

Law effects on supply chain structure of wild forest products

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Multipurpose trees and non-wood forest products, a challenge and opportunity www.star-tree.eu



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Outlines

- Moving toward a new **legal** WFP definition
- **No data, No policies**: how to study WFP supply chains and related effects of WFP policies
- From data to **policy proposals**



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NWFP (scientific) definition

NWFP are *“all biological materials other than timber which are **extracted from forest** for **human use**”* - (De Beer and McDermott 1989)

NWFP are *“**products** of **biological origin** other than **wood** derived **from forests**, other **wooded land** and **trees outside forests**”* - (FAO 1999)



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Wild Product (legal) definition

“**primary production**” means the production, rearing or growing of primary products including harvesting, milking and farmed animal production prior to slaughter. It also includes hunting and fishing and the **harvesting** of **wild products**. (Art. 3, part 17, Reg. 178/02)

"**wild product**" resulting from "**collection of edible plants and parts thereof, growing naturally in natural areas, forests and agricultural areas**" (Art. 12, comma 2, Reg. 834/07 “organic law”)



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Wild Forest Product: a proposal for a new definition

“**wild forest product**” is an “**edible plant or mushroom and parts thereof, for human consumption, which grow naturally in forests and are not cultivated using agricultural methods, but collected where it carries out its biological cycle**”.

Definition adapted from:

- Art. 12, comma 2, Reg. 834/07 “organic law”
- Bio Suisse (2014)



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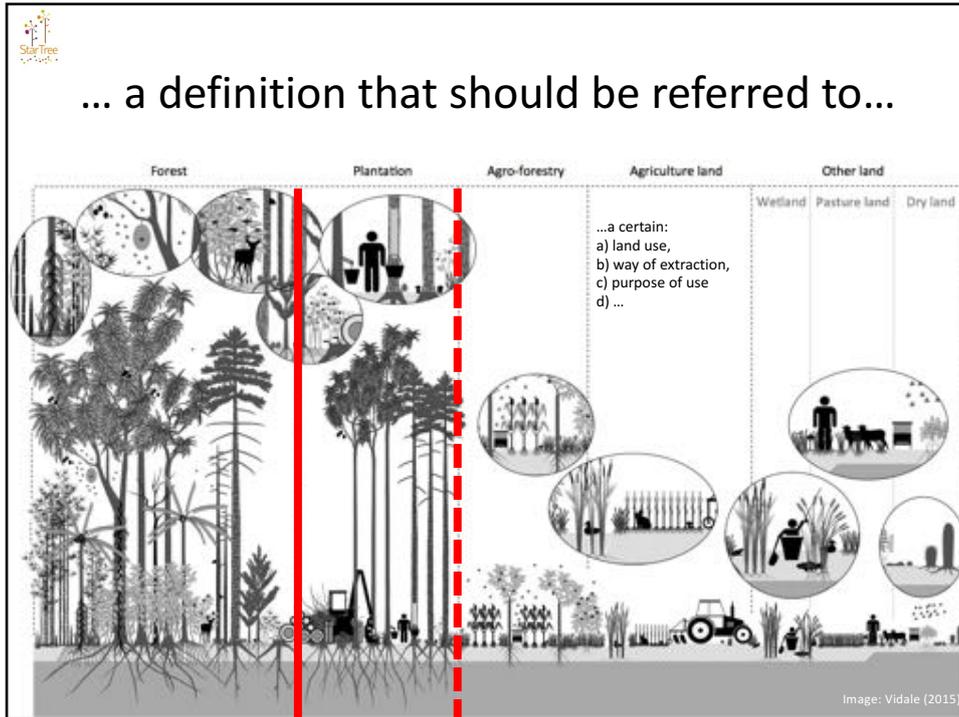
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Wild Forest Product: a definition proposal

The **ecological position** of each WFP is strictly linked to the property and **harvesting rights**

The main **activity** needed to obtain the WFP is crucial to understand the **fiscal system** to be imposed to the picker

