The International Plant Protection Convention

12th Session of the Commission on Phytosanitary Measures of the IPPC

Side Session

Evaluating the economic impacts of wood packaging standards on African exports: the case of ISPM 15

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International Plant Protection Convention | 65 YEARS
Protecting the world's plant resources from pests

Food and Agriculture Organization of the United Nations

Outline

Project on ISPM 15 and the standard in a nutshell;

Objectives of the project;

Main preliminary results and policy implications.

About the project

- 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;

- The project has been funded by the Standard for Trade and Development Facility (STDF), and it received support from the IPPC, NPPOs (Botswana, Cameroon, Kenya and Mozambique) and IAPSC;

- Project value amounts to 327,000 USD with a STDF contribution of 278,000;

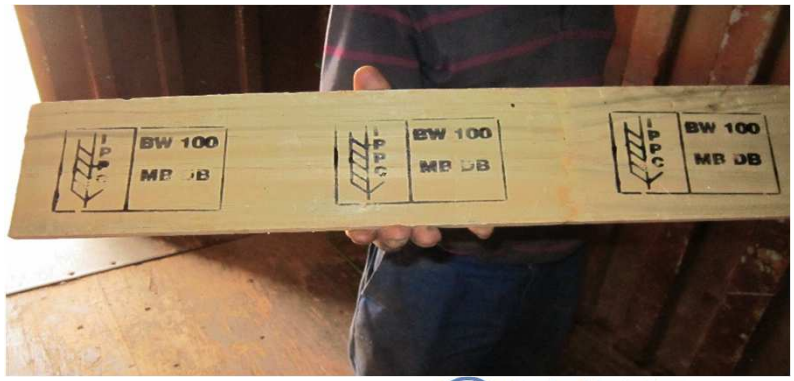
- Project will end in August 2017.

ISPM 15 in a nutshell

International Standards For Phytosanitary Measures No. 15 has been developed and adopted by the CPM;

The standard aims at reducing the risk of introduction of quarantine pests associated with the movement of WPMs;

Treatments available for WPM are the **heat treatment** and the fumigation using with **methyl bromide**.



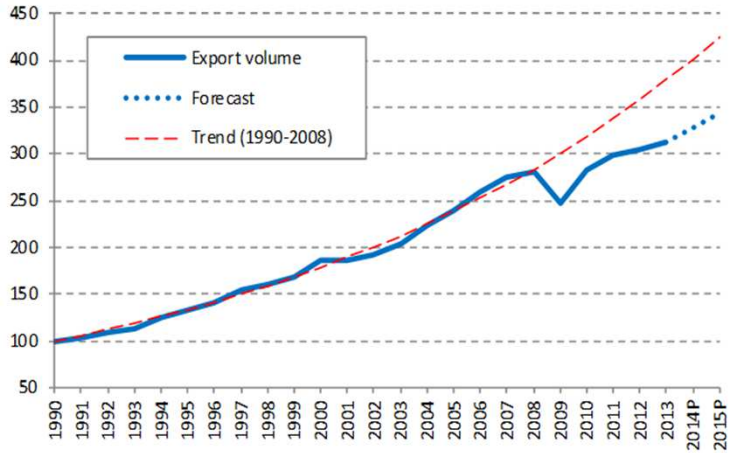
Objective of the ISPM15

More plant pests were appearing in places where they were never seen before;

An estimated 10–16% of global harvest is lost every year to plant pests;

The cost of these losses is about US$220 billion;

Trees destruction also affects human health (asthma, stress, cholesterol levels).



Objectives of the project

- Review the **procedures/legislations/controls** each of the 4 countries have put in place to implement ISPM 15;
- Measure the cost related to the ISPM 15 implementation;
- Study the effects that ISPM 15 has had on the value/amount of **exports/imports** in the past 15 years;
- Measure whether ISPM 15 has overall generated **losses/benefits**.

Methodology

Qualitative information have been collected by interviewing several stakeholders;

Macro data on the trade flow and data on the trading partners have been collected;

Micro data have been gathered using structured surveys directed to WPM treatment facilities.

