

**(STDF/PG/460) Implementation of the International Standard on
Phytosanitary Measures, ISPM 15:**

**Regulation of wood packaging material in international trade): An empirical
analysis of how the regulation affects the economy of a group of countries
in Africa**

Microeconomic results

Elissaios Papyrakis and Luca Tasciotti

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Outline

- Source of the microeconomic data;
- Descriptive statistics;
- Cost-benefit analysis;
- Conclusions.

Typology of costs and benefits

Implementation at the export level		Implementation at the import level
Costs	Benefits	Costs
Fixed costs for the WPM treating facilities	Revenues from the sale of treated WPM	Legislative changes
Inspections/audits costs for the WPM treating facilities		Hiring the inspectors and inspections
Variable costs for the WPM treating facilities		Training the inspectors
Validation checks		Administrative costs
		Purchase the necessary equipment
Overall benefits for the country	Being able to export Reduction in the invasion alien species Agricultural yields not affected by invasive alien species	

Survey tool

The WPM treating facilities questionnaire is constituted by 7 sections:

Section 1: Questions regarding the wood treatment facility;

Section 2: Wood treatment facility: general information;

Section 3: Wood treatment information;

Section 4: Wood treatment training;

Section 5: Costs related to the wood treatment;

Section 6: Revenues related to the wood treatment;

Section 7: General comments.

The respondents

Kenya			
1	Woodtex Kenya Ltd	Nairobi	Nairobi
2	Progressive Ltd	Nairobi	Nairobi
3	Woodtex Ltd	Nairobi	Nairobi
4	Kakuzi Ltd	Botswana	Murang'a South
5	Kanpack Ltd-Mac Import and Export	South East	Sabone
6	Kensalt	Distrika	Nakuru
7	Wiresmore Industries Ltd	Cameroon	Moiben
8	Filays fipcam	Kenche	Mericho
9	Janji Tea Factory	Kenche West	Mericho
10	Stik Tea SN COCAM	Kenche	Mericho
11	Plucon Services (K) Ltd	South West	Tikombasa
12	Merchant Technical Services (K) Ltd	Mombasa	Mombasa
13	Merchant Technical Services Ltd (MTS)	Mombasa	Mombasa
14	Vectorcon Pest Control & supplies limited	Littoral	Wouri
15	SGS (K)ITD PREMIUM	Mombasa	Mombasa
16	Inpestkill Hygiene Services	Nairobi	Nairobi
17	Omega Sawmill	Littoral	Mungo
18	Britind Industries	Nairobi	Mbalmayo
Mozambique			
1	Logistics International	Sofala Province	Gurue
2	ITFC	Zambezia Province	Gurue
3	Chazeira de Mozambique	Zambezia Province	Gurue
4	Maputo Province	Maputo Province	Matola

Some numbers about the respondents

- Finding the list of the WPM treating facilities operating in the country has not been an easy task;
- 36 WPM treating facilities have been interviewed;
- WPM treating facilities from Cameroon:
 - 12 facilities did not allowed NPPO representatives to interview them;
 - 3 facilities were closed and the NPPO was not aware of it.

Quality of the data

- The data collection process has taken more time than expected;
- The quality of the data is overall good;
- Missing values when asking financial data;
- Retrospective answers were not always responded;
- Few clashes between the micro data and the qualitative information.