There might be several other ways to classify WFP, but we need to link “a **potential economic action**” into an **economic system** in which the picker generates profit and is taxed as for any other economic activity



Ecological position	NWFP category	NWFP types	NWFP	WFP	HS Codes	
Products of the stem, leaves or tree reproductive system	Stem-based Products (tree is cut)	Christmas tree	yes	no	Main activity: cutting	
		Fibre	yes	no		
	Extracted from tree (tree is kept alive)	bio-refining	yes	no	Main activity: extraction	
		Yar	yes	no		
		Tannins	yes	no		
		Sorbitol & mannitol	yes	no		
		Sap	yes	no		
		Natural gums and resins	yes	no		
	Bark and cork (tree is kept alive)	Bark products	Exudates	yes	no	Main activity: extraction
			Essential oils	yes	no	
Leaf based products (branches are removed from the tree)		Phytochemical	yes	no		
		Pigments	yes	no		
Fruits & flowers	Foliage	Foliage	yes	yes	Main activity: picking	
		Tree flowers	yes	yes		
	Edible nuts	Fruits	yes	yes		
		Fruits	yes	yes		
		Fruits	yes	yes		
Tree dependent product	Wild fungi	Wild mushrooms	yes	yes	Main activity: picking	
	Truffle	Truffle	yes	yes		
Forest understory products	Flower and bag substances collect by animals	Honey and Bee Products	yes	yes	Main activity: husbandry	
		Berries	Berries	yes		yes
	Berries	Live tree/plants	Live tree/plants	yes	yes	Main activity: picking
			Medicinal and aromatic plants	yes	yes	
Forest understory products	Litter	Mosses & lichens	yes	yes	Main activity: dig	
		Litter	yes	no		
	Peat	Peat	yes	no		
Animal and animal parts	Wild fish	Wild fish	yes	no	Main activity: hunting	
		Game meat	yes	no		
	Live animals	Live animals	yes	no		
		Animal parts	yes	no		
Insect, amphibious and snails products	Insect, amphibious and snails products	Insect, amphibious and snails products	yes	yes	Main activity: picking	

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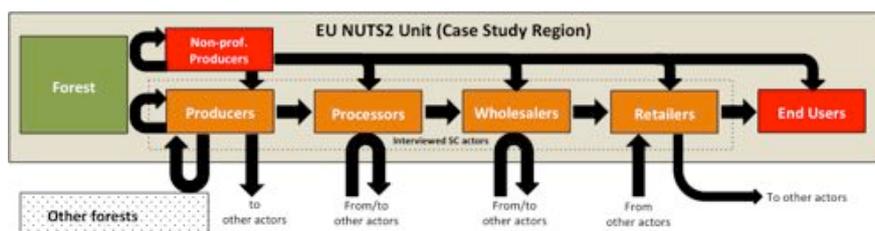
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Design an approach beyond a research question



Definitions used in Star-Tree project

Producer	An economic actor who gathers NWFP from forestland for commercial purposes (in NWFP supply chain, the producer is also known as commercial picker). A picker is a person who gathers NWFP in the forest, and it can be considered a producer if it sells its harvest for commercial purposes.
Processor	An economic actor involved in the NWFP supply chain that purchases raw or semi-processed NWFP to transform them into a final or semi-finished product.
Wholesaler	An intermediary actor along the supply chain that links two or more actors at different level.
Retailer	The actor of the NWFP supply-chain that sells goods to the end user (restaurants are a particular type of retailers).