Stakeholders interviewed

Qualitative interviews: some preliminary results

Phytosanitary **inspections** of goods different from fruits/vegetables are not always enforced; hence WPMs carrying goods different from fruits/vegetables are not inspected;

Number of imported WPM	Share of imported WPM to be inspected
>10	Inspect all the units
11-100	10% or 5 units minimum
101-1000	2% or 10 units minimum
>1000	1% or 20 units minimum

Qualitative interviews: some preliminary results

Phytosanitary inspections of goods different from fruits/vegetables are not always enforced; hence WPMs carrying goods different from fruits/vegetables are not inspected;

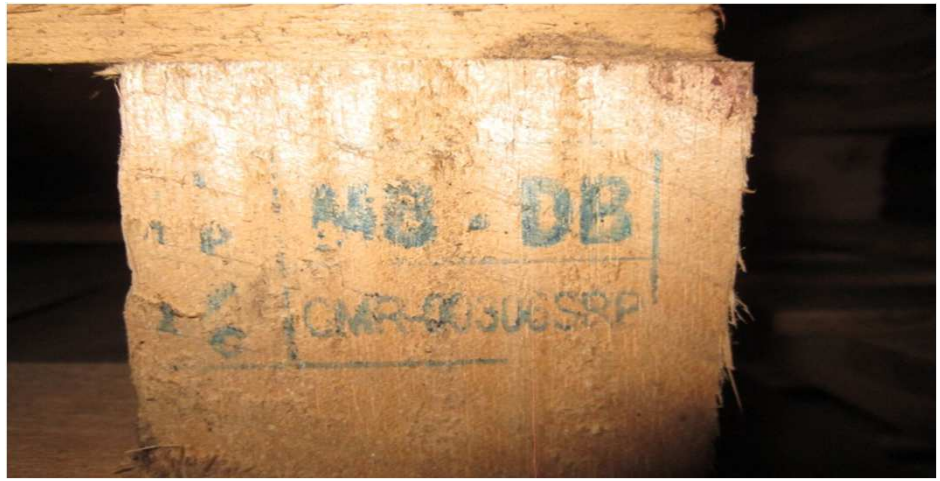
NPPO sometimes fails in auditing the WPMs treating facilities:

i. the NPPO does not have enough resources;

ii. the WPM treatment facility does not communicate the NPPO when the treatment is done;

Readability of the stamp.

Non-readable stamp



Qualitative interviews: some preliminary results

No record of invasive alien species nor of WPM interceptions;

There are a number of facilities in each country repairing **broken WPM**

➔ the end result looks like a treated WPM;

Re-assembled (un)treated WPM

Qualitative interviews: some preliminary results

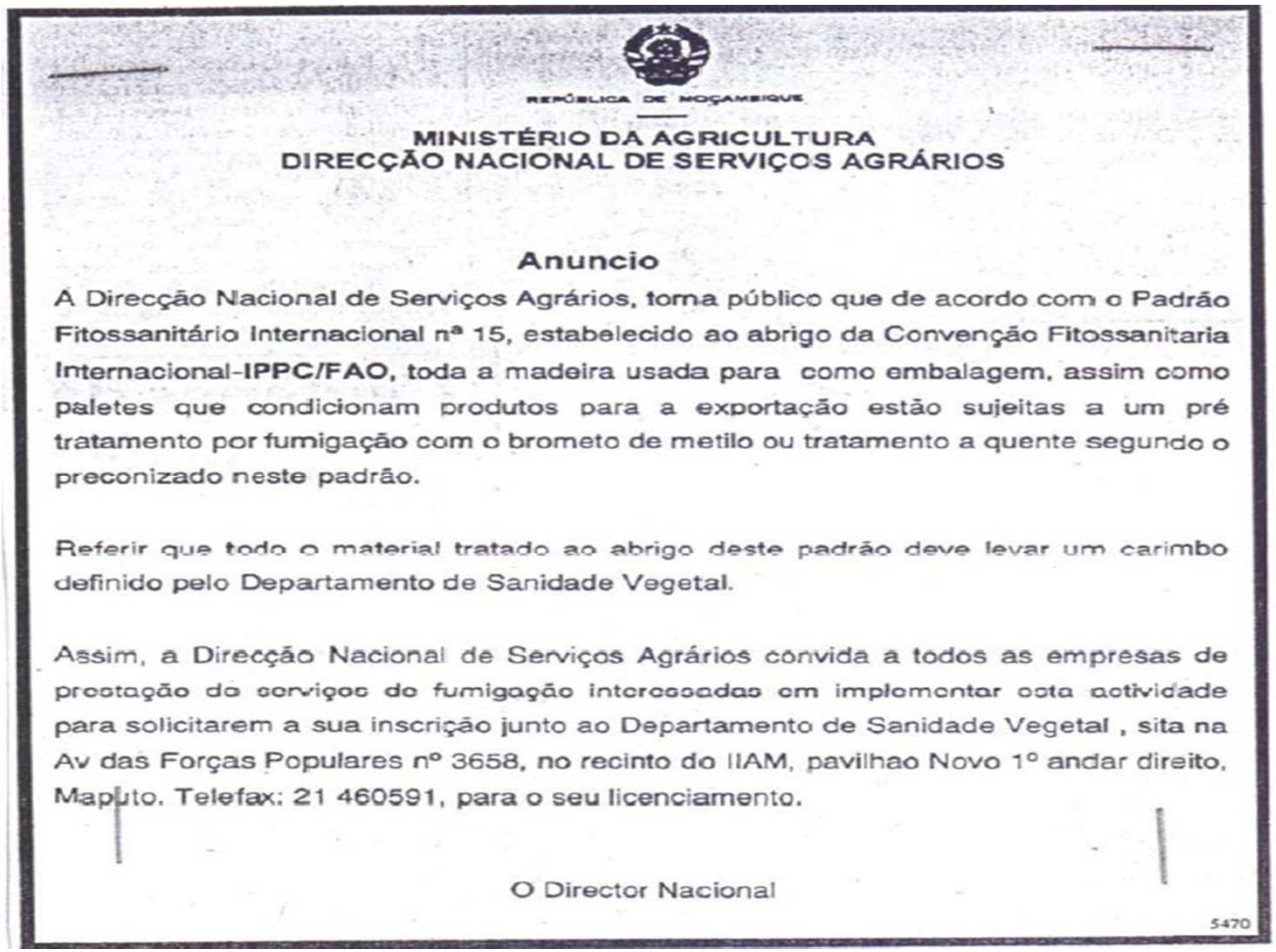
No record of invasive alien species nor of WPM interceptions;

