

The European, Italian and Greek current market of the sheep milk: what can we do to give added value to the markets and the producers?

Ioannina, Greece 2020



FARMER
of the year

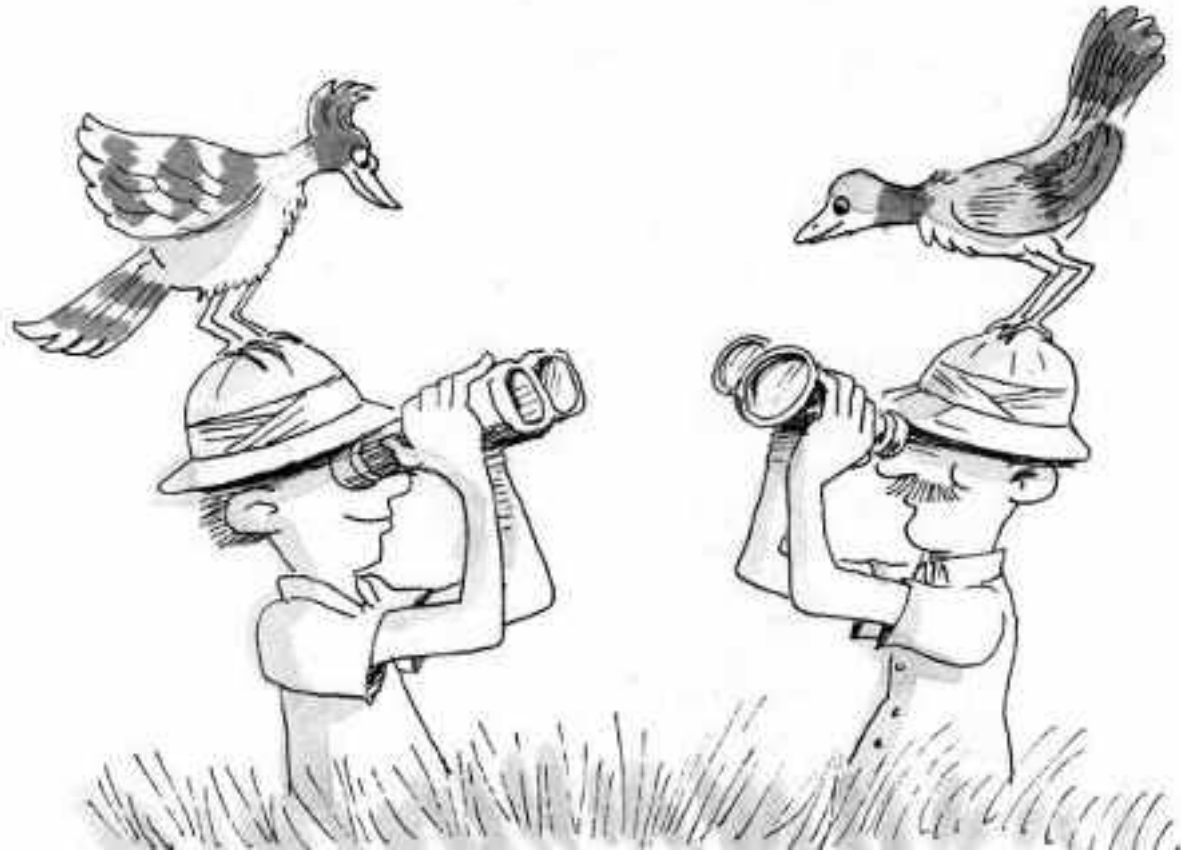
Giuseppe Pulina, Dimitrios Sioutas,
University of Sassari, Italy



*University of
Sassari,
Italy*

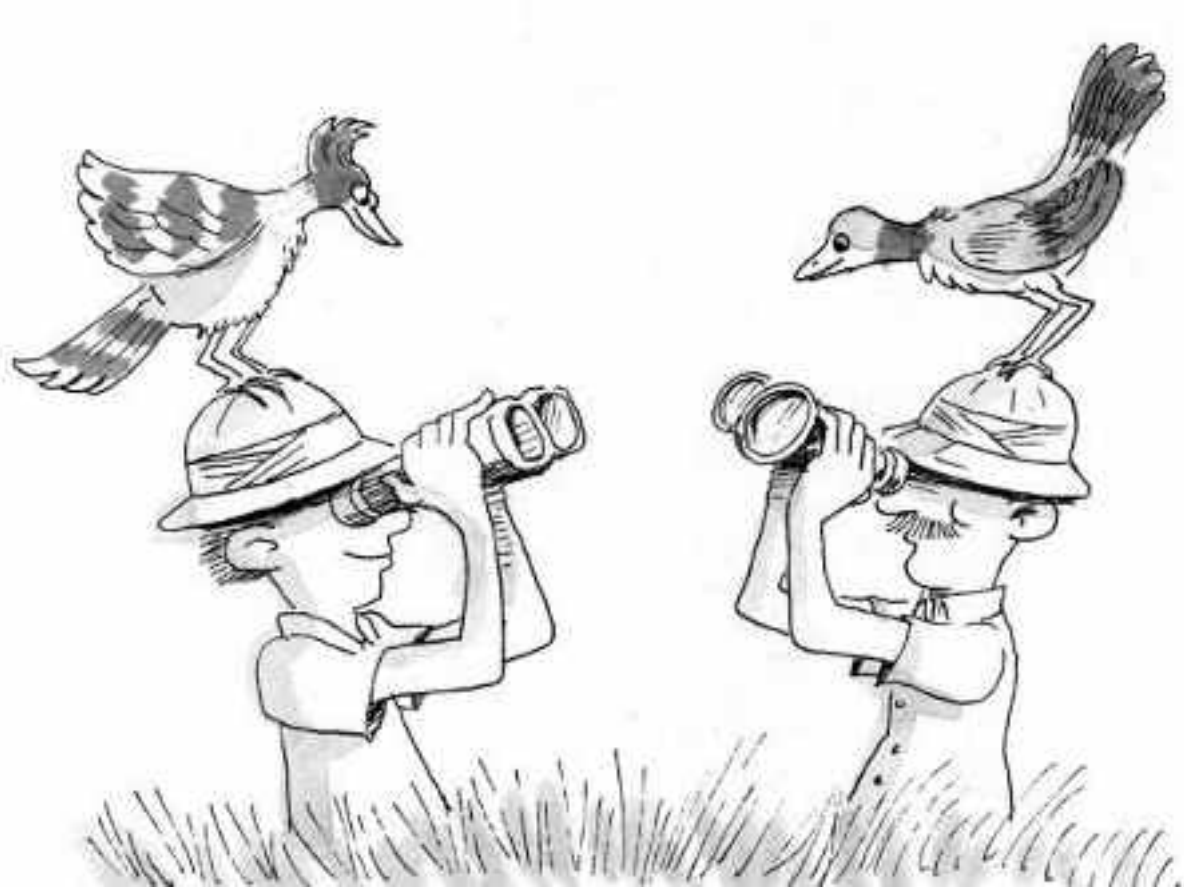


Rationale



1. World, EU, Italian and Greek dairy sheep sector at a glance
2. Consumers trend and cultural mainstream
3. Bad news
4. Good news
5. Final remarks

Rationale



1. World, EU, Italian and Greek dairy sheep sector at a glance

2. Consumers trend and cultural mainstream

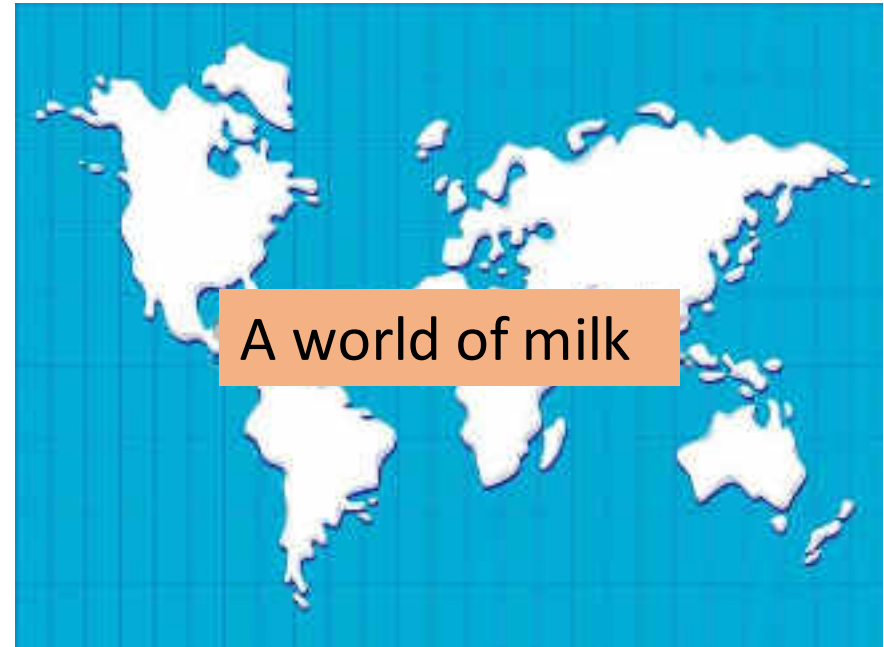
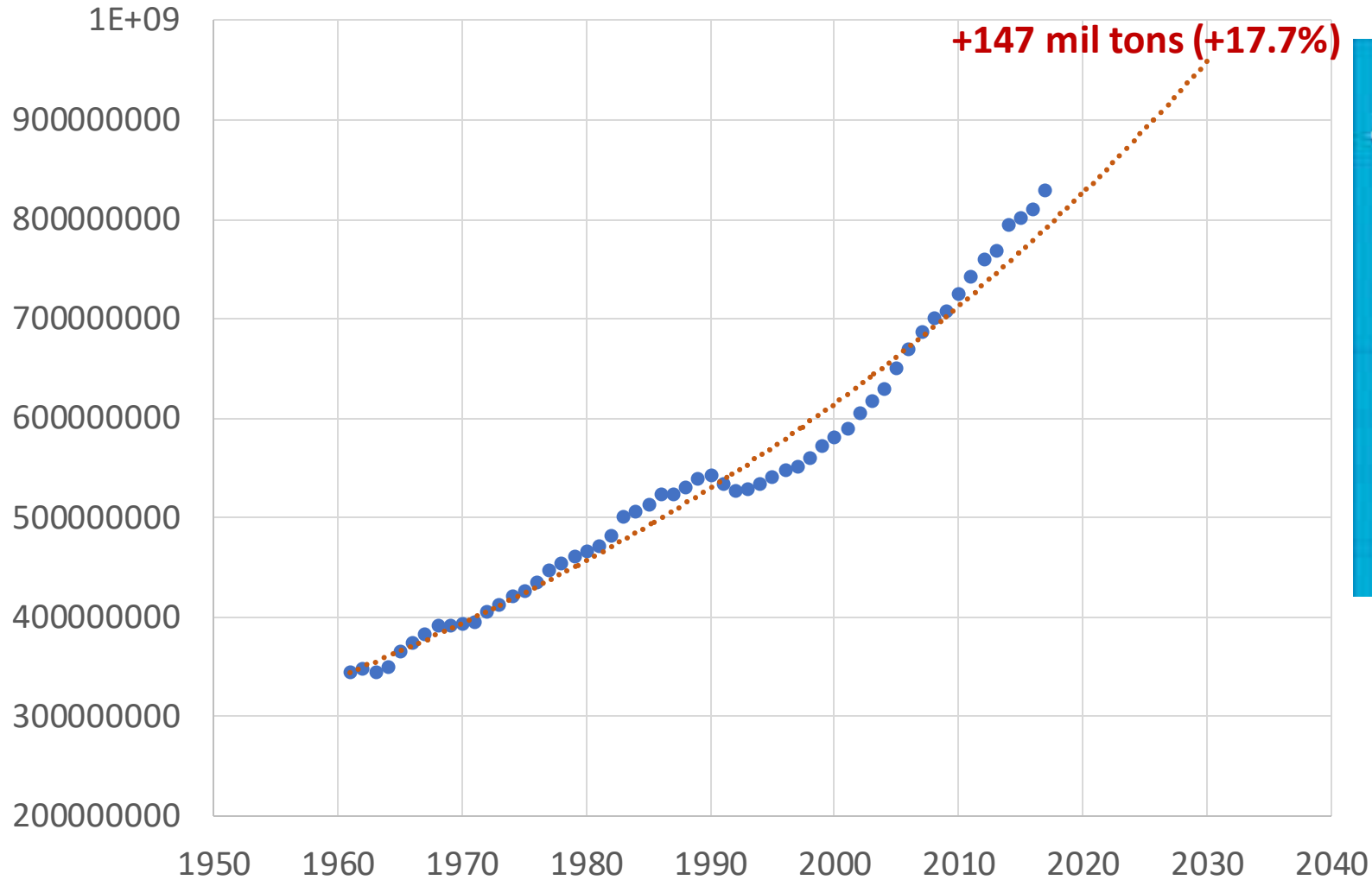
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World milk production is growing fast

