provides further details on the proportion of labour costs in relation to the costs of bushwood harvesting for biomass industrial parks:



The picture shows: From a total of 32.7 euros per tonne of harvested bushwood, 2 euros go to the employees engaged in bush harvesting, transportation and processing.

In the same presentation the following total prices for the wood transported to Hamburg are given:

Highest Price : 158 EUR/t

Lowest Price : 106 EUR/t

IfaS Institut für angewandtes
Forstmanagement

Thus, while bushwood harvesting is expected to cost between 28 and 36 euros per tonne, the final price for Hamburg is between 106 and 158 euros per tonne. Incidentally, the lowest price of 106 euros per tonne corresponds to the price of 120 USD per tonne mentioned in the GIZ/IfaS dossier. It follows from these figures, that transport by road, rail and ship to Hamburg is undoubtedly very expensive. It devours around 75 percent of the final price in Hamburg.

At an average price of 132 euros per tonne in Hamburg, 2 euros per tonne for the employees and their jobs represents only 1.5 percent of the total price in Hamburg.

For comparison: According to a dossier on the [production of charcoal in Namibia](#), charcoal producers have recently agreed on a [minimum wage](#) for the workers. This is a little more than 40 percent of the selling price of charcoal in Namibia.

Impact of a transition from low to very high labour productivity

Acceptable prices for the wood from Namibia in Hamburg can only be achieved with highly mechanised timber production. For biomass industrial parks and their supply of bushwood, relatively few jobs for qualified employees are needed. This explains the low share of labour costs in the total price as noted above.

However, the resulting loss of simple jobs, which currently mainly serve the production of charcoal, will be disproportionately greater than the newly created jobs. This is because a sector with very low labour productivity will not remain unchanged for long alongside a sector with very high labour productivity. In a free play of market forces, the owners of the farms decide how and how much bushwood is harvested from their land. For the farmers, a fully mechanised harvesting system offers considerable advantages compared to the traditional harvesting of bushwood.

From the figures of a [study on bushwood harvesting technology](#), it can be concluded that the number of simple jobs lost can easily be a factor of ten higher than the number of newly created more qualified jobs.¹

¹ De Wet, M.: Harvesting of Encroacher Bush: Compendium of harvesting technologies for encroacher bush in Namibia. Prepared for MAWF/GIZ Support to De-bushing Project, Windhoek. 2015

In a [feasibility study](#) for a 20 MW biomass power plant in Namibia, similar values for labour productivity are found. ²

In both studies, numerical values were used for the following three types of wood chip harvesting:

- manual (so far predominant type)
- semi-mechanized (so far practiced and advertised in the beginning)
- fully mechanized (machines for this purpose can be imported from industrialized countries).



Annual harvest of one worker depending on the degree of mechanisation

The picture shows that a fully mechanized harvest of bushwood is about twenty times more productive than a mixture of manual and semi-mechanized harvesting.

A [video](#) can give an idea of a fully mechanized bushwood harvest.

² Brown, R., van Wyk, D., Gaskell, Ch., McGregor, R.: An assessment of the micro-and macroeconomic benefits of an Encroacher Bush Biomass Power Plant near Tsumeb in Namibia. Prepared by Cirrus Capital. April 2018.



Semi-mechanised bush harvest (Source: [Bush Control Manual-2017](#))

The charcoal sector in Namibia has a considerable number of small and medium-sized enterprises (SMEs) adapted to it. For example, charcoal stoves are produced in Namibia itself. These SMEs will also be severely affected by the changes that will occur during the transition to industrial bushwood utilisation.

Are biomass industrial parks useful for Namibia?

The extensive machinery required in Biomass Industrial Parks (BIPs) has to be imported almost entirely from industrialised countries. The same applies to the fully mechanized harvesting machines and transport vehicles. The diesel fuel for the transport is also imported to Namibia. Therefore, the entire biomass industry park project is technologically and financially largely dependent on foreign investors. These investors will primarily be looking at their profits and will hardly be willing to respond to socio-economic requirements of Namibia.

As shown, the employment balance of the construction of biomass industrial parks is clearly negative. For the construction of an industrial park it will be possible to employ Namibian workers for a short time. However, the portion of labour costs during the operation of the biomass industry park is low.

The question remains whether beneficial effects a) to e) cited above from the GIZ-IfaS dossier will reliably occur to the expected extent.

It is uncertain whether the **groundwater reserves** will increase if the bushwood is thinned out. This is even admitted by the latest [GIZ fact sheet](#), in which the University of Hamburg was involved.

It is also uncertain whether the fully mechanised bush harvest will lead to the **restoration of agricultural pastureland** with a doubling of the carrying capacity for livestock farming. The

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[video](#) quoted above casts strong doubt on this. The same is the case with [results](#) of studies conducted by Namibian scientists.

This reinforces the impression that GIZ's proposals for the construction of biomass industrial parks and the intercontinental export of bushwood are biased towards European interests, while there is a high risk that Namibia will have to bear the damage.

It therefore seems very important that the Namibian society and the state analyse the proposals of the GIZ for the valorisation of the bush biomass independently and without any influence by the GIZ and develop a (complex) planning of how a sustainable use of the bush wood could be achieved without very harmful effects, especially on the labour market in Namibia.

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