Similar to the approach used by Sathre (2009) → from supplier to consumer approach

Variables collected

Level	Performance metrics	F	N-F	References	
Strategic (mid-long horizon)	Total supply chain cycle time	X		Stewart (1995)	
	Supplier lead time	X		Stewart (1995)	
	Customer query time	X			
	Level of customer perceived value of product	X			
	Net profit vs. productivity ratio	X			
	Rate of return on investment	X			
	Range of product and services		X		
	Variations against budget		X		
	Order lead time		X		
	Flexibility of service systems to meet customer needs		X		
	Buyer-supplier partnership level		X		
	Supplier lead time against industry norm		X		
Tactical (short-mid horizon)	Level of supplier's defect free deliveries	X			
	Delivery lead time	X			
	Delivery performance	X			
	Level and degree of buyer-supplier partnership	X			
	Product/service variety	X			
	Perceived quality	X			
	Value added	X			
	Operational (short horizon)	Supplier lead time against industry norm	X		
		Level of supplier's defect free deliveries	X		
		Delivery lead time	X		
		Delivery performance	X		
		Level and degree of buyer-supplier partnership	X		
Product/service variety		X			
Perceived quality		X			
Value added		X			

Level	Performance metrics	F	N-F
Strategic	Selling price	X	X
	Total supply chain cycle time		X
	Total cash flow time	X	X
	Customer query time	X	X
	Level of customer perceived value of product		X
	Net profit vs. productivity ratio	X	
	Rate of return on investment	X	
	Range of product and services		X
	Variations against budget	X	
	Order lead time		X
	Flexibility of service systems to meet customer needs		X
	Buyer-supplier partnership level	X	X
	Supplier lead time against industry norm		X
	Level of supplier's defect free deliveries		X
	Delivery lead time		X
	Delivery performance	X	X
	Level and degree of buyer-supplier partnership	X	X
	Product/service variety		X
	Perceived quality		X
	Value added	X	X



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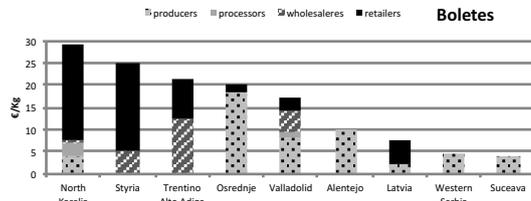
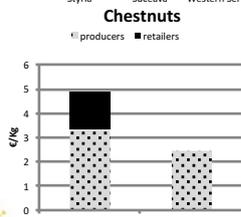
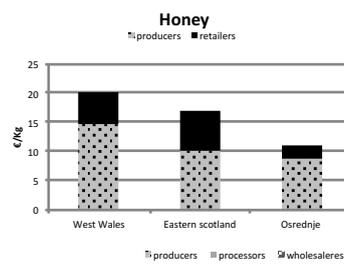
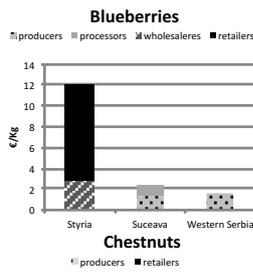
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Examples of added value and selling prices