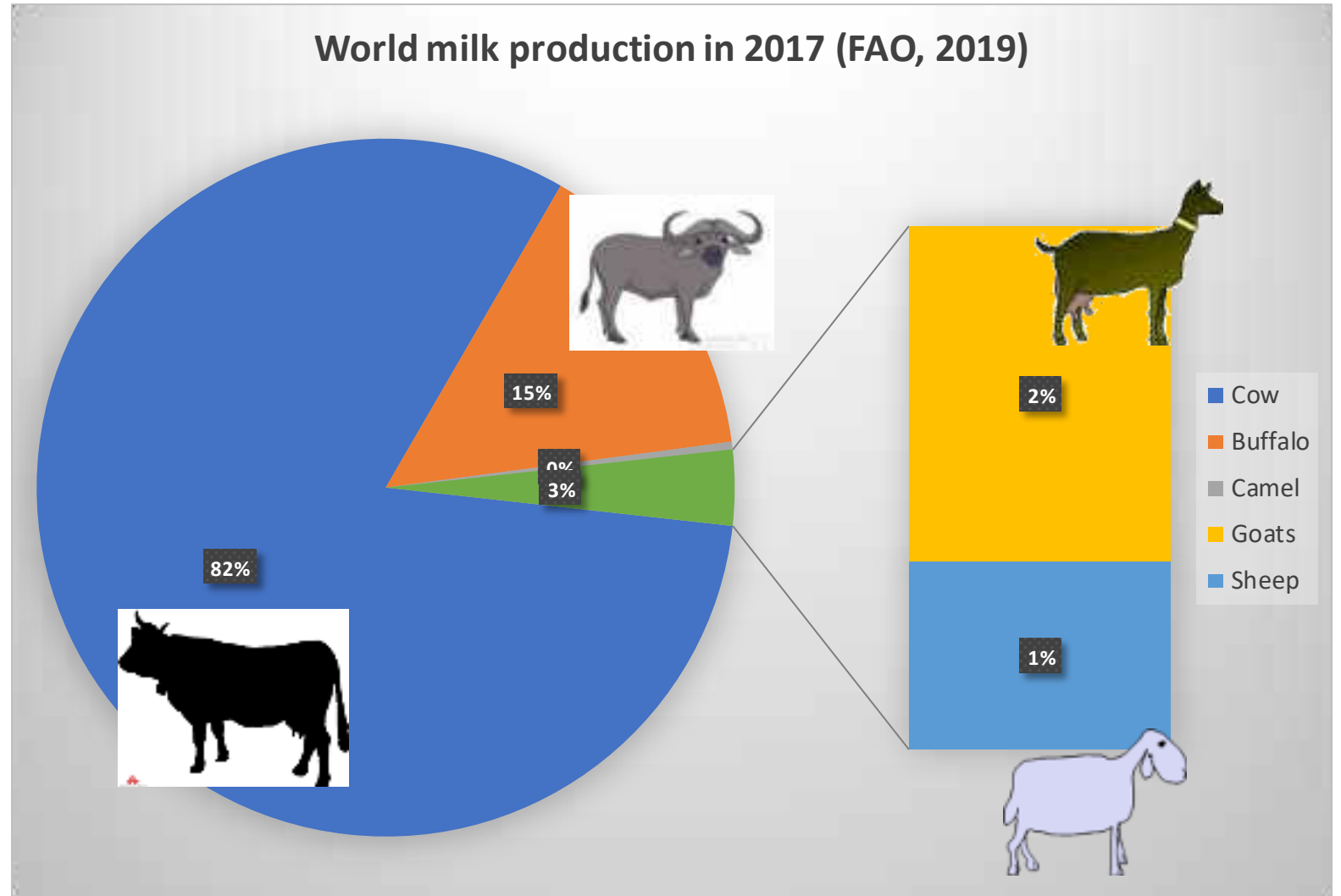
World milk production



Remembering that sheep milk is a drop in a cow milk sea....

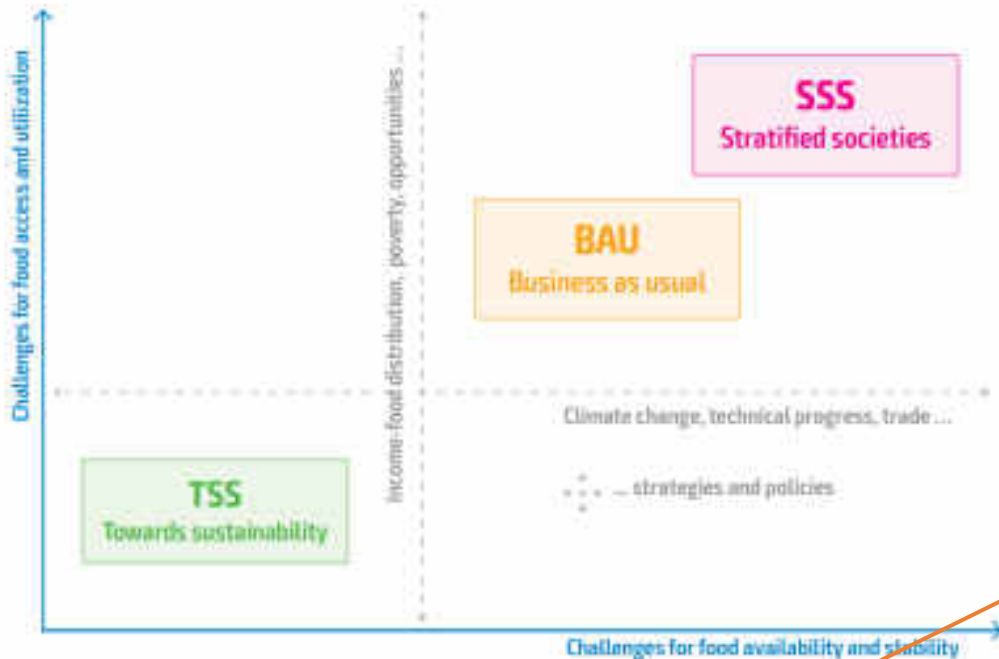


Total yield
827,884,303 tons in
2017 (FAO, 2019)



FAO have designed 3 scenarios at 2030-50

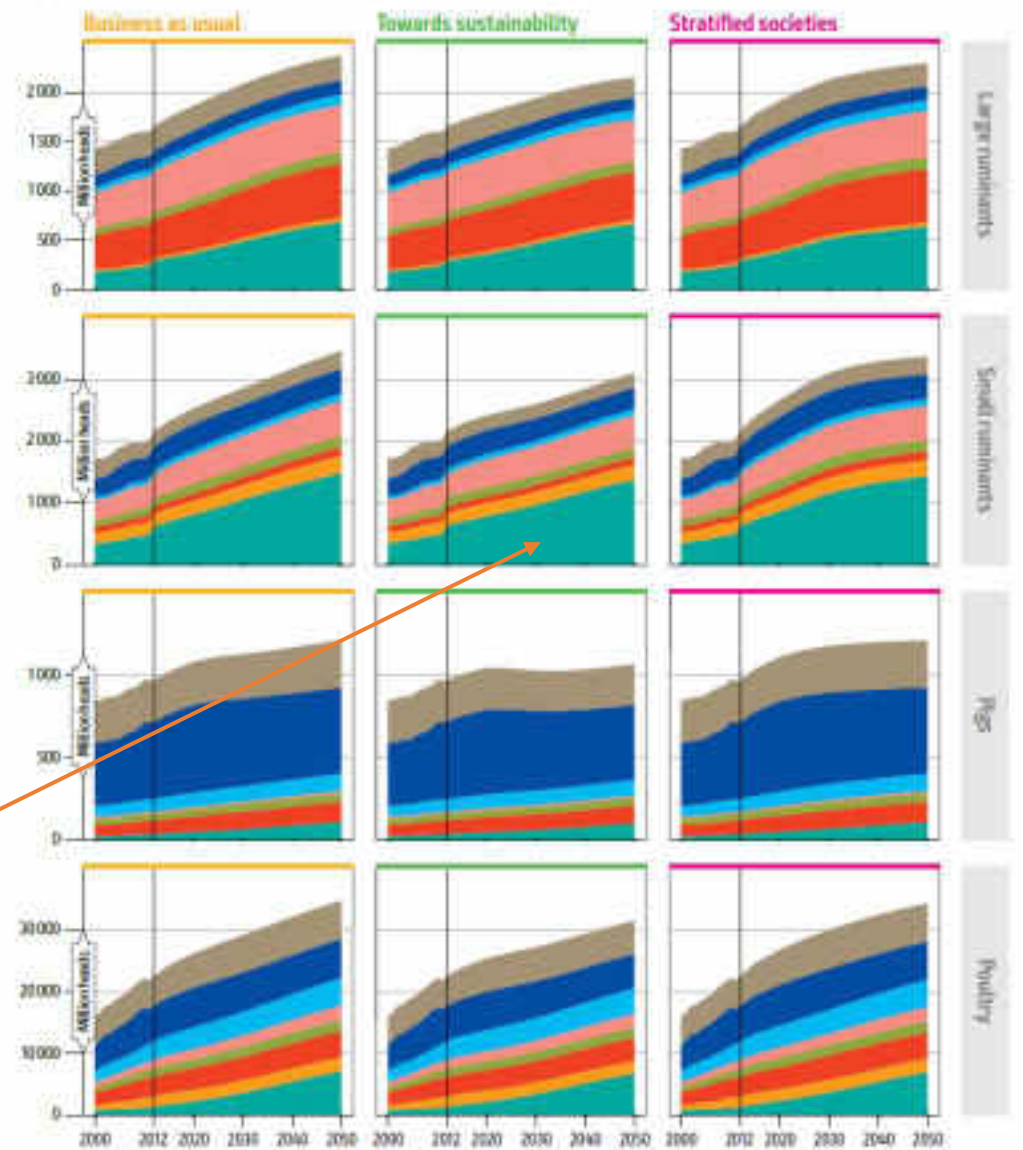
Figure 2.3 Challenges to food and agricultural systems and key scenario drivers



Source: FAO Global Perspectives Studies.