Which requirements are needed by the NPPO

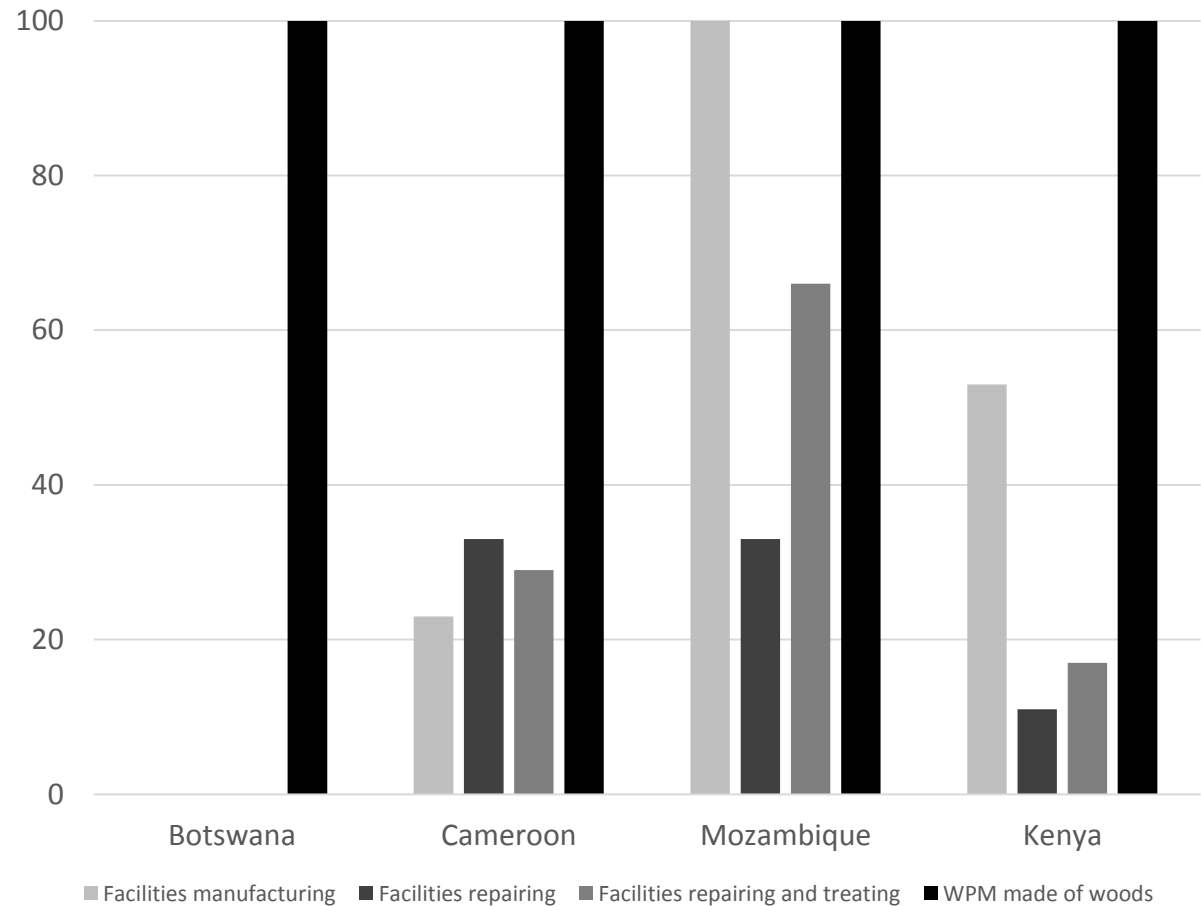
# of facilities	Cameroon				# of facilities	Kenya			
# of facilities	Requirement	Req.	Req.	Req.	# of facilities	Requirement	Req.	Req.	Req.
6	Written Certificate of knowledge	Employment report	Diploma assessment	Inspection	8	Inspection form	Trade license of company	Verification plan	Company registration
1	Written Certificate of knowledge	Health inspection report	For assessment	Trading license	1	Application form	Proof of legality of company	Business plan	Site inspection
4	Authorization from the Min. of agriculture	Insurance	Report of personnel	A legal plan	4	Inspection form	Application	Facility verification	Equipment testing
3	Tax receipts	Formal license	Report of activities		1	Application form	Inspection		
					1	Company registration	Trade license	Inspection	
					1	Inspection form	Trade license	Application	Equipment testing
					1	Inspection	Trade license	Auditing	Operational manuals
					1	Trade license	Heat treatment plant	Auditing	