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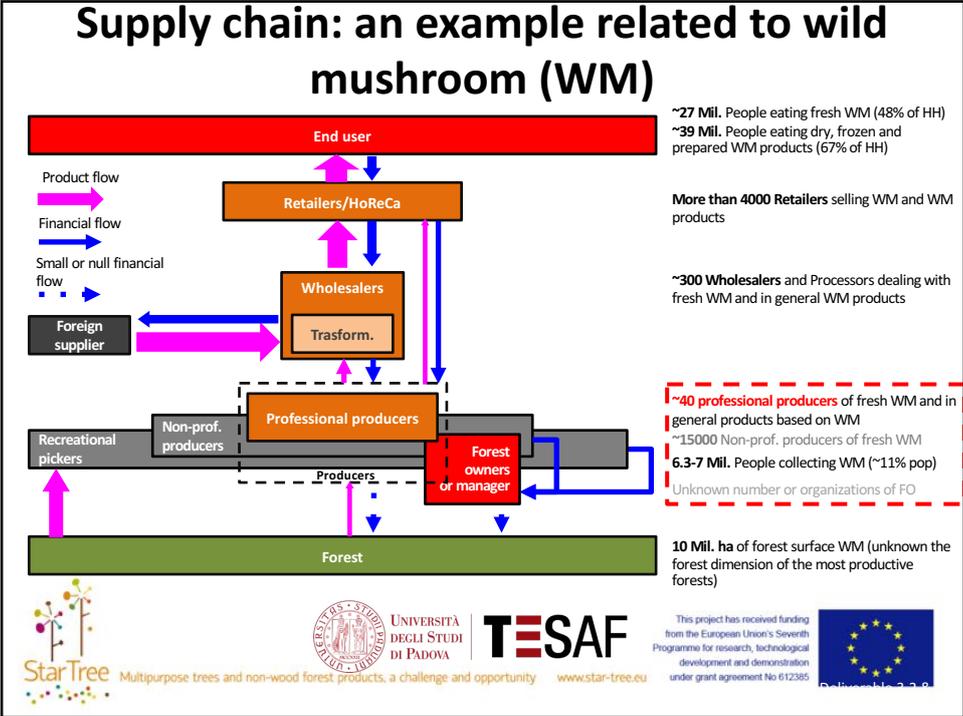
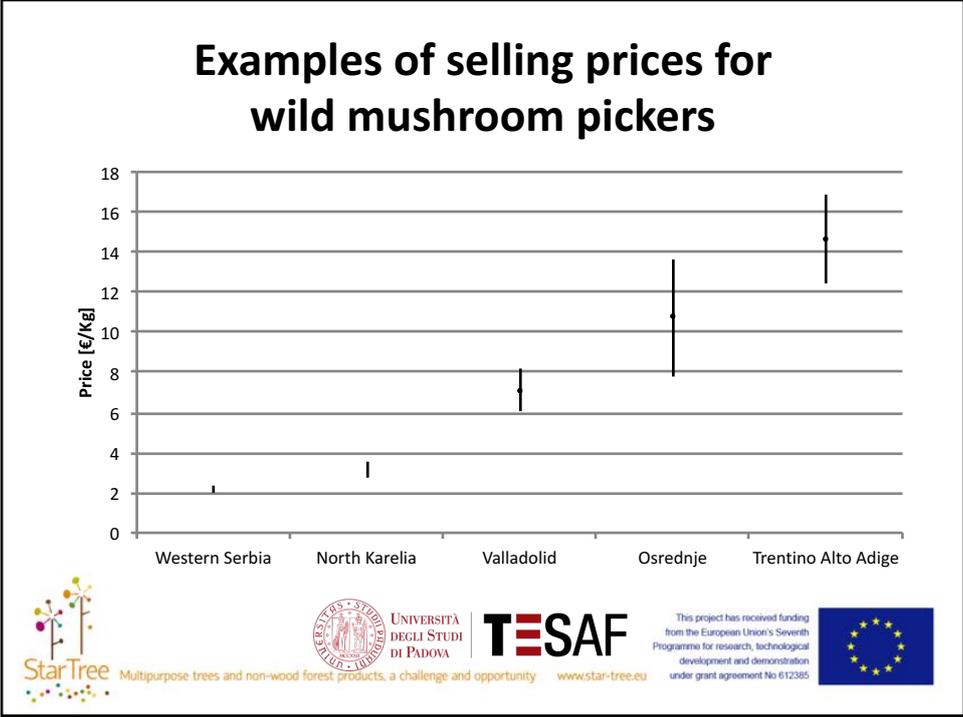


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Example of regional informal market

Region	Product	Formal market (Q4.a)			Informal market (Q4.b)			Min Inf/form [%]	Max Inf/form [%]	Aver. Inf/form [%]
		Min production	Max production	Average production	Min production	Max production	Average production			
Valladolid	WM cep			35						
Catalonia	WM cep	100	500	300	100	500	300	100%	100%	100%
Western Serbia	WM cep	76	692	330						
Osrednje	WM cep	100	500	250	350	950	650	350%	190%	260%
Suceava	WM cep	284	518	376	100	178	139	35%	34%	37%
TAA	WM cep	2	50	20	4	100	40	200%	200%	200%
North Karelia	Chaga		2		1	3	2		150%	
Bursa	Chestnuts	293	444	369	1679	3071	2375	573%	691%	644%

The taxonomy of informal markets is reported in D3.4.