Small Ruminants will increase markedly in Sub-Saharan Africa

Figure 4.12 Total animal herds by livestock category

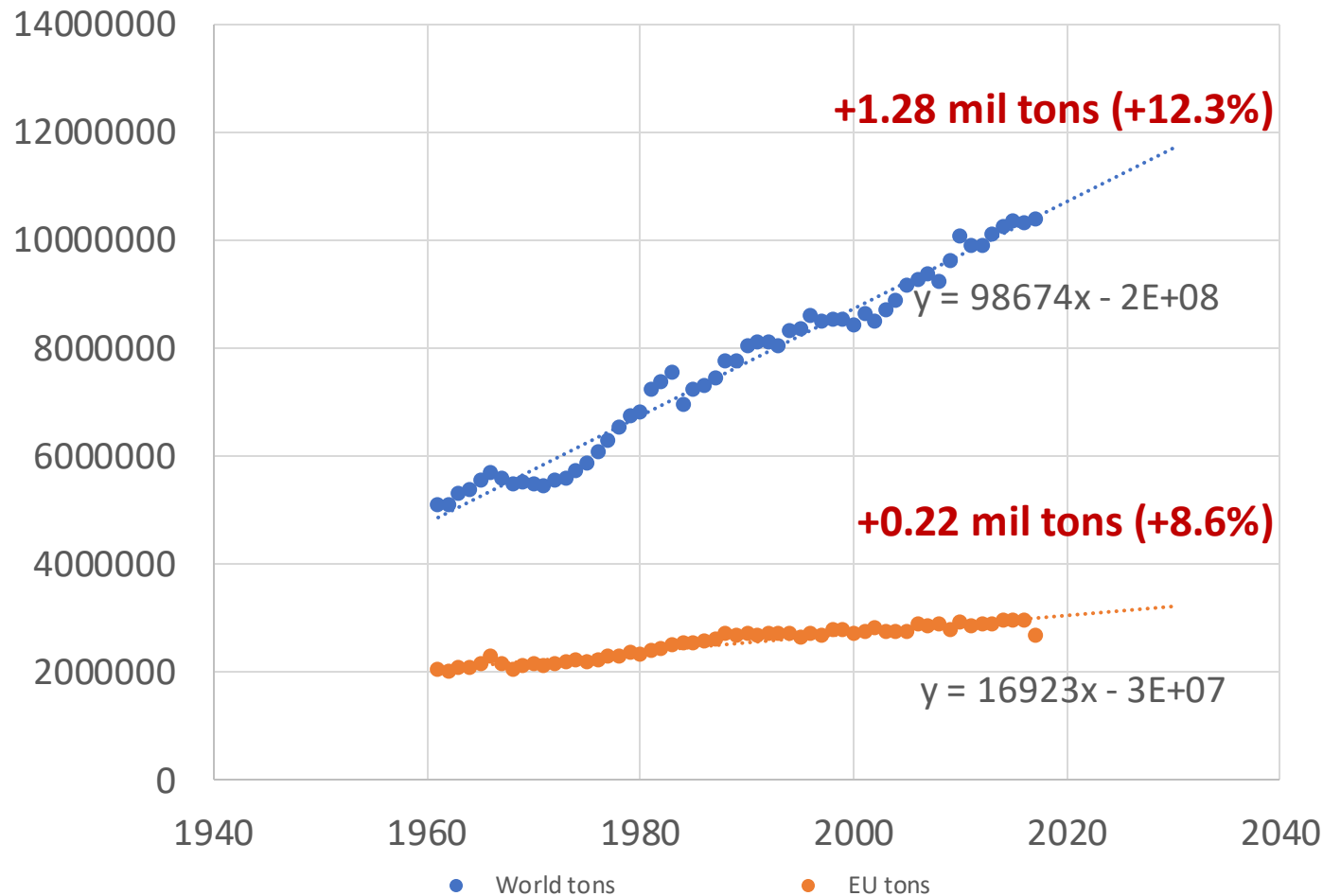


Legend for Figure 4.12:

- High-income countries
- China
- East Asia and Pacific (excluding China)
- South Asia
- Europe and Central Asia
- Latin America and Caribbean
- Near East and North Africa
- Sub-Saharan Africa

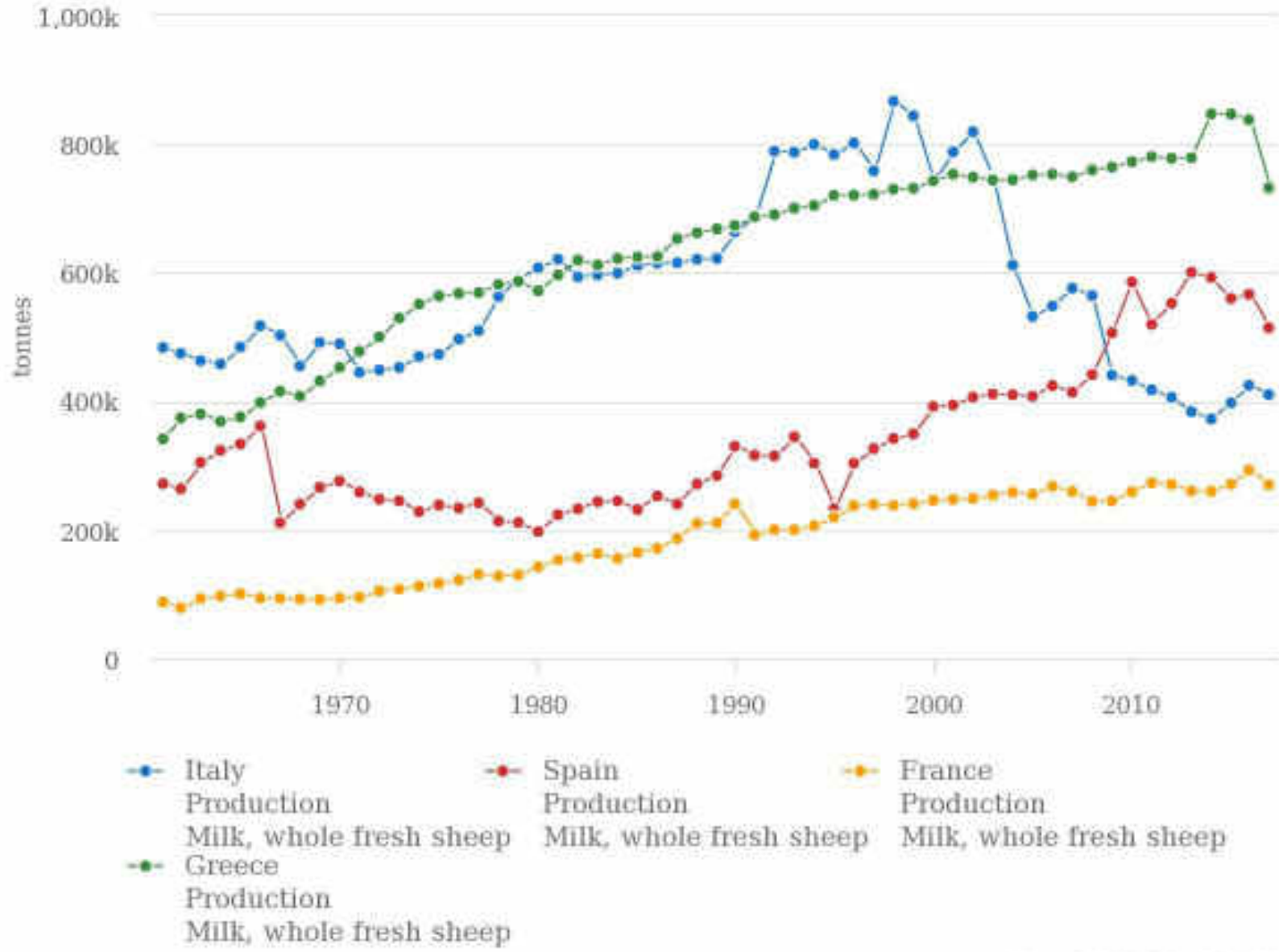
Source: FAO Global Perspectives Studies, based on simulations with the FAO GAPS model and FAOSTAT (various years).

Projections to 2030 show an increase of world sheep milk production: EU loses trend.



“My dear, here we must run as fast as we can, just to stay in place. And if you wish to go anywhere you must run twice as fast as that.”

