Industrial forestry plantations in Ghana and their importance for developing timber industries

Form international

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Form international

Who we are

Form International B.V.

- Worldwide services in forestry and landscape restoration engineering, advisory and project management
- 25+ years experience

Expertise in:
Climate investments
Reforestation
Forest Landscape Restoration
Sustainable Forest Management

Principle elements of company's **vision**

reforest degraded forest landscapes

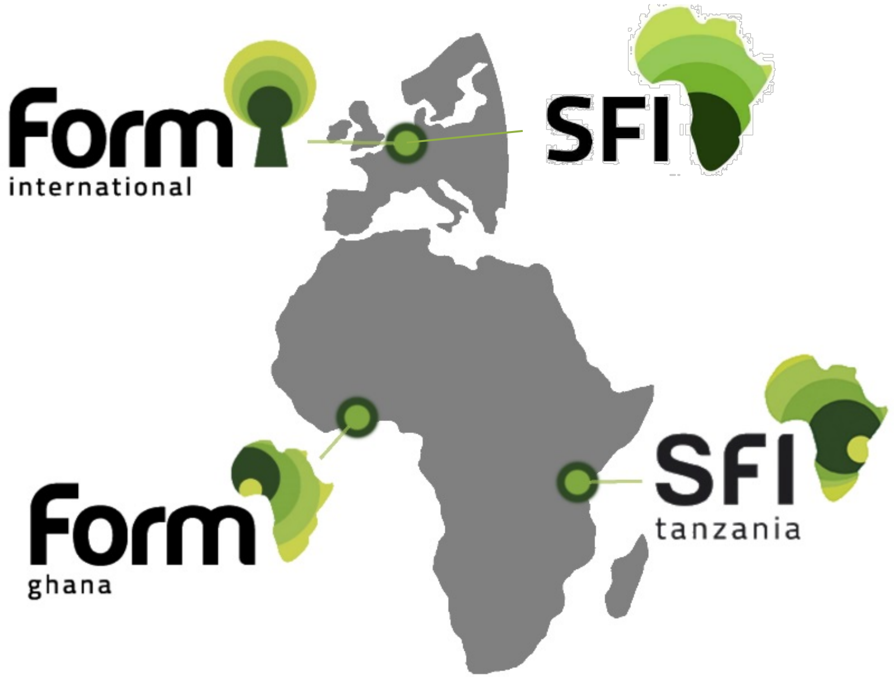
benefits for local communities

restoring vital environmental services

economically viable business model

Form and SFI Group of companies

- Group of companies covers Investment, Management, Technical Assistance, Projects and Advisory Services
- Form International since 1993
- Sustainable Forestry Investments since 2009
- 2500 staff in 3 countries



Our experience in Ghana

Form Ghana Ltd.

- Reforestation and restoration of degraded Forest Reserves
- Initiative of **Form International B.V.**, since 2009 subsidiary of **Sustainable Forestry Investments B.V.**
- 18,000 ha under management, 50 year land lease (renewable)
- >1,200 staff employed
- Effective sales of FSC certified Teak and Voluntary Carbon Credits (VCS)
- 40 Million USD capital invested (blended finance)