Size of the facilities

Cote d'Ivoire			Cameroon		
Average number of employees working in the WPM treating facility	Share of WPM treating facility which had an increase in the number of employees after ISPM 15 implementation (in %)	Average increase in the number of employees	Average number of employees working in the WPM treating facility	Share of WPM treating facility which had an increase in the number of employees after ISPM 15 implementation (in %)	Average increase in the number of employees
3	0	0	7	20	2
Mozambique			Kenya		
Average number of employees working in the WPM treating facility	Share of WPM treating facility which had an increase in the number of employees after ISPM 15 implementation (in %)	Average increase in the number of employees	Average number of employees working in the WPM treating facility	Share of WPM treating facility which had an increase in the number of employees after ISPM 15 implementation (in %)	Average increase in the number of employees
19	100	12	34	42	20

What are the WPM treating facilities specialized in?

- Do the WPM treating facilities manufacture the WPM?
- Do they repair the WPM? And do they treat them?
- What type of WPM do they deal with?



Number, destination and type of goods

Botswana			Cameroon		
Average number of WPM being treated per month	Internal or international customers	Use of the treated WPM	Average number of WPM being treated per month	Internal or international customers	Use of the treated WPM
333	External United Kingdom	Meat products	709	n/a	Agricultural Manufactured Wood
Mozambique			Kenya		
Average number of WPM being treated per month	Internal or international customers	Use of the treated WPM	Average number of WPM being treated per month	Internal or international customers	Use of the treated WPM
251	Internal India South Africa	Agricultural Manufactured Tea Drinks	1011	Internal Ethiopia South Africa Tanzania Uganda	Agricultural Manufactured Wood

HT, MB and few more...

Botswana			Cameroon		
Treatment used	Reason for choosing that treatment	Share of facilities thinking of adopting a new treatment (in %)	Treatment used	Reason for choosing that treatment	Share of facilities thinking of adopting a new treatment (in %)
	1. Less expensive			1. Less expensive	
MB (100%)	2. Easier to implement	0	HT (54%) MB (54%)	2. Easier to implement	15
	3. More effective		Vaporization Treatment (9%)	3. More effective	
	1. Less expensive			1. Less expensive	
HT (100%)	2. Easier to implement	0	HT (84%) MB (21%) CCA (5%)	2. Easier to implement	18
	3. More effective			3. More effective	

Frequency of the audits

- Audits do happen regularly on paper;
- 100 % of the facilities receive NPPO inspection every year; some of the time, the NPPO organizes two inspections per year;
- Most of the time the facility does not know the time of the audit;
- The content of the audit does not always match the ISPM 15 requirements;
- Is it all true?

Main social and environmental impacts

- Business expansion;
- Awareness;
- Job creation, but
- High cost for entering into the market;
- Protection of plants;
- Better pest management, but
- Increase in deforestation,
- Increase in pollution,
- Less recycling,
- Ozone depletion.

Overall positive and negative impact of the ISPM 15

Botswana	Mozambique
Cameroon	Kenya

Botswana

- Increase in employment (p)
- Increase in competition (n)
- WPMs may be substituted with plastic ones (n)

Mozambique

- Employment generation (p)
- Skill development (p)
- Major credibility of the country (p)