There are a number of facilities repairing broken WPM

➔ the end result looks like a seemingly treated WPM;

No clear communications between NPPOs and the other stakeholders about the standard existence and implementation.

ISPM15 official introduction



REPÚBLICA DE MOÇAMBIQUE

MINISTÉRIO DA AGRICULTURA
DIRECÇÃO NACIONAL DE SERVIÇOS AGRÁRIOS

Anuncio

A Direcção Nacional de Serviços Agrários, torna público que de acordo com o Padrão Fitossanitário Internacional nª 15, estabelecido ao abrigo da Convenção Fitossanitaria Internacional-**IPPC/FAO**, toda a madeira usada para como embalagem, assim como paletes que condicionam produtos para a exportação estão sujeitas a um pré tratamento por fumigação com o brometo de metilo ou tratamento a quente segundo o preconizado neste padrão.

Referir que todo o material tratado ao abrigo deste padrão deve levar um carimbo definido pelo Departamento de Sanidade Vegetal.

Assim, a Direcção Nacional de Serviços Agrários convida a todos as empresas de prestação de serviços de fumigação interessadas em implementar esta actividade para solicitarem a sua inscrição junto ao Departamento de Sanidade Vegetal , sita na Av das Forças Populares nº 3658, no recinto do IIAM, pavilhao Novo 1º andar direito, Maputo. Telefax: 21 460591, para o seu licenciamento.

O Director Nacional

5470

Qualitative interviews: some preliminary results

Confusion about the **treatment to be used** and the content of the stamp;

PH3 accepted as a treatment

ANNEXE 1

Modèle d'estampillage des matériaux d'emballage et des emballages à base de bois destinés au commerce international

(a)

CM [b] – **000-AA-SQV**[c]

YY [d]

(e) _____

(f) _____

(g) _____

a. Le symbole comportant l'abréviation en anglais **IPPC** est mis pour désigner « La Convention Internationale pour la Protection des Végétaux » en français CIPV.

b. **CM** désigne le Code ISO du Cameroun suivi d'OOO-AA-SQV

c. le numéro d'identification unique assigné par la Direction de la Réglementation et du Contrôle de Qualité des Intrants et Produits Agricoles à l'entreprise de fabrication ou de production des matériaux à base de bois.

d. **YY** désignant le code ISO du traitement effectué.

- **HT** pour traitement thermique,
- **MB** pour le traitement au Bromure de Méthyle,
- **PH3** pour la fumigation à la phosphine.

e. La date de traitement

f. Le code de l'institution chargée du marquage

g. N° du lot traité

Qualitative interviews: some preliminary results

Confusion about the treatment to be used;

Some facilities treating WPM do not have their own ISPM-15 stamps
➔ difficult to track them down;

NPPOs and other stakeholders believe that treated WPM will last 3 months, and after that the WPM has to be re-treated;

No communications between exporting companies and NPPOs: some exporting companies buy WPM from facilities which do not have the treating license anymore.