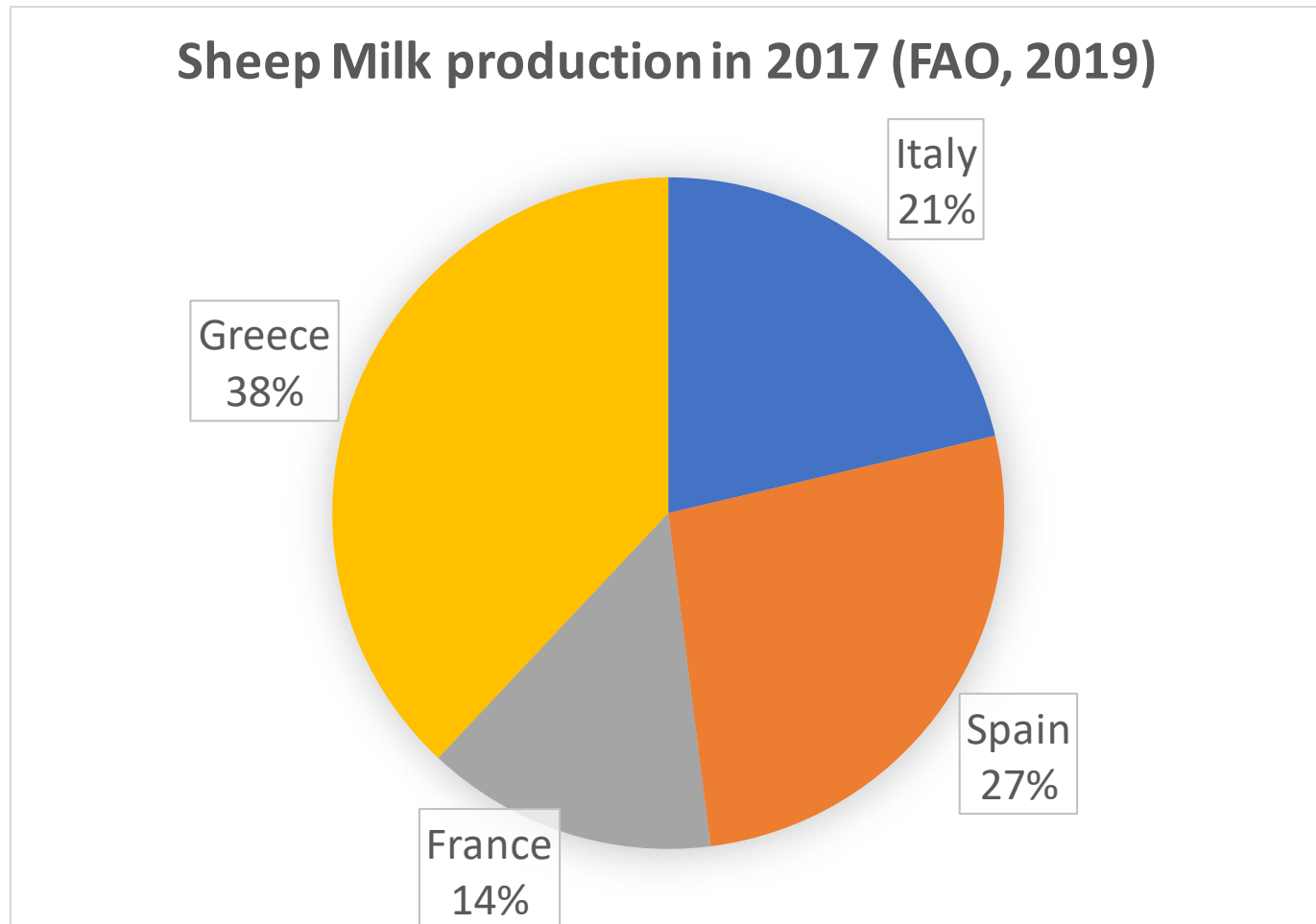
Lewis Carroll, Alice in Wonderland



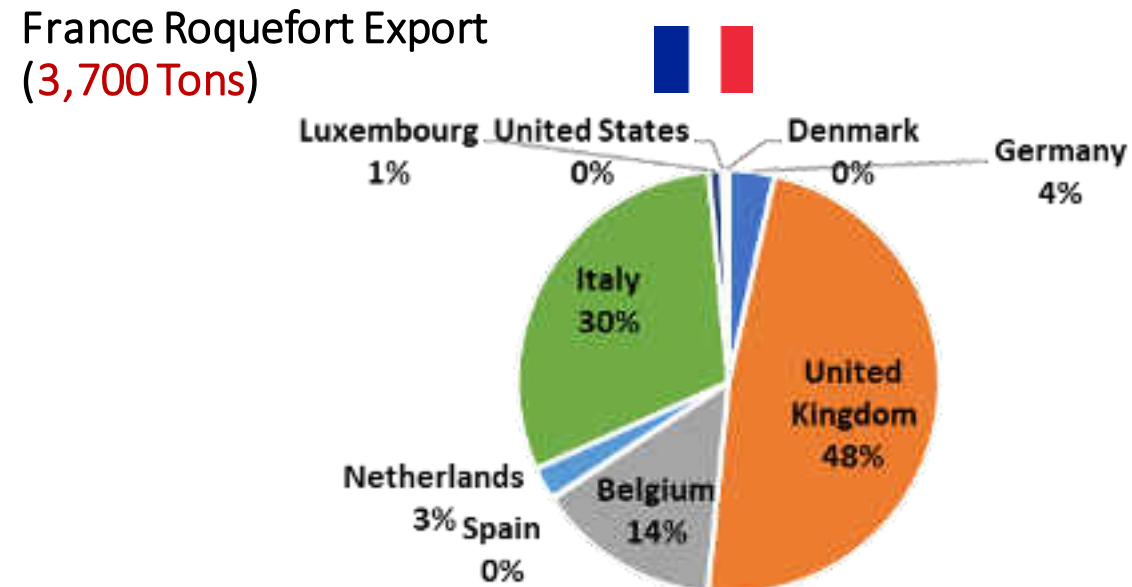
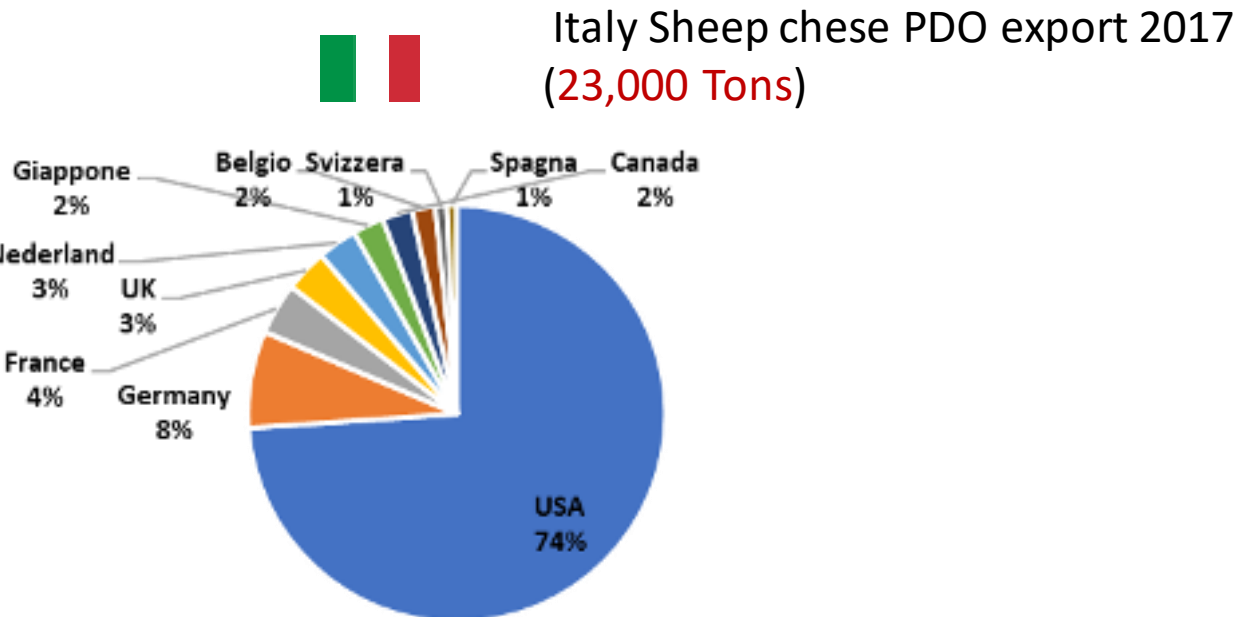
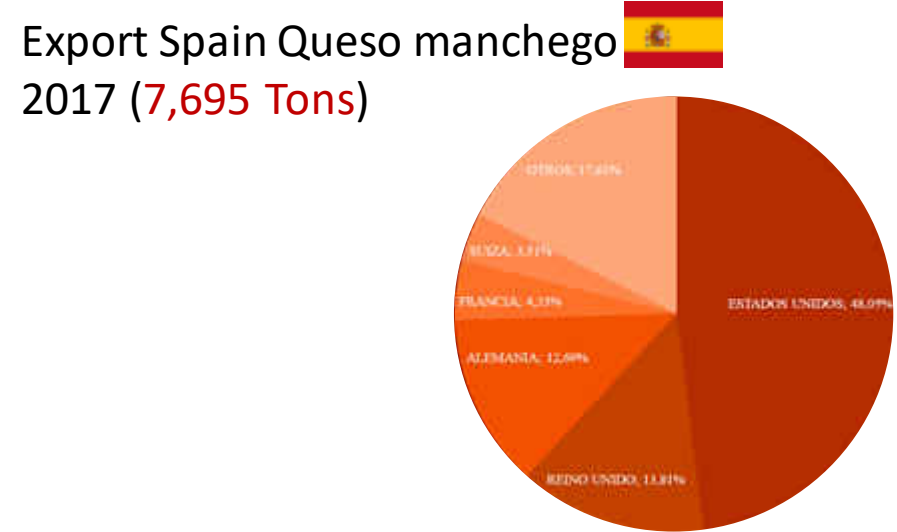
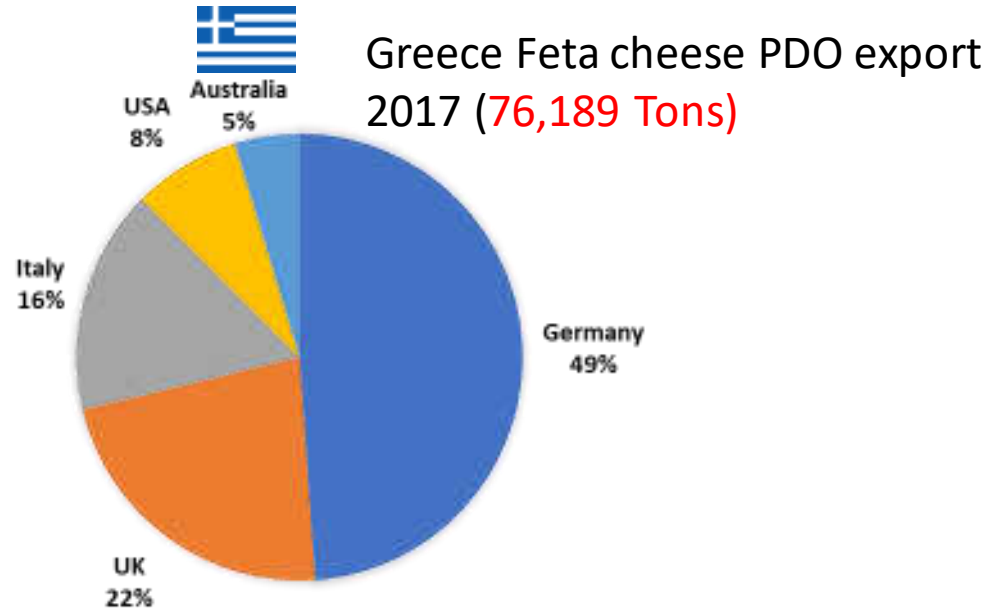
Among EU countries, Italy is losing fast, France is growing slowly, Greece becomes the leader and Spain after fast growth, is resting, but is the second producer now.

Source: FAOSTAT (Dec 22, 2019)

More than 1 in 3 liters of sheep milk in EU is produced in Greece.