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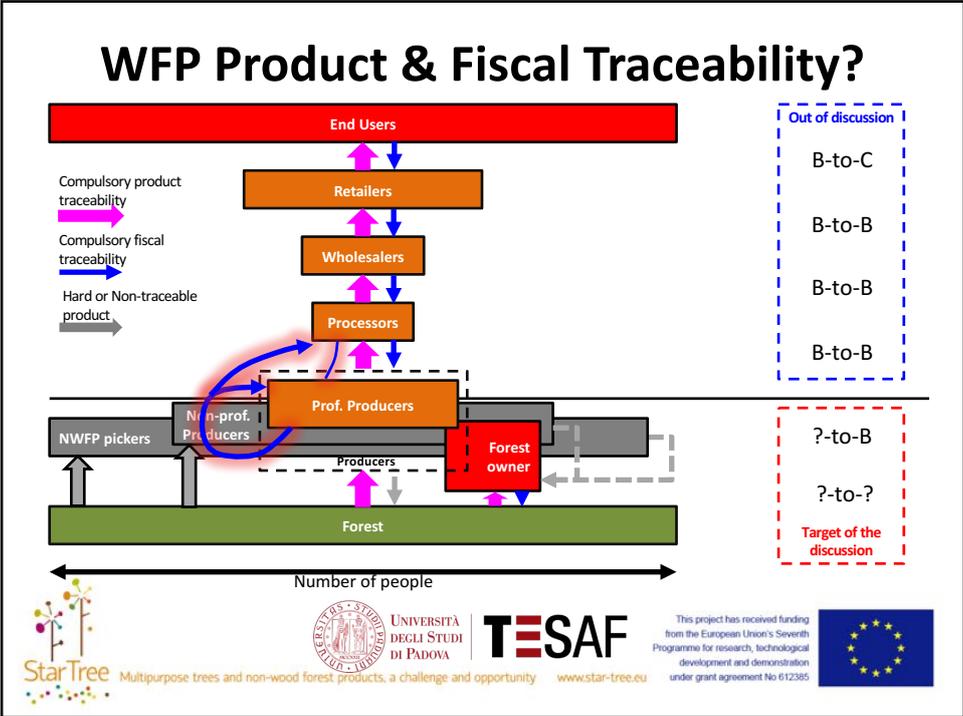
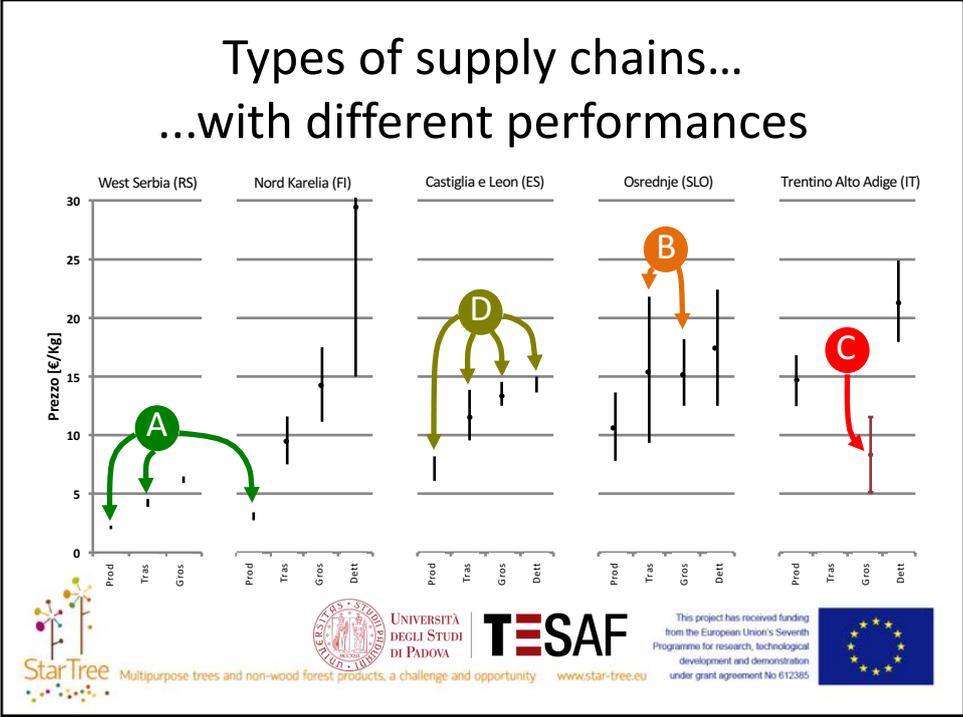