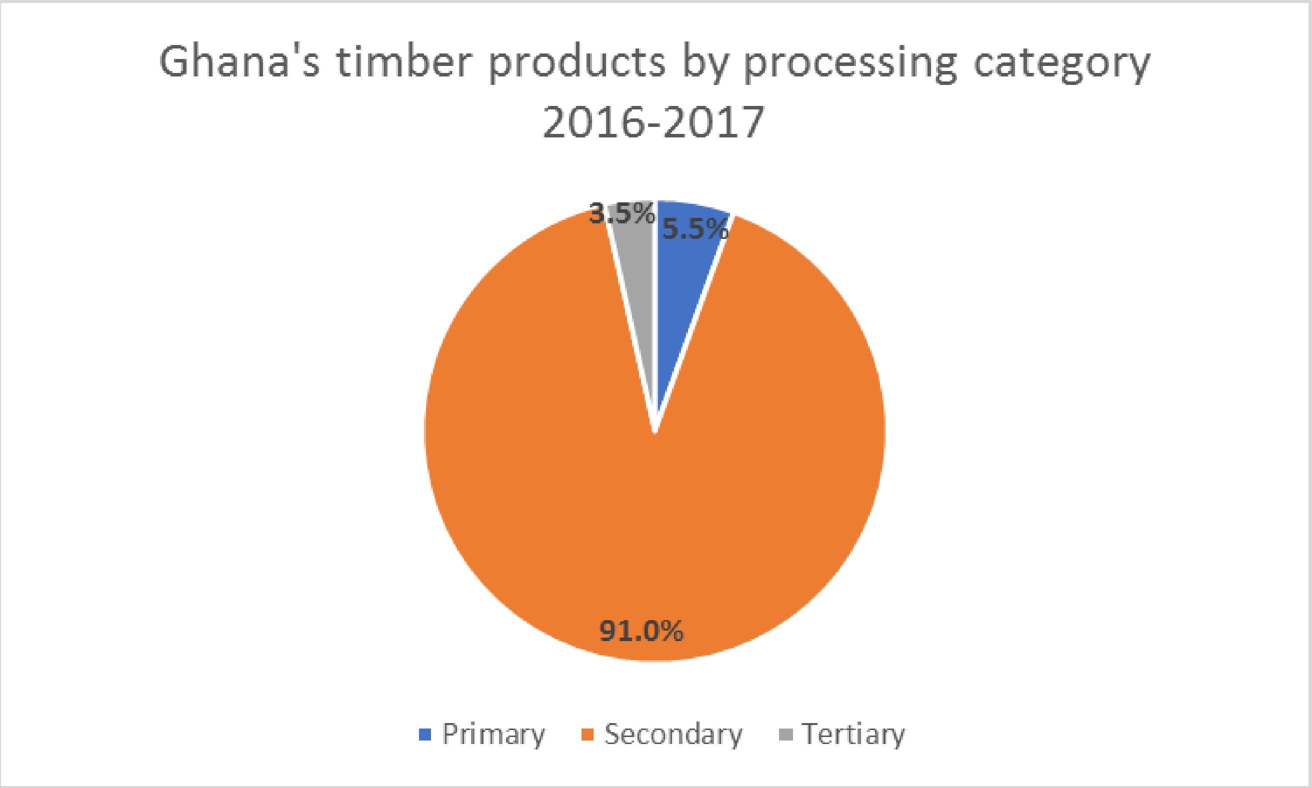
Form ghana

- 2001 – Pilot plantation
- 2007 – Establishment and start reforestation **Form Ghana Ltd.**
- 2010 – FSC certification
- 2013 – VCS certification (carbon)
- 2017 – Start landmark FLR project TAIN II
- 2018 – 10,000 ha planted. Largest private Teak plantation in Africa

Form Ghana Plantation Areas

AAC and processing in Ghana

- Annual allowable cut (AAC) 2 Million m3*
  - 0.5 Million from Forest Reserves (selective logging)
  - 1.5 Million off-reserve, mainly trees on farms
- In 2016 total harvest estimated at 2.3 Million RWE*
  - 0.4 Million m3 timber product exports
  - 0.5 Million m3 timber product domestic consumption
- Log export ban, except for plantation logs