Greece is the world leader of sheep cheese PDO export



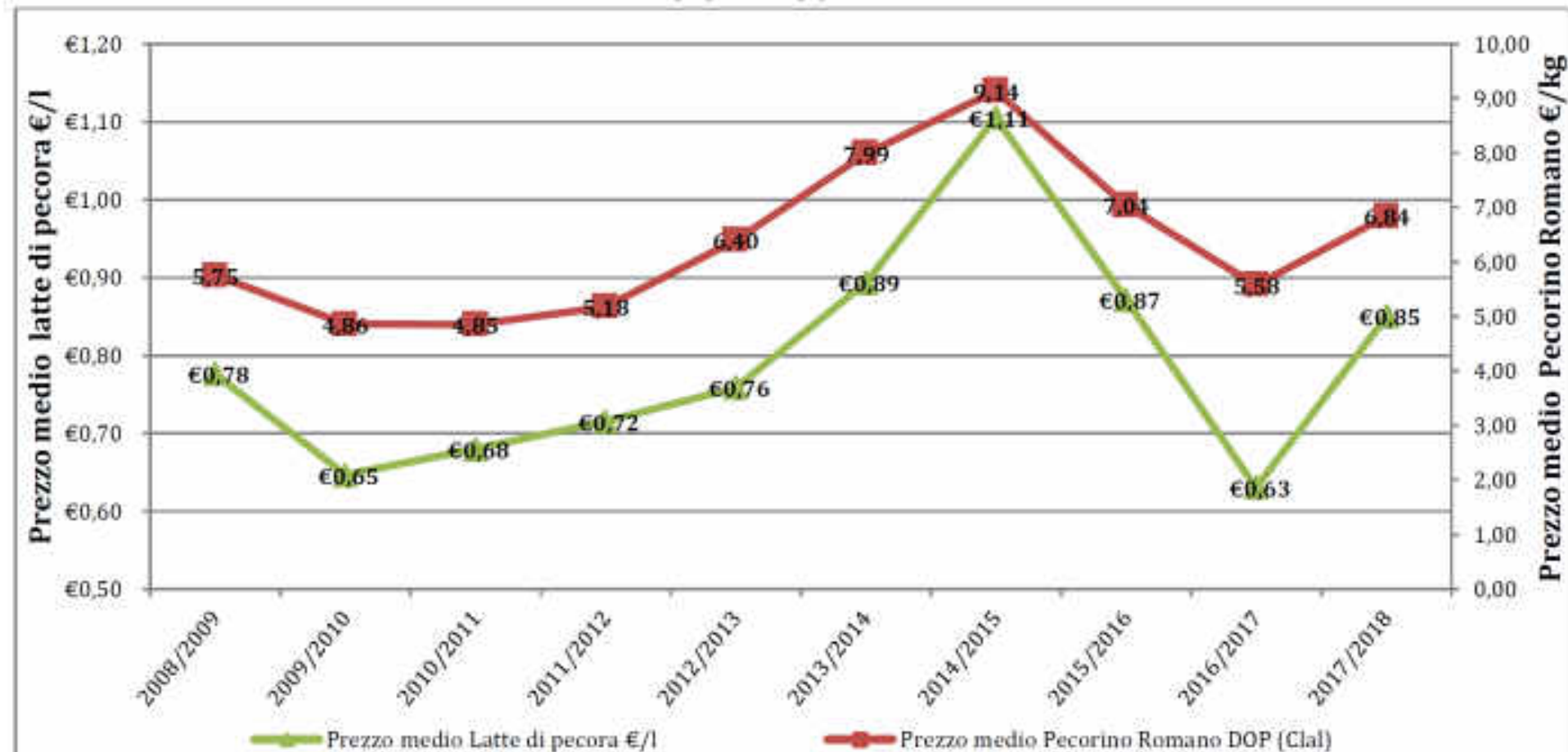
Italy



Last year there has been a period of trouble for dairy sheep industry in Sardinia: the milk war caused by inadequate price payed to shephards (0.65 cent/L)



Milk price is strictly correlated to that of Pecorino Romano because more than 50% of sheep milk produced in Italy is transformed in Pecorino Romano

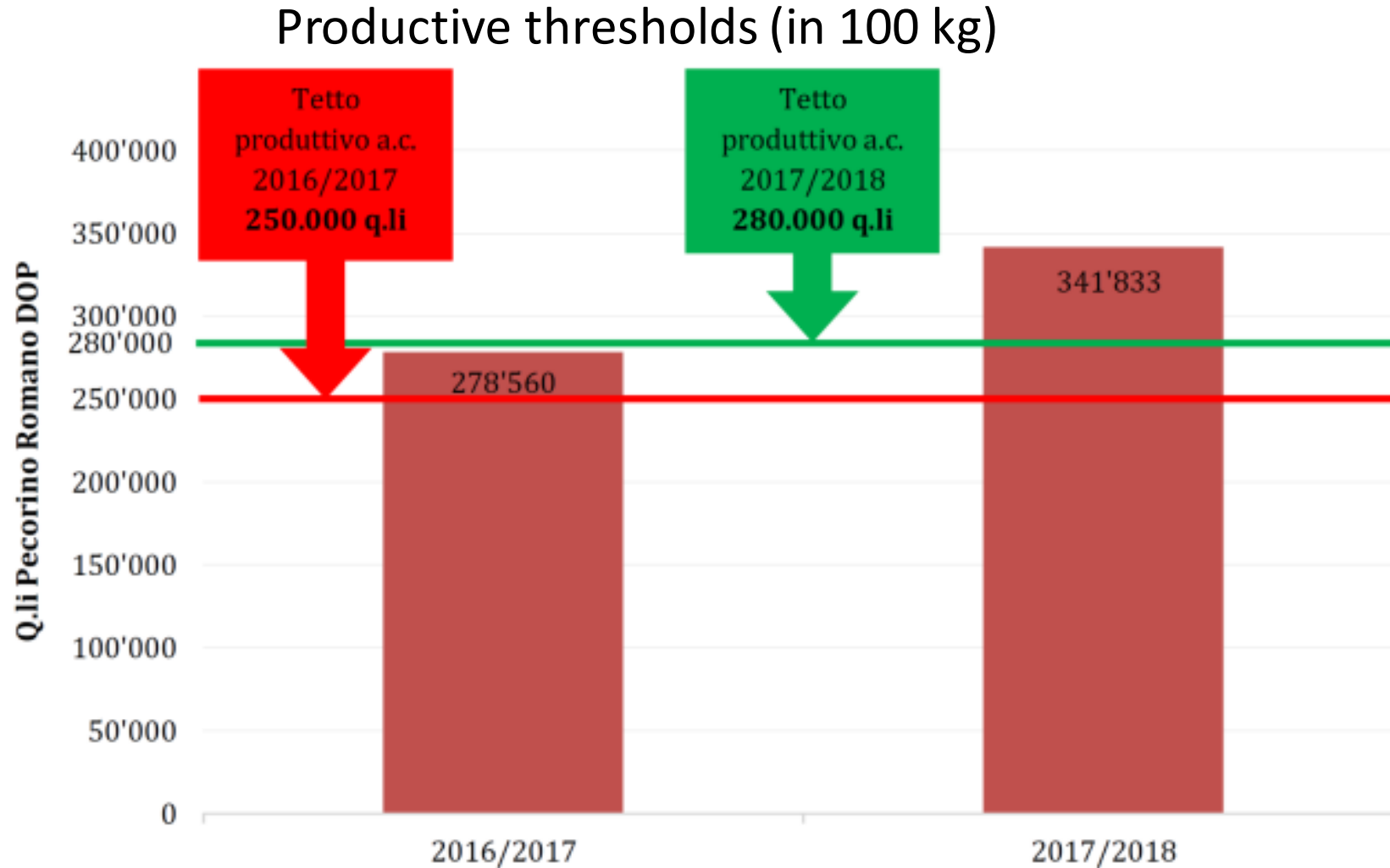


Pecorino Romano price is linked to variation of production

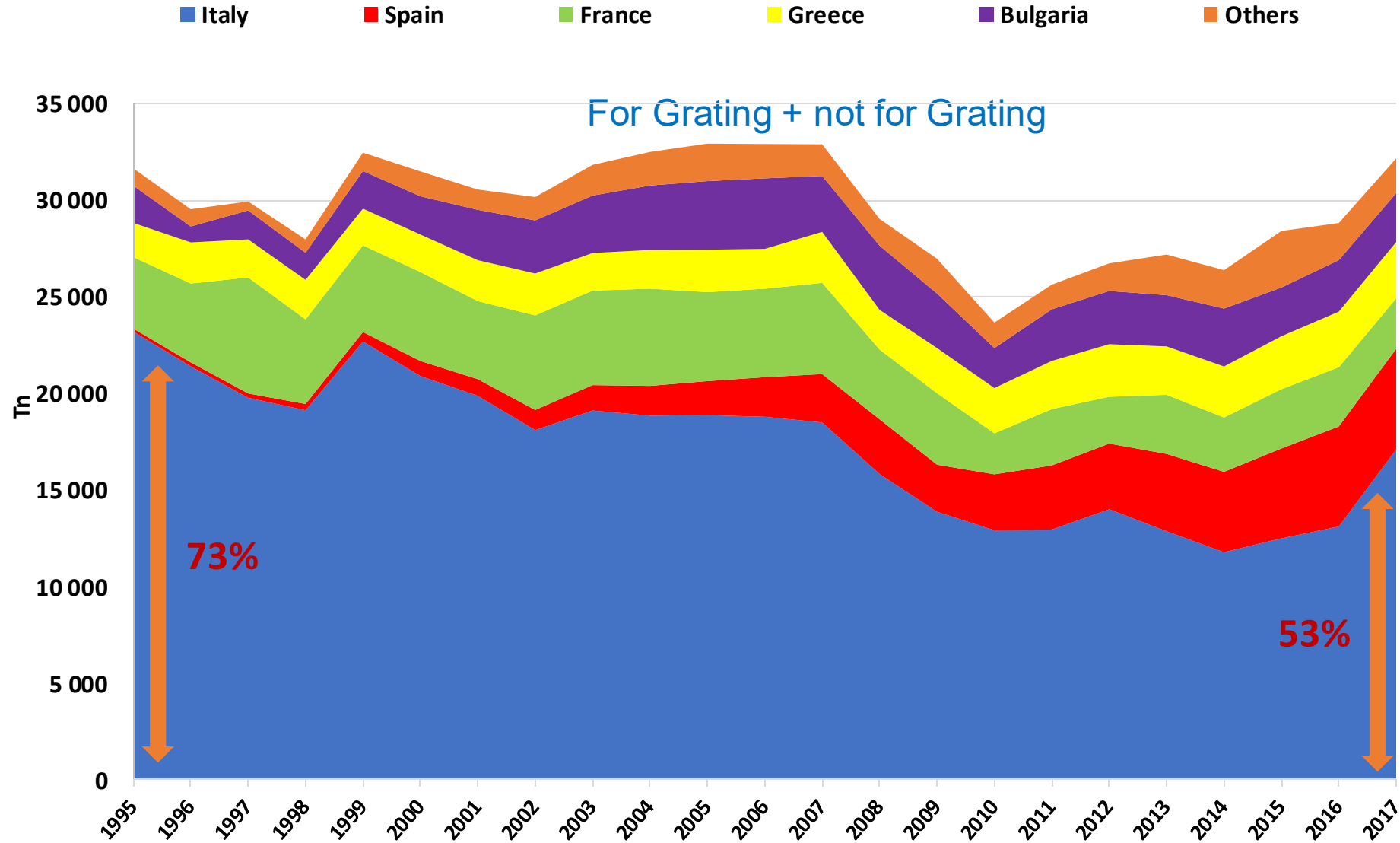
(Clal, Pecorino Romano, 2019)