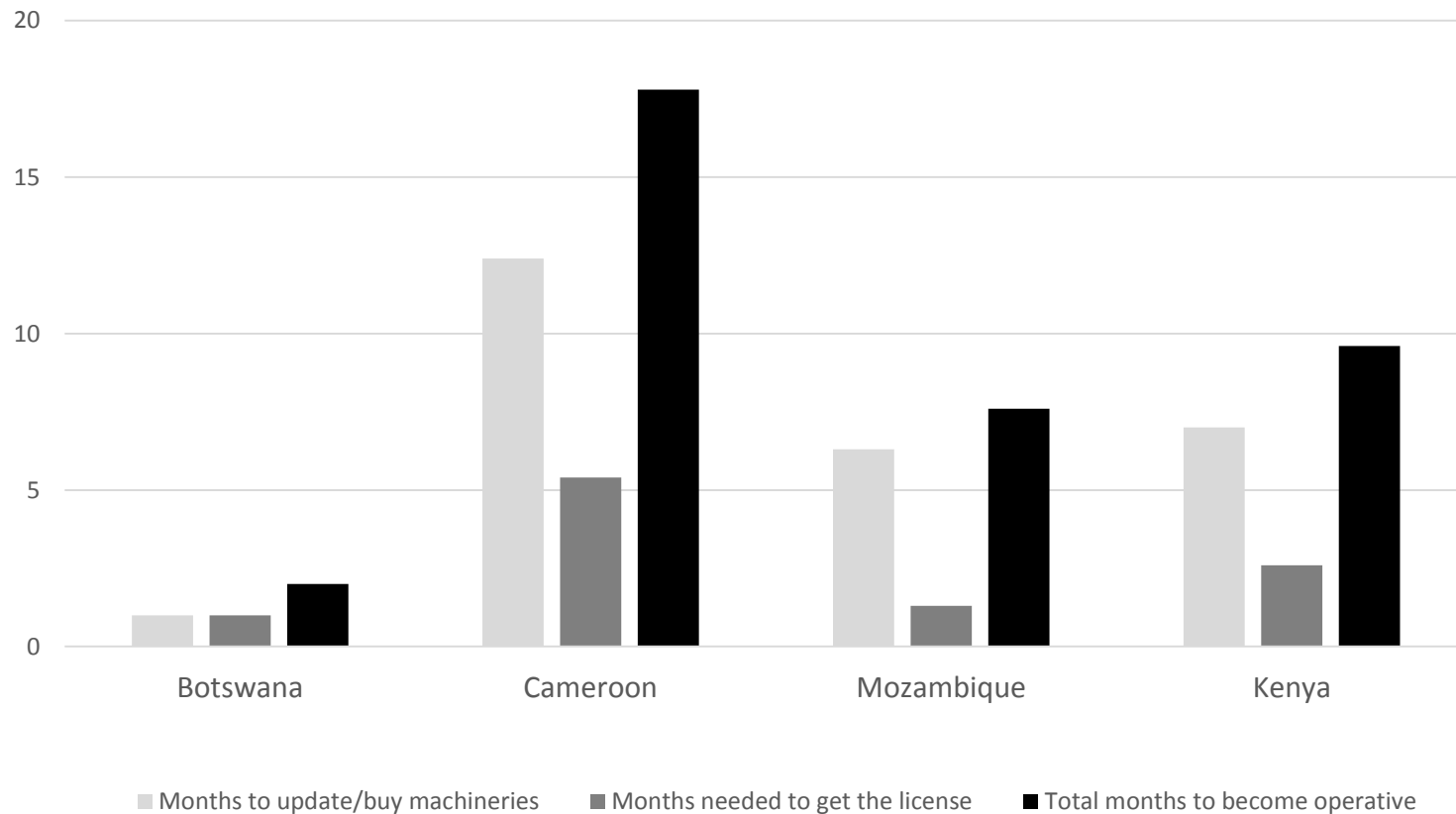
Cameroon

- Increase in employment (p)
- Increase access to foreign markets (p)
- Protection of the environment (p)
- Good international image of the country (p)
- Use of toxic gas (n)
- Initial high investments (n)