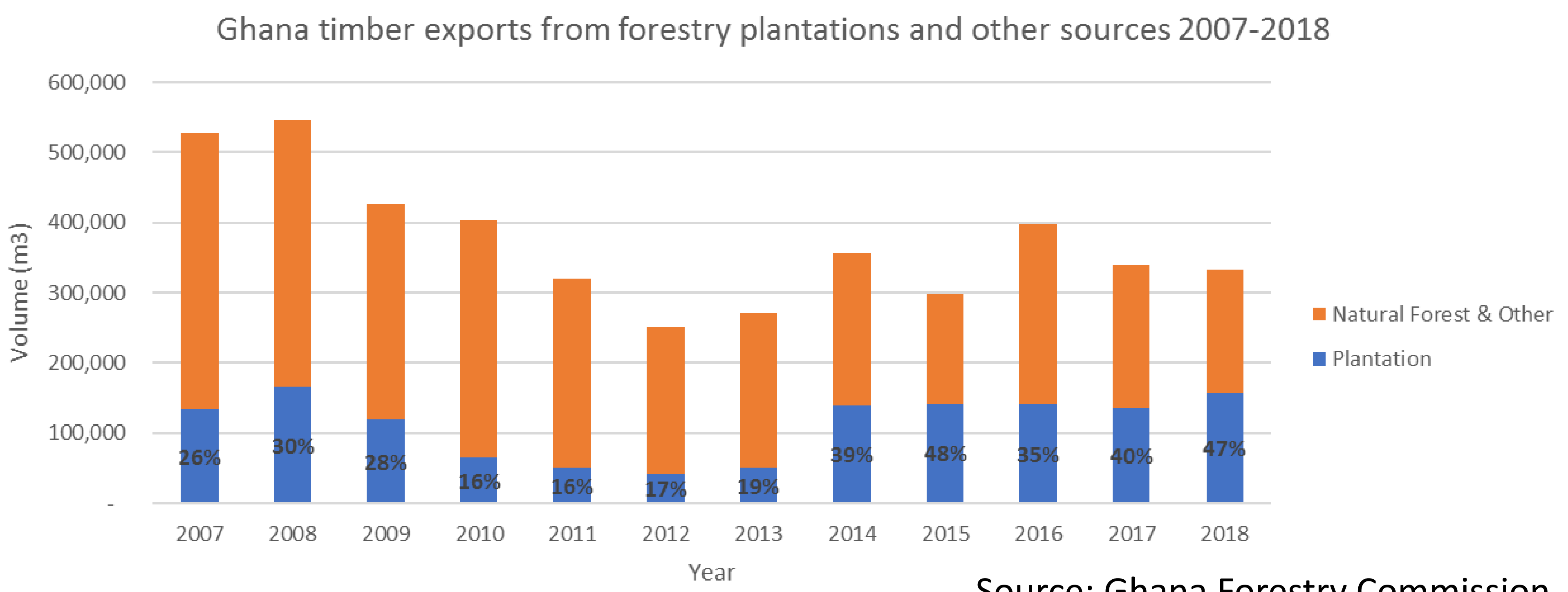


Source: www.timbertradeportal.com

**Source of AAC and production: Ghana Forestry Commission*

Growing importance of plantation timber in Ghana

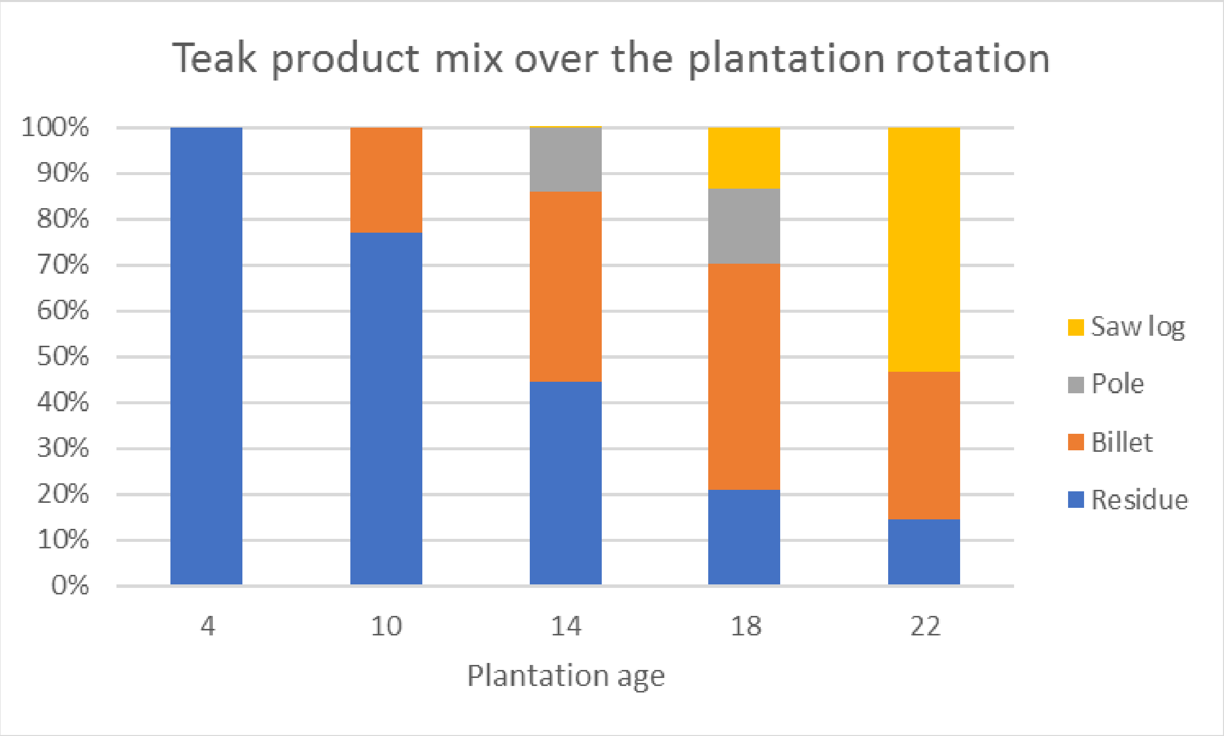
- Timber volume from mainly natural forest **55% reduced** in 12 years
- Plantation timber almost at 50% of total volume and is expected to further increase its share