Macro: Methodology

Macro data have been analysed using a gravity model approach which is used for estimating the trend of bilateral trade flows;

The dataset covers approximately 120 sectors since 1992, for both imports and exports;

The results are related to key exports/imports of more interest;

We will also provide a distribution of the (size of the) effect of the ISPM15 intervention across all sectors.

TABLE A1. Kenyan Exports of Coffee, Tea and Spices

Dependent variable:	FE (1)	FE (2)	RE (3)
Constant	-14.49	–5.04	–13.54
Income	0.57*** (0.17)	0.37* (0.21)	0.58*** (0.11)
ISPM$_{15}$	0.17 (0.13)	0.39*** (0.15)	0.28*** (0.10)
ISPM$_{15}$ (partner)		0.26 (0.21)	0.19* (0.11)
Transparency		0.42** (0.21)	0.34* (0.21)
Borders			3.30*** (1.21)
Language			0.13 (0.51)
Distance			–0.31 (0.40)
Colony			3.65*** (0.65)
R^2 overall (within; between)	0.23 (0.06; 0.22)	0.19 (0.07; 0.19)	0.28 (0.07; 0.25)
Countries	143	140	129
N	1174	926	893

Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Kenya

In years of ISPM15 participation, **exports of coffee/tea** increase by 39%.
This is after controlling for the size of economies and corruption level of trade partner.

TABLE A1. Kenyan Exports of Coffee, Tea and Spices

Dependent variable:	FE (1)	FE (2)	RE (3)
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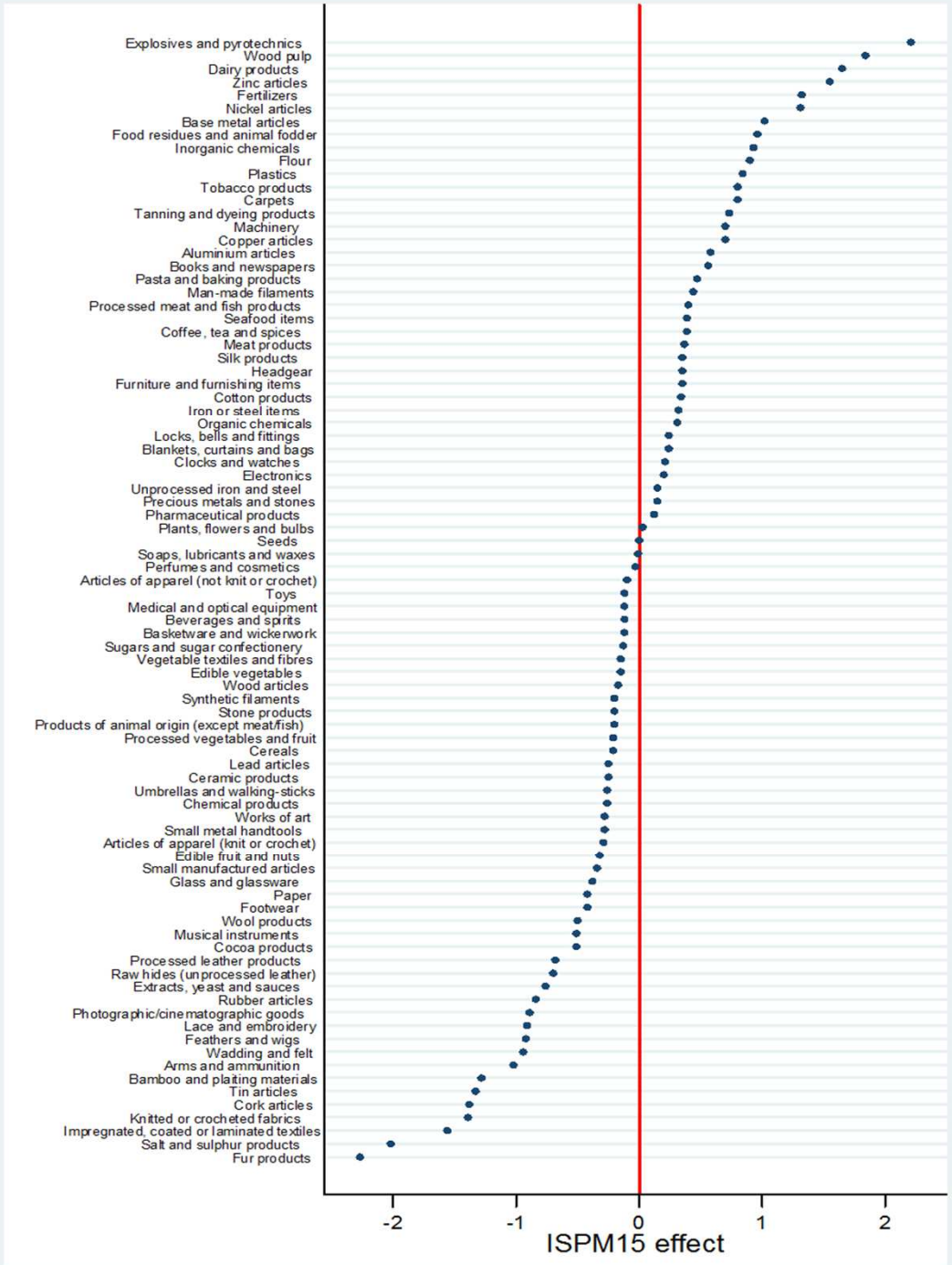
Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Kenya