Cheesemakers did not respect the threshold of production indicated by Pecorino Romano consortium



Italy has lost market share in the USA (Import of sheep cheese for grating and non-grating in USA by Country of origin, tons - Source: USDA-FAS)



Italy, one cheese, one market

Italy is loosing market share because the politics one cheese (Pecorino Romano) and one importer (USA), consequent trouble in milk price and lower competitiveness of farms

Supply limitations policies by Pecorino Romano consortium have failed until now

Government have tried to limit the crisis by buying Pecorino Romano for poor

Pecorino Romano consortium has presented a new voluntary production limitation plan to be adopted by cheese producers



Greece



Importance of sheep and goat farming [1]

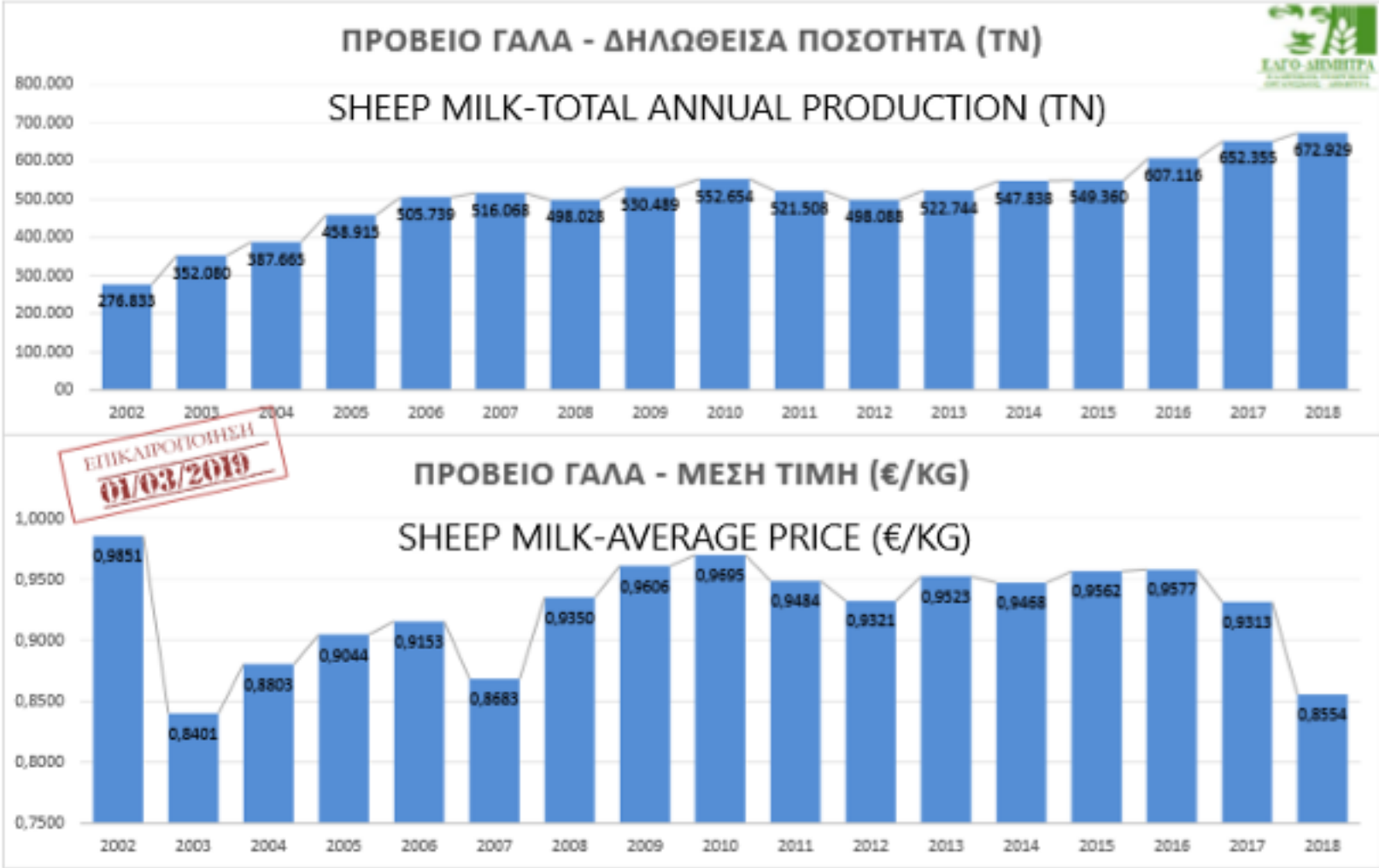


- Greek agriculture (as a whole) represents only about 3,6% of the country's G.D.P.
- Sheep and goat farming is the most important livestock farming sector of the country
- Predominance of small ruminants (sheep and goats) and deficit of dairy cow products



Greece is the only country in the E.U. that produces
more sheep and goat milk than cow milk.

Greek sheep milk production has more than doubled in the last 15 years; milk price remained fairly stable (± 5 cent/L)



Feta cheese



- PDO cheese since 2002 and Greece's most demanded product.
- Nearly **40%** of feta cheese production is exported
- Total export value around **441 million Euro (2018)**
- Feta cheese represents around **98% of the total cheese exports** of the country (Zervas, 2019)
- Exports mainly in European countries

Feta export is growing fast



Sheep milk crisis [1]



- Greece was one of the few European countries with a **constant** average sheep milk price which remained **over 0.93 €/L between 2008-2016**
- The sheep milk crisis started in 2017 and was caused mainly by **large imports** of sheep milk from neighboring countries (ex. Bulgaria, Romania) at lower prices (Zervas, 2019).
- In 2018 the average sheep milk price drops to **0.85 €/L**
- Serious problems with Feta's identity protection: Imitations (mainly white cheese made from cow milk)
- Farm sustainability at risk with current market prices. More and more farmers are leaving the sector.

Sheep milk crisis [2]



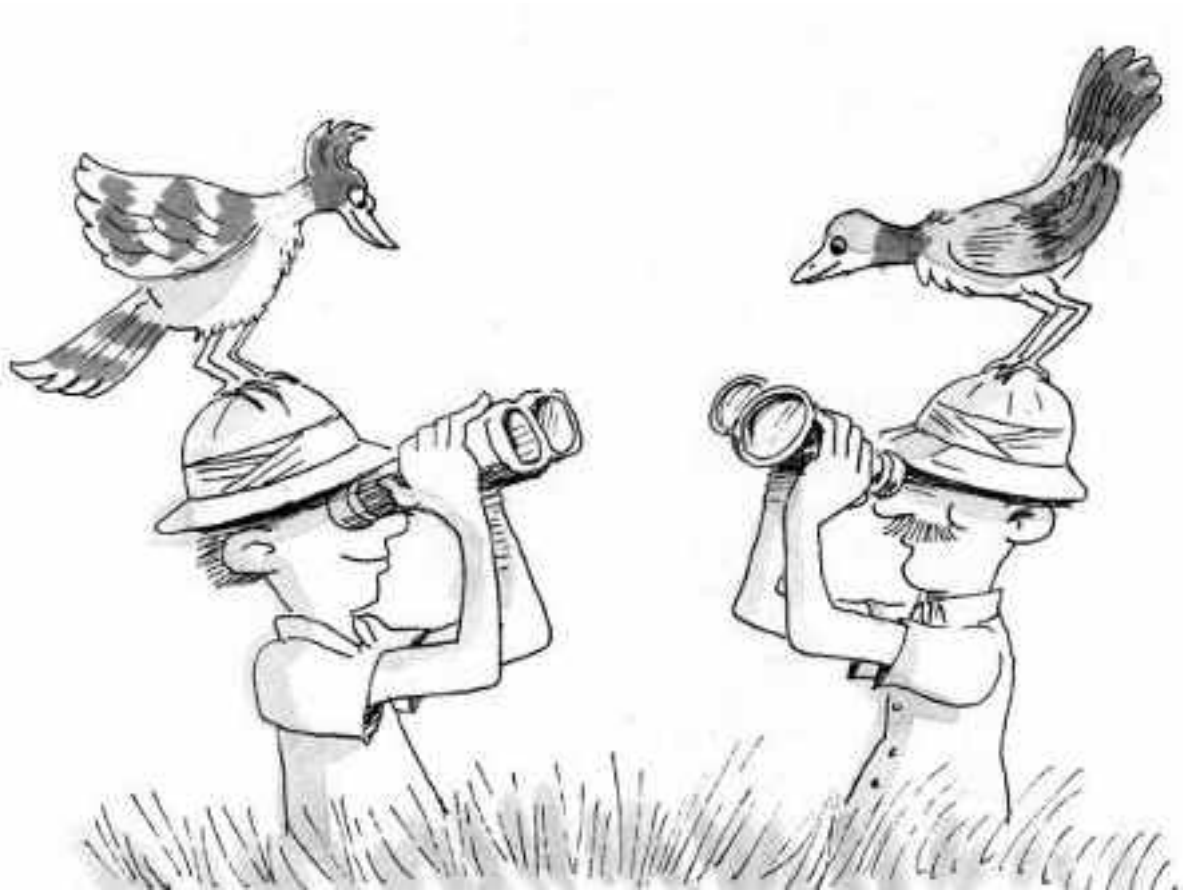
- Moreover, in 2017, the European parliament voted the **CETA agreement (between Canada and the EU member states)**
- Under this agreement, certain Canadian product names can use **European geographical indicators (GI)** such as “Feta cheese” by adding the suffix **“-type” or “-style”** and sell them in their domestic market.
- Greek breeders fear that CETA will set a **precedent** that will enable other countries to **demand a similar deal for feta**. This is already the case with **South Africa**.