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(Food) Traceability

(where & how the product comes/goes + who is who)

- The Art. 18 of the Reg. 178/2002 stated:
 1. The **traceability of food**, [...] and any other substance intended to be, or expected to be, incorporated into a food [...] shall be **established at all stages of production, processing and distribution**.
 2. Food [...] business operators shall be able to **identify** any person **from** **who** they have obtained the product [...] for this demand.
 3. [...] **suppliers** shall be able to identify the person from whom they have obtained the product [...].
 4. Food [...] which is placed on the market [...] in the Community shall be adequately **labelled** or identified to facilitate its **traceability**, through relevant documentation or information in accordance with the relevant requirements of more specific provisions.

Basically almost NONE of the companies meets the regulation requirement





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(Fiscal) Traceability

(who should pay VAT)

- Two problems:
 - Annex VII of the Dir. 2006/112/CE does not mention the collection of "withholdings"
 - Each tax payer has a different reliability
 - s...
 - f...

If you get an extra income paid in cash, it is unlikely the picker will declare it in the annual income declaration (realistic view)

- The problem is if to consider or not VAT as eligible
- The WFP farmer has a low level taxation, while the WFP picker is taxed according to trader or artisan fiscality



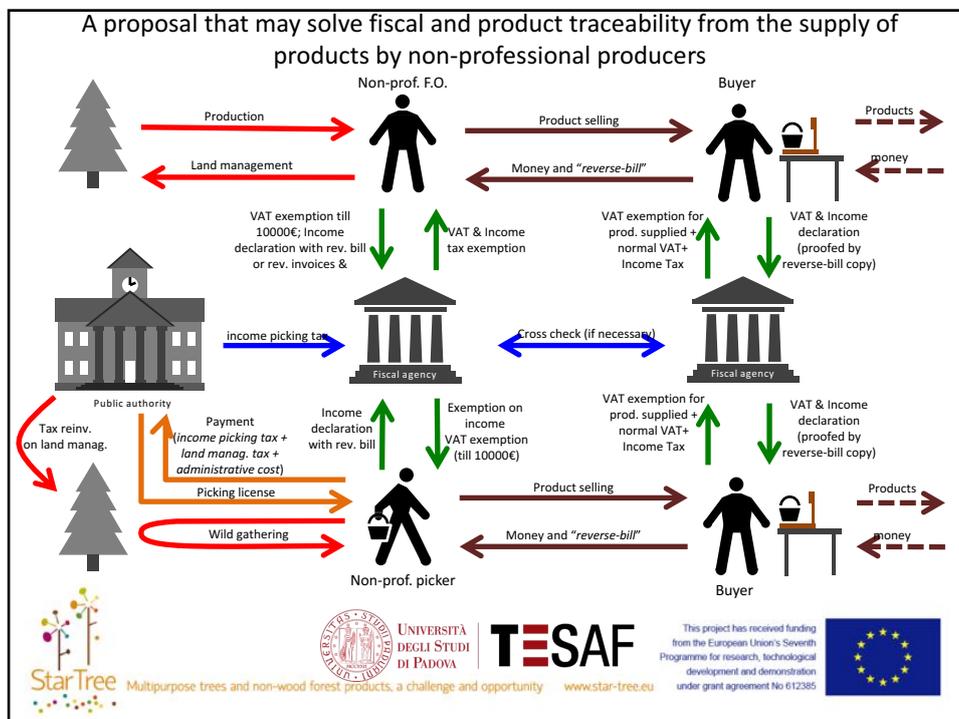
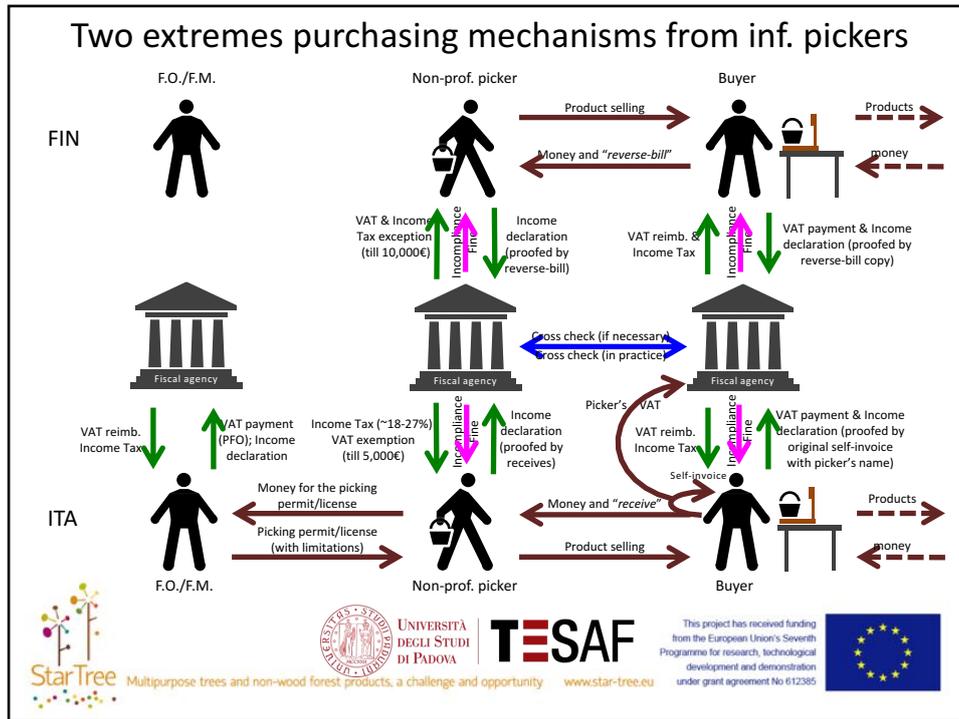


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Climatic risk and taxation

- *Status quo*
 - Wild Forest Products (WFP) are generally obtained by the “*action of collection*” (or picking) that depends on national and local property rights.
 - Several WFP forest production highly depend on **climatic conditions**