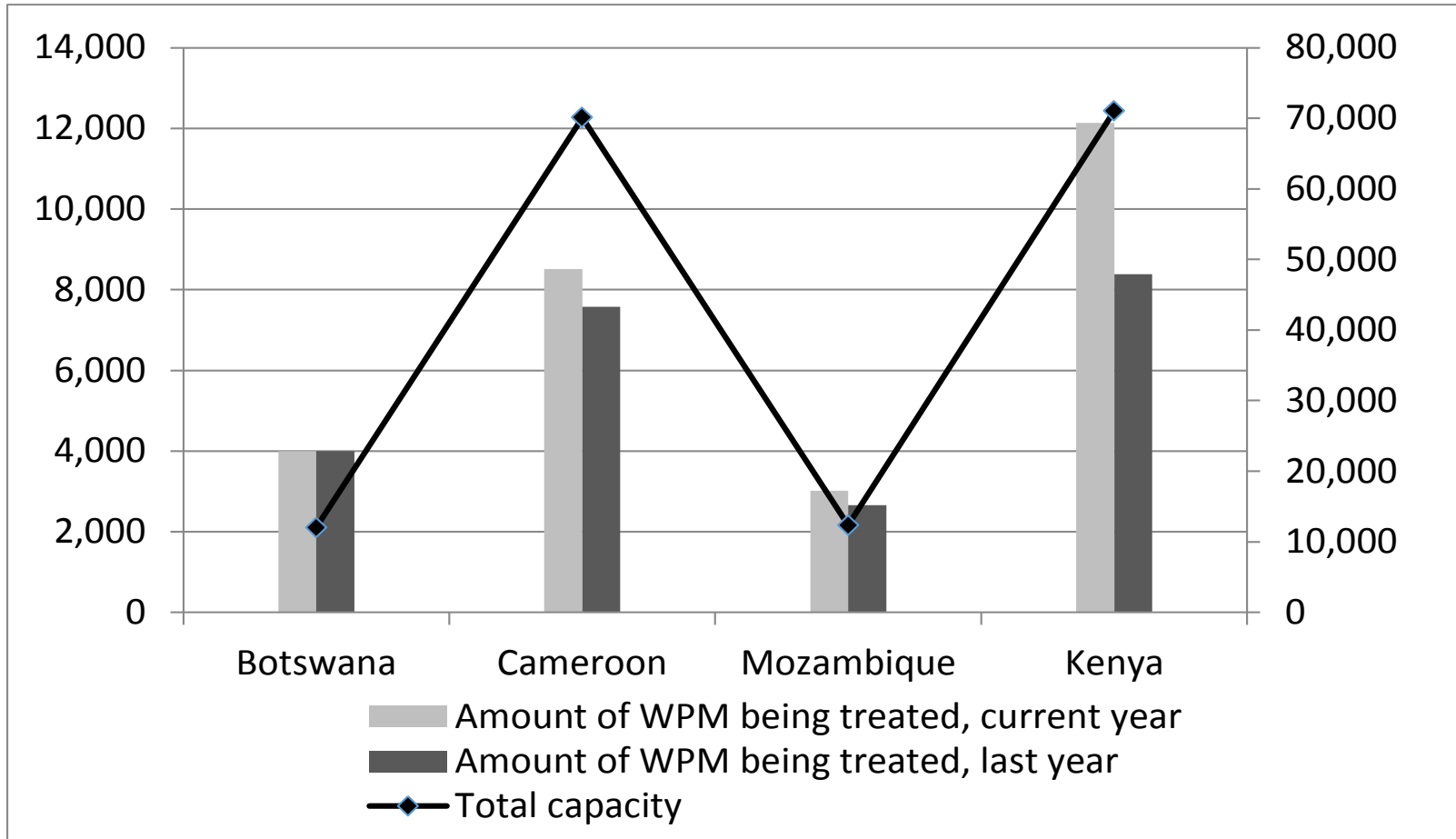
Kenya

- Increase in employment (p)
- Increase access to foreign markets (p)
- Export growth (p)
- Control of pest spread (p)
- High initial investments (n)
- Low profitability (n)