Greece, one cheese, EU market



- Dairy sheep sector is increasing driven exclusively by Feta export
- Feta represents the world sheep cheese leader and one of the main exported goods of Greece
- Feta suffers from fraud and white cheese competition
- Dairy sheep farmers suffer from import of milk by neighboring countries (ex. Bulgaria, Romania) at lower prices

Rationale



1. World, EU, Italian and Greek dairy sheep sector at a glance

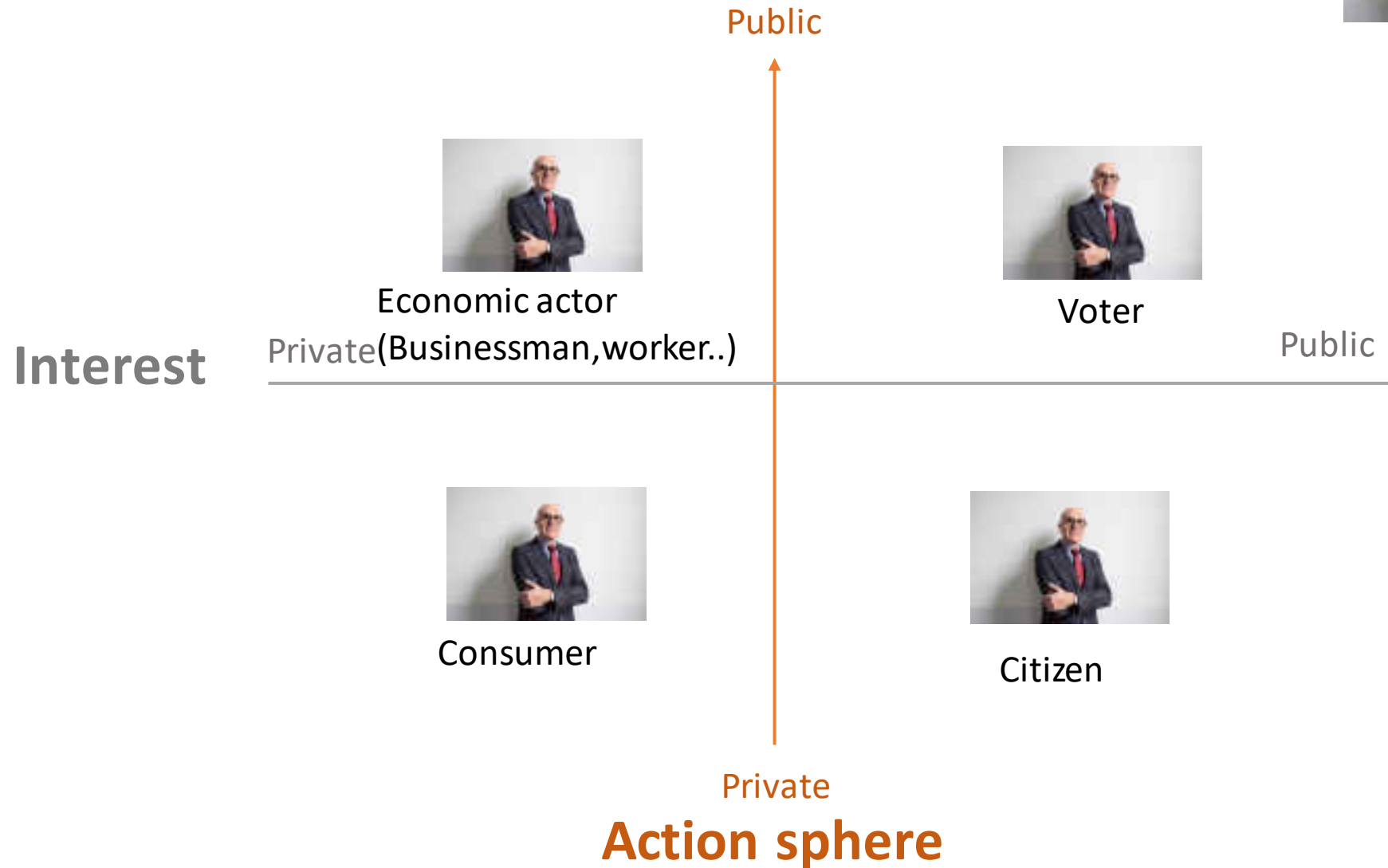
2. Consumers trend and cultural mainstream

3. Bad news

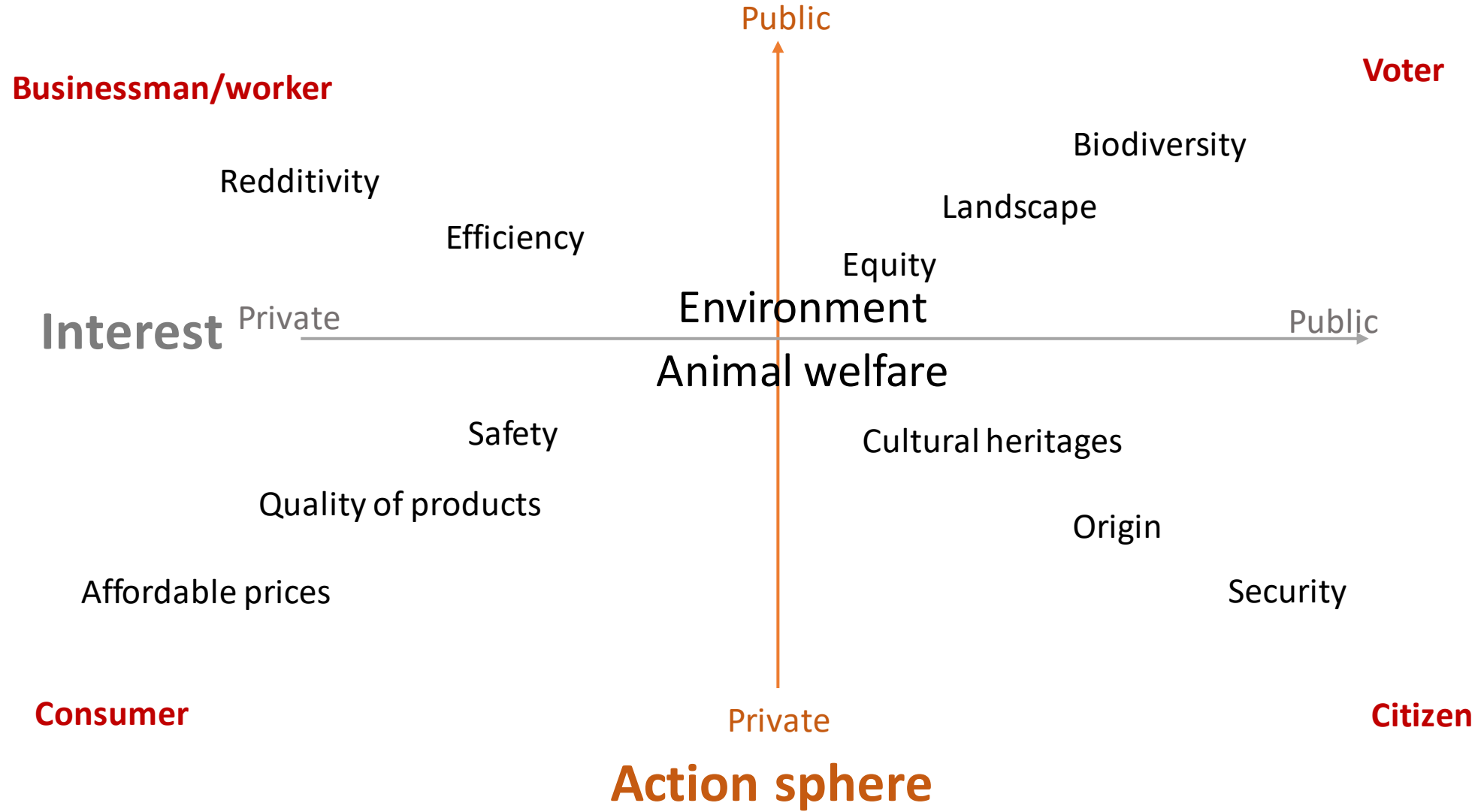
4. Good news

5. Final remarks

Who are we talking to?

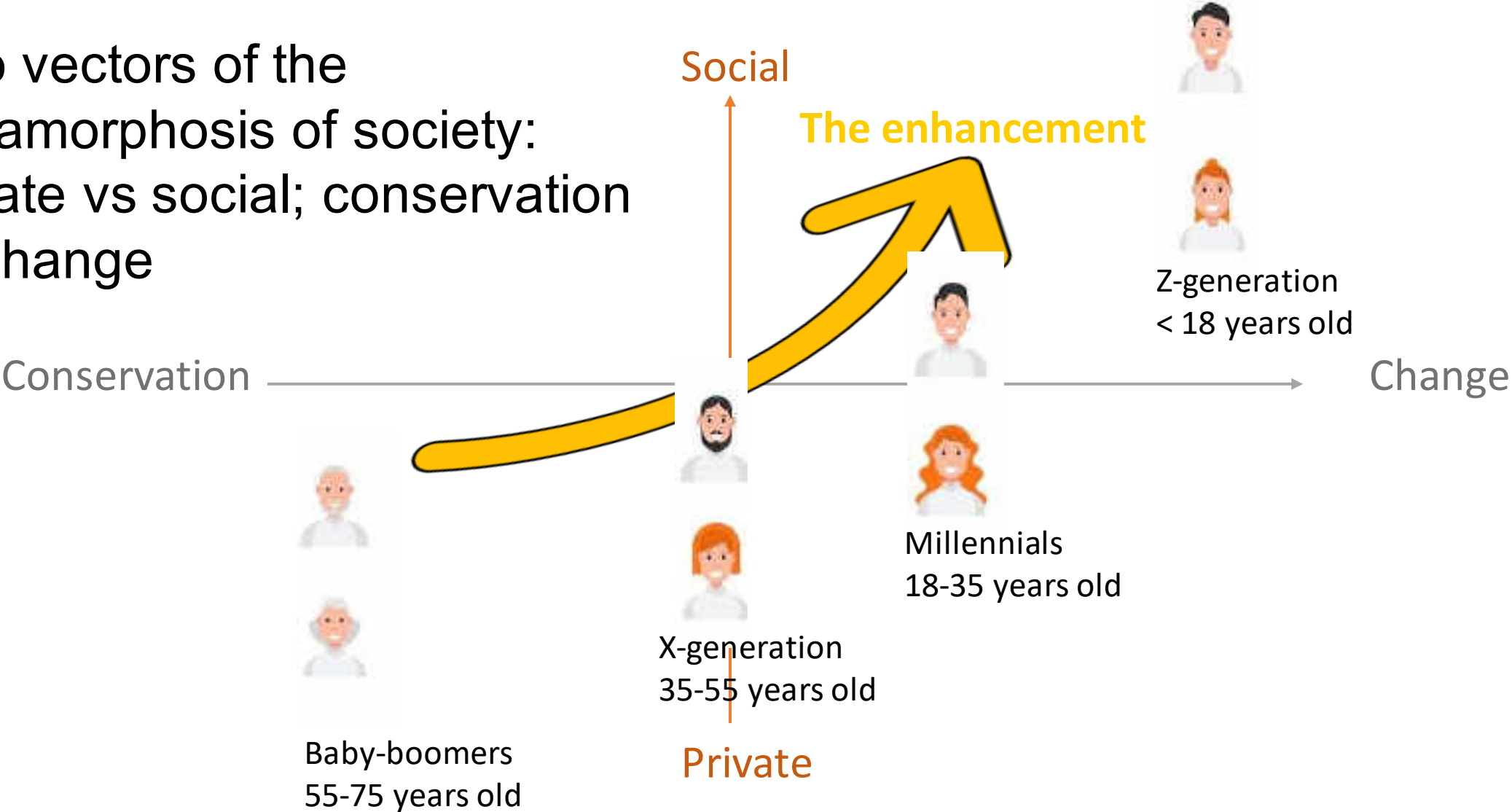


WHICH VALUES?