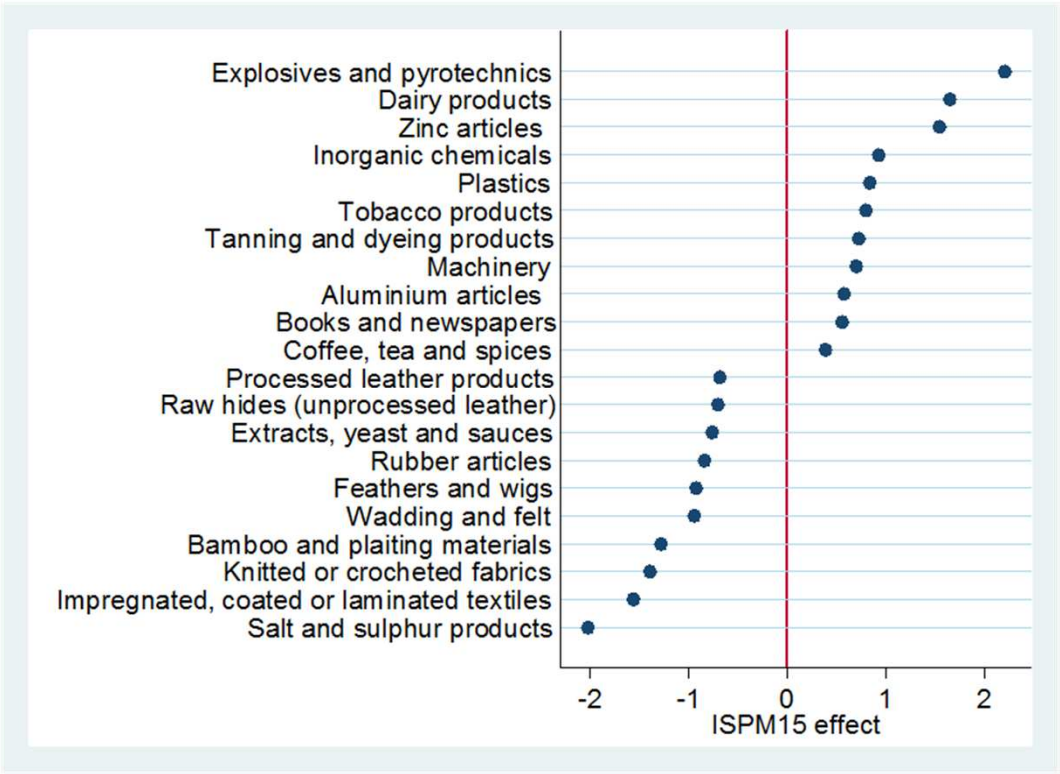
This model allows us to check also for the importance of **time-invariant factors**.
E.g., negative sign for distance between partners and positive sign for colonial ties.



KENYA: ALL EXPORTS

This graphs gives the (sectorial) distribution of change in export volumes following ISPM15 implementation

Food and Agriculture Organization of the United Nations



KENYA: ALL EXPORTS

This graphs gives the (sectorial) distribution of change in export volumes following ISPM15 implementation ONLY for those sectors where this change has been STATISTICALLY SIGNIFICANT.
More than a 200% increase in explosives and pyrotechnics, more than a 200% decrease in salt and sulphur products

TABLE A4. Kenyan Imports of Electronics

Dependent variable:	FE (1)	FE (2)	RE (3)
Constant	-65.90	–64.28	–41.43
Income	1.60***	1.56***	1.25***
	(0.20)	(0.27)	(0.11)
ISPM$_{15}$	0.04	0.15	0.30**
	(0.16)	(0.19)	(0.13)
ISPM$_{15}$ *(partner)*		–0.40	–0.43
		(0.31)	(0.30)
Transparency		–0.52*	0.30
		(0.29)	(0.19)
Borders			–1.72*
			(1.01)
Language			1.76***
			(0.40)
Distance			–1.01***
			(0.36)
Colony			0.35
			(0.47)
R^2 overall (within; between)	0.23 (0.06; 0.22)	0.41 (0.12; 0.40)	0.51 (0.13; 0.54)
Countries	159	156	142
N	1355	1096	1052

Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Kenya

In years of ISPM15 participation, **imports of electronics** increased (by 15%).