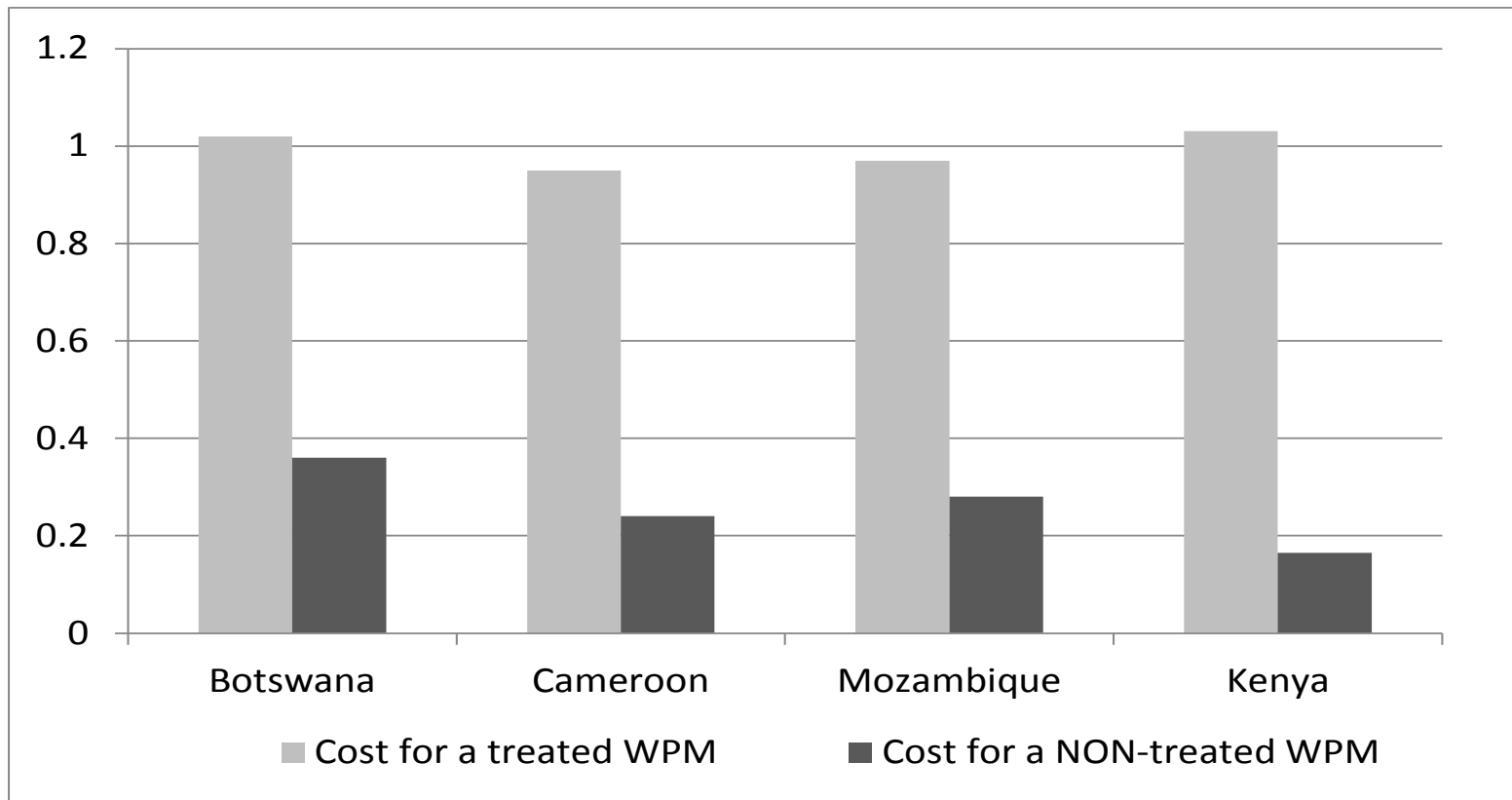
How long does it take for the facility to become operative?