Source: Ghana Forestry Commission

Main plantation teak timber products in Ghana

- ~93% of plantation timber is teak (Gmelina and Cedrela ~7%)
- Low degree of processing
- Main products
  - Billets
  - Rough squares
  - Poles (domestic market)
  - Saw logs
- Residue: could be used for e.g. fire wood, charcoal or pellets (biofuel)
- No secondary or tertiary processing



Billets & rough squares dominate the market

- Air dried lumber = rough squares (79%)
- Billets (21%)

Source: Ghana Forestry Commission, Jan-May 2018

Poles

- Domestic market in Ghana for electricity and telephone poles
- 8 to 11 meters
- But high spec requirements
  - Straightness
  - No forking
  - Minimum diameter
  - At least 12 years old
- Only 10-20% of thinning volume

Why such a low degree of plantation teak processing in Ghana?

- Timber industry traditionally focussed on natural forest timber; no visible shift to plantation timber
- Most plantation teak currently on the market is not economic to further process:
  - young (mostly 12-15 years),
  - small sizes (generally 15-25 cm diameter),
  - low quality (low heart wood content, poor stem form, defects, branches)
  - Volumes available but scattered (transport)
- Further processing mostly done in India at competitive cost prices
- Primary processing takes place partly in the informal sector with low cost price
- Related dynamic in this context: producers receive low timber prices from middlemen and have become discouraged, switch occuring to other land uses

Status and outlook on processing for Form Ghana

- Currently no own processing
  - Most plantations still young
  - Thinning volumes still low (<5,000 m3), building up in coming years
  - No clearfelling in next 3 to 5 years
- For now sales of billets, poles and short logs from thinning (mainly 10 years old)
- Billets made into rough squares by buyers and exported
- Further exploring processing and market opportunities
- Developing new partnerships for timber processing

Opportunities in Ghana for processing and value improvement

- Organise producers to collectively create sufficient volumes for processing
- Enhance quality of teak logs
  - Higher tree age = higher diameter and heart wood content
  - Higher stem quality through thinning, pruning and fire protection
  - Select genetic material for better stem form and heart wood formation
- Quality logs have higher potential for processing
- Product innovation: create new applications, e.g. assembled products integrating low and high grade timber (e.g. furniture, doors)

Top diameter (cm)	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Approx. sawn recovery	10%	15%	25%	30%	35%	35%	40%
Typical % high grade	0%	10%	15%	15%	20%	25%	30%
Typical % secondary grade	0%	40%	40%	45%	50%	50%	50%
Typical % of downfall	0%	50%	45%	40%	30%	25%	20%

Wide range of possible products for value adding

- Sawn timber (rough or planed)
- Flooring & parquet
- Window frames
- Doors
- Veneer
- Furniture

Finger jointed teak (source: Form International)

Conclusions and recommendations

- The future of timber supply and processing industry in Ghana and most West African countries depends on plantations, both for export and domestic consumption
- Processing of plantation timber in Ghana is very limited, not unlike other countries in West Africa. The traditional timber processing industry has not picked up on plantation timber (yet?)
- Economic processing of plantation timber is difficult, currently hampered by issues of quality, illegality, scattered plantation resources and low degree of organisation
- Prospects for processing could improve by allowing plantations to mature further and manage for better quality
- Better organisation of producers, investment and technical support are needed to stimulate improved plantation management, local processing and resolve current bottlenecks
- New investments, actors and initiatives needed to transition from natural forest timber industry to plantation timber industry
- Government of Ghana, ITTO and other stakeholders could support this transition by providing incentives, support pilot projects and facilitate more research

Q&A

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