Not only magnitude of effect varies across sectors, but in this case it is also statistically insignificant.

In this period, Kenya prefers to import electronics from partners who also comply with ISPM15

TABLE B2. Botswanan Exports of Nickel Articles

Dependent variable:	FE (1)	FE (2)	RE (3)
Constant	–217.71	–23.01	7.34
Income	4.76 (4.95)	0.78 (0.89)	–1.42*** (0.54)
ISPM$_{15}$	–1.01 (1.04)	1.85*** (0.60)	1.09 (0.69)
ISPM$_{15}$ (partner)		4.41*** (0.56)	2.32*** (0.75)
Transparency		–9.50*** (1.32)	–1.14 (1.24)
Borders			16.25* (9.14)
Language			–7.05 (6.55)
Distance			8.63*** (1.16)
Colony			–5.06 (5.94)
R^2 overall (within; between)	0.01 (0.18; 0.02)	0.01 (0.68; 0.01)	0.36 (0.60; 0.49)
Countries	16	16	12
N	48	48	31

Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Botswana

In years of ISPM15 participation, **exports of nickel articles** increase (by 185%).

TABLE C4. Cameroon Imports of Machinery

Dependent variable:	FE (1)	FE (2)	RE (3)
Constant	-37.32	–33.63	–44.42
Income	0.99*** (0.28)	0.92*** (0.35)	1.17*** (0.10)
ISPM$_{15}$	0.73*** (0.16)	0.76*** (0.19)	0.55*** (0.12)
ISPM$_{15}$ (partner)		–0.31 (0.24)	–0.33 (0.28)
Transparency		–0.32 (0.37)	0.25 (0.18)
Borders			0.34 (0.98)
Language			0.57 (0.42)
Distance			–0.28 (0.40)
Colony			2.72*** (0.50)
R^2 overall (within; between)	0.57 (0.19; 0.52)	0.51 (0.17; 0.49)	0.63 (0.16; 0.63)
Countries	151	150	138
N	1437	1182	1121

Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Cameroon

In years of ISPM15 participation, **imports of machinery** increased (by 76%).

TABLE D1. Mozambique Exports of Aluminium Articles

Dependent variable:	FE (1)	FE (2)	RE (3)
Constant	-61.37	–49.70	1.35
Income	1.47 (1.62)	1.23 (1.34)	0.40 (0.29)
ISPM$_{15}$	–0.86 (1.01)	–0.64 (0.97)	–0.05 (0.63)
ISPM$_{15}$ (partner)		0.37 (0.72)	0.51 (0.70)
Transparency		0.69 (2.48)	0.94 (0.78)
Borders			–1.24 (1.63)
Language			–0.06 (0.72)
Distance			–1.40 (0.91)
Colony			–2.81** (1.20)
R^2 overall (within; between)	0.06 (0.02; 0.05)	0.13 (0.02; 0.08)	0.26 (0.02; 0.11)
Countries	46	43	41
N	124	116	113

Note: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1% level of significance.

Mozambique

In years of ISPM15 participation, **exports of aluminium articles** decreased (by 64%).

Micro data

The questionnaire for the WPM treatment facilities gathered data on:
the organizational aspect of the wood treatment facility;

the treatment used;

the training received;

the costs related to the wood treatment;

the benefits related to the wood treatment;

other information needed to evaluate the pros/cons of the standard.