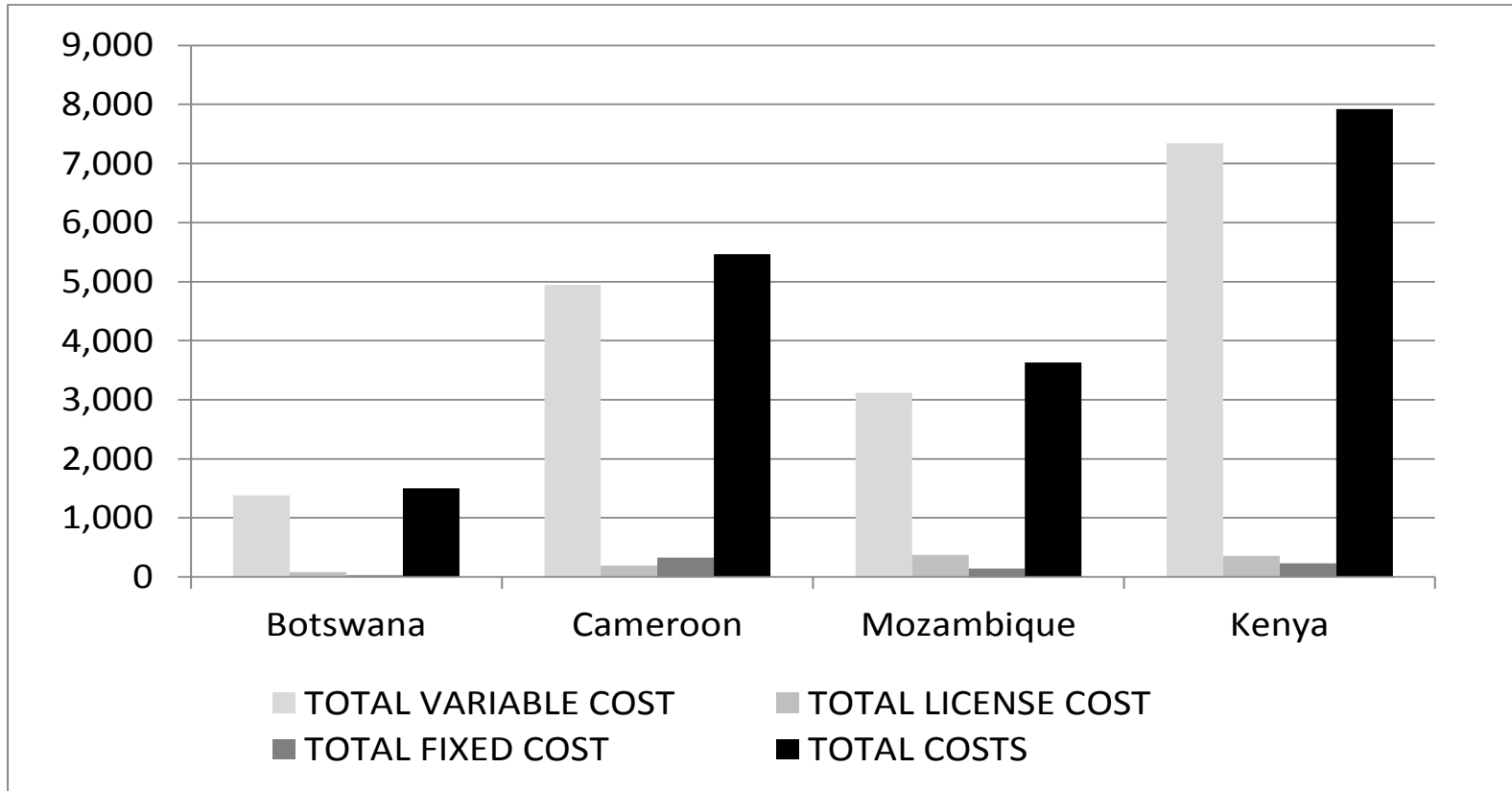
Actual production and theoretical capacity



Cost for a treated WPM



Variable, fixed, license and total cost



Is the WPM treating business worth it?

Botswana			Cameroon		
Total cost	# of WPM treated	# of WPM treated for to break even	Total cost	# of WPM treated	# of WPM treated for to break even
1,500	4,000	1,470	5,466	8,513	5,754
Mozambique			Kenya		
Total cost	# of WPM treated	# of WPM treated for to break even	Total cost	# of WPM treated	# of WPM treated for to break even
3,634	3,018	3,746	7,922	12,133	7,687

Conclusions

- Clarity about the requirements needed:
 - High variation of the documents provided;
 - Are the audit happening?
 - What is the content of the audits;
- The process for becoming a WPM treating facilities is a lengthy one;
- Is the ISPM 15 economical from the WPM facilities point of view?