 - The production of WFP rely mainly on informal or **non-professional pickers** that sell the daily harvest as additional household income
 - Additional household income are **taxed differently** in EU (from total exemption to artisan taxation level → high taxation = informal market!)
- Looking at common solution
 - Farmer income has a general lower **taxation rate** due to climatic risk compare to ordinary products.
 - Wild gathering has **higher climatic risks** then agriculture products results on a unstable revenue for the picker, even higher than the farmer production risks
 - The introduction of “*tax exemption*” or “*standardized gathering income tax*” applied on each typology of WFP would allow to move toward a common taxation pressure on wild gathering activities while maintaining the several supply chains related to these products
 - The existence of a WFP supply chain is crucial to **sustain income in remote rural areas**



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Conclusions

- WFP production is linked to a large number of **informal producers** that supply formal activities
- Property and harvesting rights must be **design** according the **economic system** in which they are implemented, because they may affect:
 - Structure of the supply chain and the related added value created
 - Fiscal revenue of the state and source of money to be reinvested in forest
 - Income in remote rural areas
- WFP production has **much higher risks** compared to a traditional farm production and it should be reflected in a lower income taxation
- Laws are not static! We should not be **afraid** on changes if we are able to assess positive and negative impacts...Are we in the right moment? There are **14 M people** that rely on WFP gathering for at least 50% of their income (Star-Tree Project Deliverable 3.3)



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