Micro data

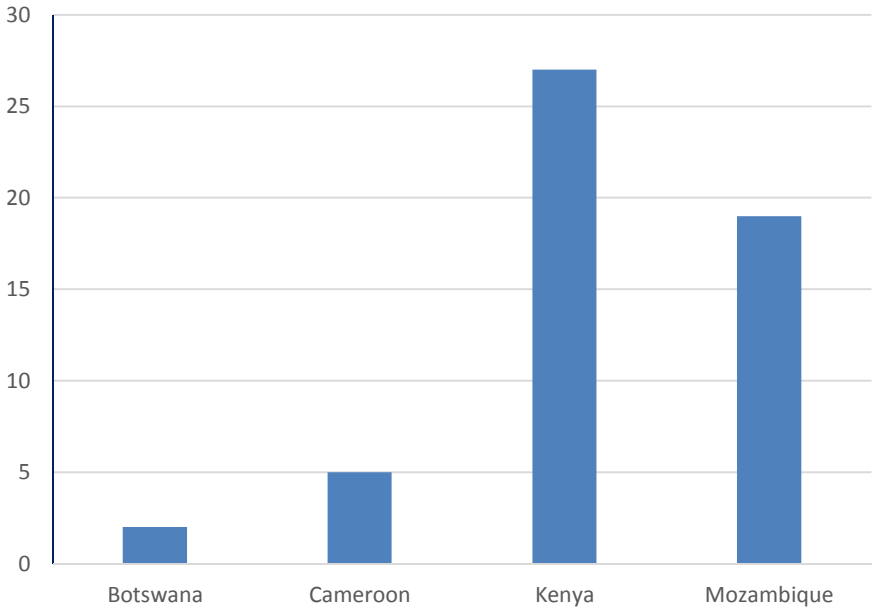
Country	Number of WPM treating facilities	Number WPM treating facilities interviewed
Botswana	1	1
Cameroon	26	12
Kenya	19	19
Mozambique	4	3

WPM treating facilities have been reluctant to release financial related data;
WPM treating facilities in Cameroon did not allow the NPPO representatives to interview them.

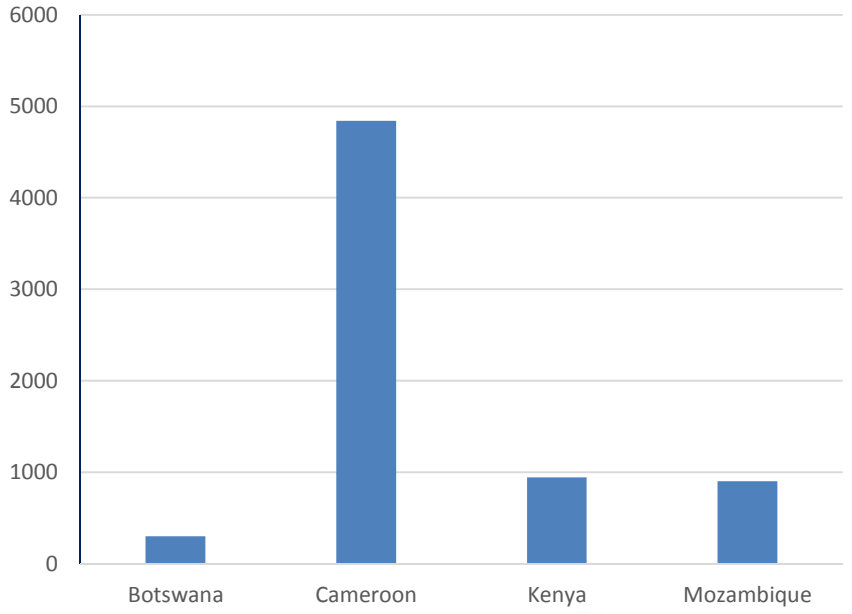
Micro data: preliminary results

WPM treating facilities varies in size and output produced

Average number of employees



Average number of treated WPM per month



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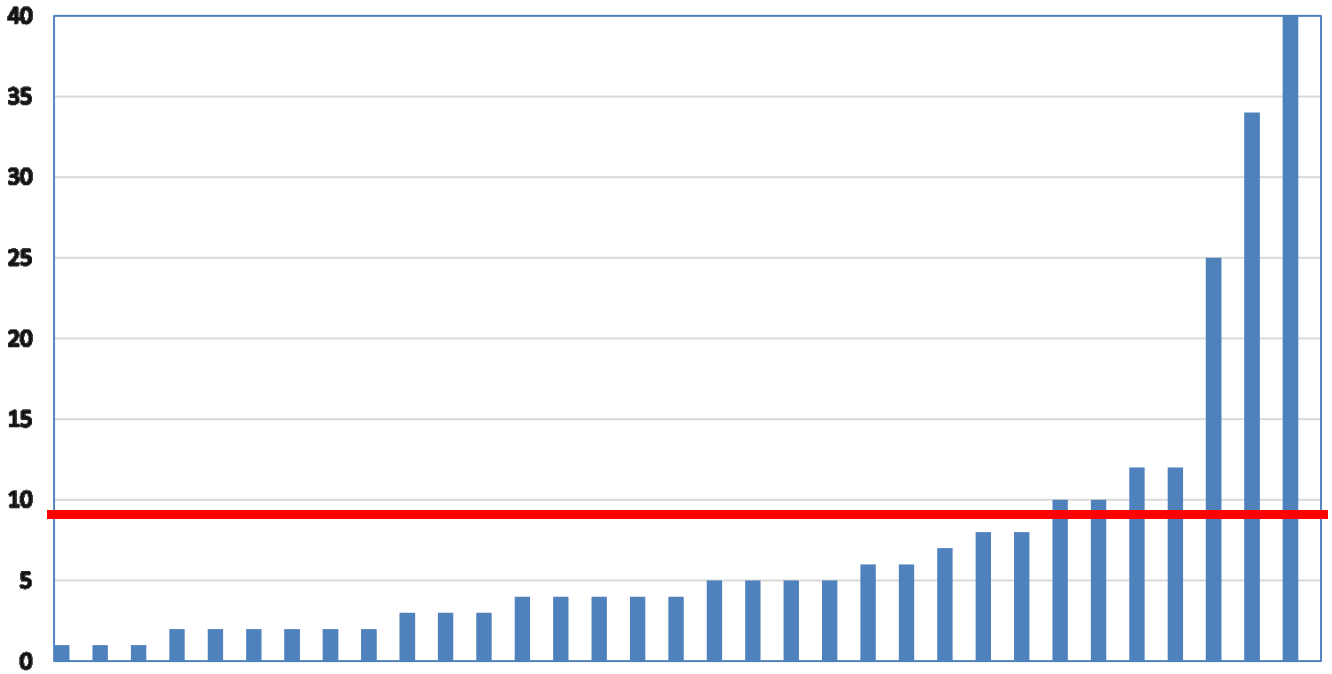
Increase in the number of employees

WPM treating facilities have recorded an **increase** in the number of employees after the ISPM 15 implementation;

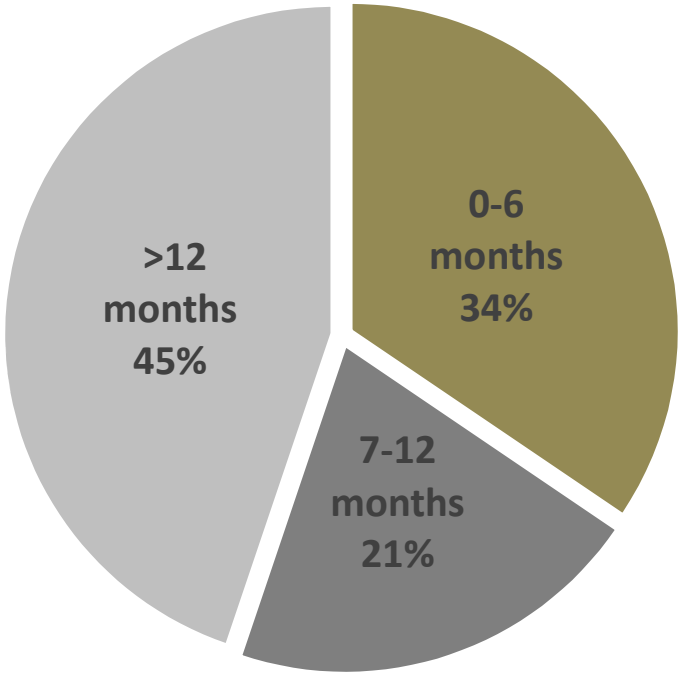


Time spent to set up the facility

Setting up a WPM treatment facility may take up to **24 months** (time is higher for HT);

WPM treating facilities in Kenya and Mozambique get audited by NPPO at least once a year;

All the WPM treating facilities have agreed that the final customers are the end payers of the treatment.



Micro data: preliminary results

Confusion about the documents required to receive the NPPO authorization for operating as a WPM treating facility;

22% of the WPM treatment facilities interviewed believes that treated WPMs need to be retreated after a certain number of uses (and 35% are not sure on what to do)…

… despite the fact that all of them had received training (either by the NPPO, by the Ministry of Agriculture or by the IPPC).

Where to find the final recommendations

All the micro, macro and qualitative findings will be discussed in a regional report and in 4 countries report;

Guidelines manual and policy brief documents;

Short documentary;

The final meeting of the project will be held in July 2017.

Recommendations and policy implications

Improvements in ISPM 15 implementation should come from several directions;
There is some misunderstanding on the treatment to be used and on the efficacy of the treatment applied;
ISPM 15 stamp should not be replicable;
Repaired WPMs should be better regulated;
Lack of inspections at the import level and for non fruit and vegetables goods;
Investments in HT facilities (or solar panel facilities)?

Credit

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