The metamorphosis (by KKIENN Ltd, 2019)

Two vectors of the metamorphosis of society: private vs social; conservation vs change



What is the Enhancement? (by KKIENN Ltd, 2019)



Boost up in themselves

**FROM SATISFYING
TO CULTIVATING
YOURSELF**

*Strengthen in the relationship
with space and time*

**FROM STATIONARY TO
MOVEMENT**

**FROM FUTURE TO
PRESENT**

*Empower yourself in the
relationship with others*

**FROM FEW STRONG
RELATIONSHIPS TO MANY
WEAK RELATIONSHIPS**

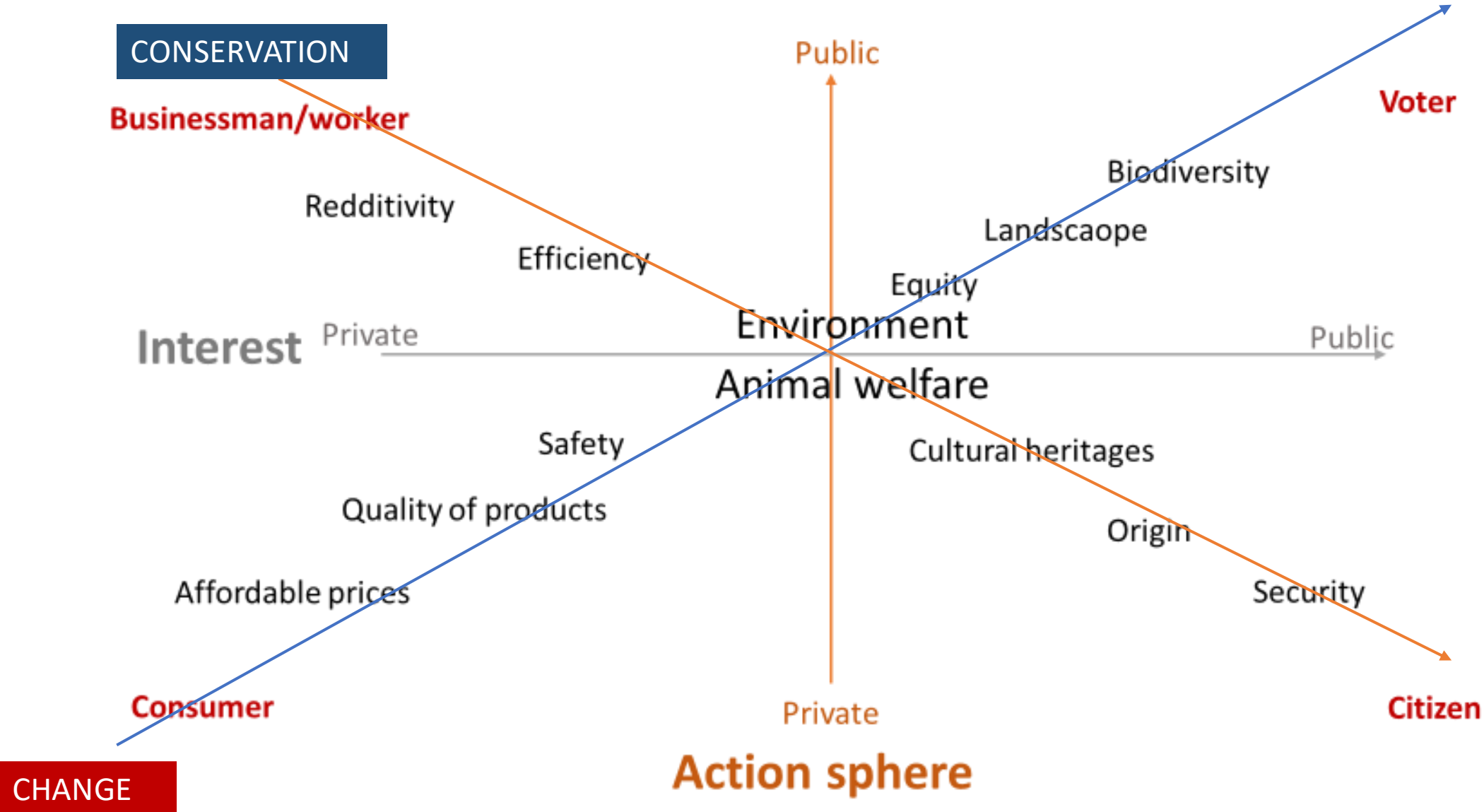
**FORM VERTICAL TO
HORIZONTAL**

**FROM DEPENDENCE TO
INTERDEPENDENCE**

*Empower yourself in the
relationship with things*

**FROM NATURAL TO
ARTIFICIAL
*(From human to
empowered)***

CROSSING VALUES AND METAMORPHOSIS



The enhancement in the food system (by KKIENN Ltd and Pulina, 2019)

CONSERVATION

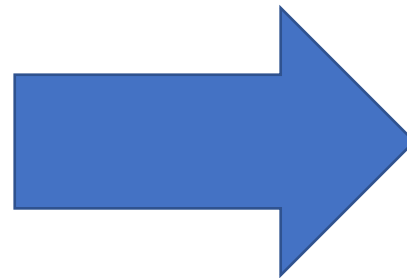
FROM GENUINE

Nature is in itself good, it must be respected and not modified.

Healthy foods are those in which the action modifier of man is reduced to a minimum

FROM LABEL

Quality values and origin are the main information required



CHANGE

TO DEPURATED

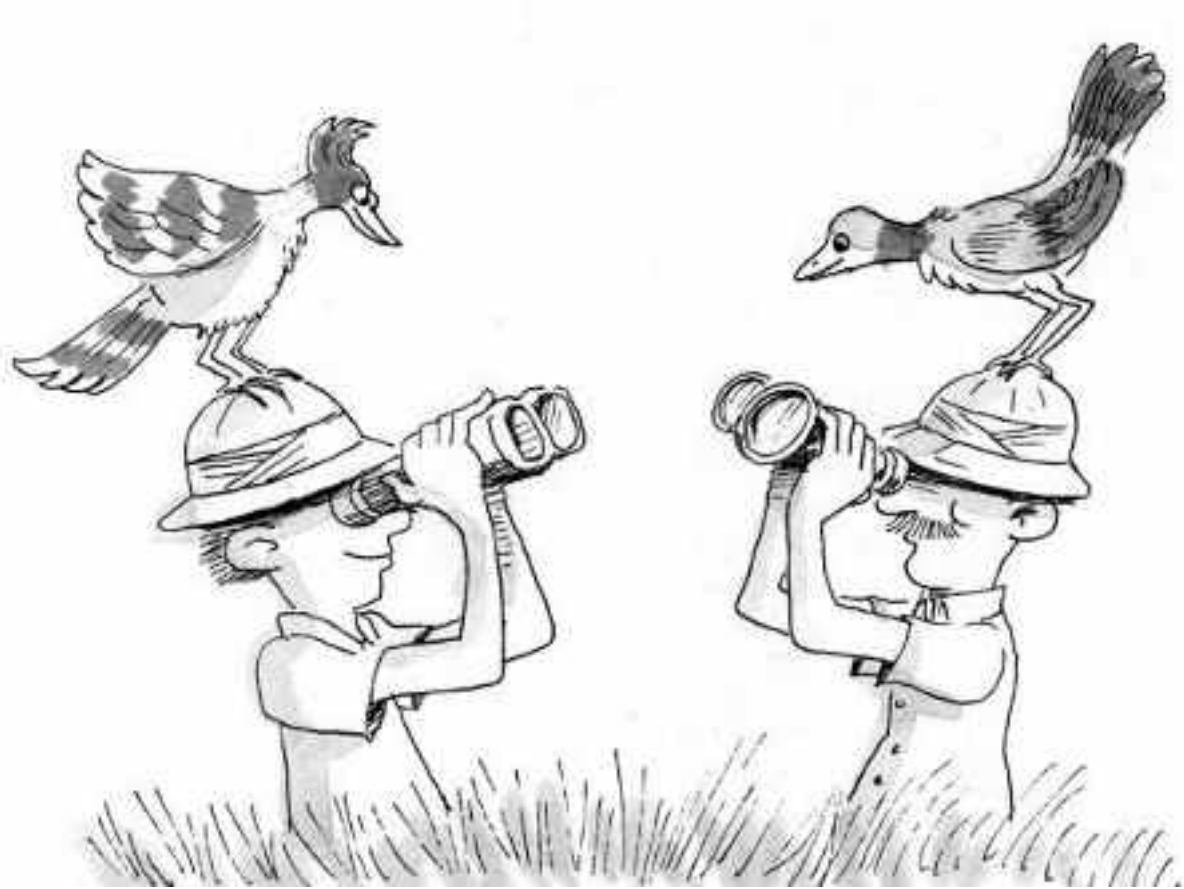
Man has the right to intervene on nature to improve its critical aspects

Healthy foods are the ones in which man selects and modifies the elements to make them more responding to needs

TO ETHIC-LABEL

Respect to humans, animals and environment are the main information required

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Someone thinks that fake milk (and fake cheeses) can fastly substitute natural milk



The business is looking to a completely artificial milk



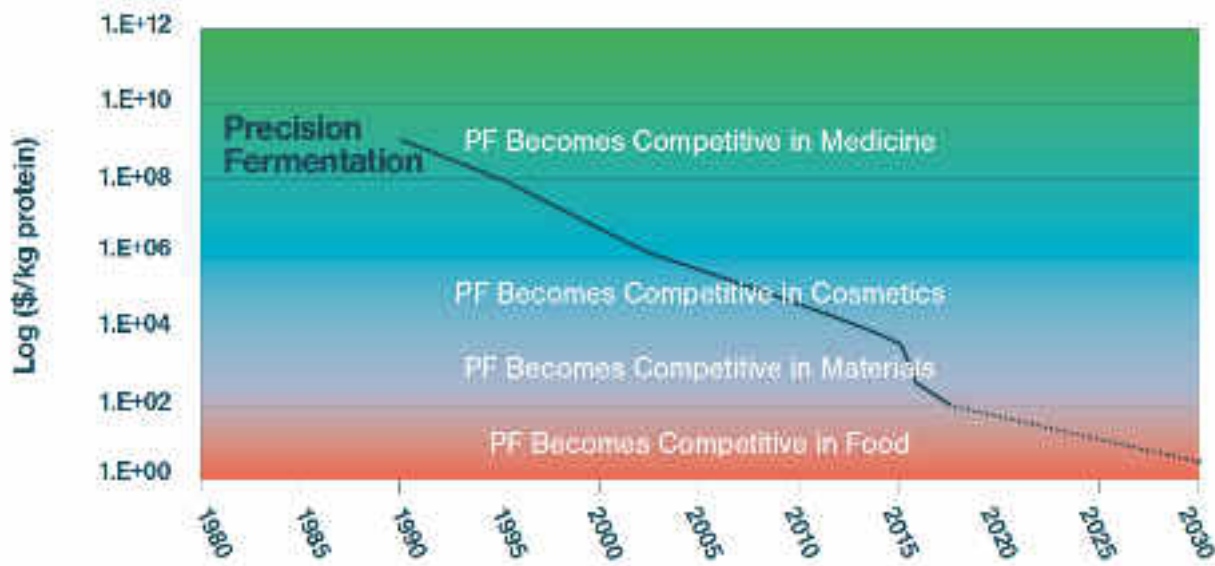
Queso feta vegano



Precision Fermentation (PF) is growing of interest in business world

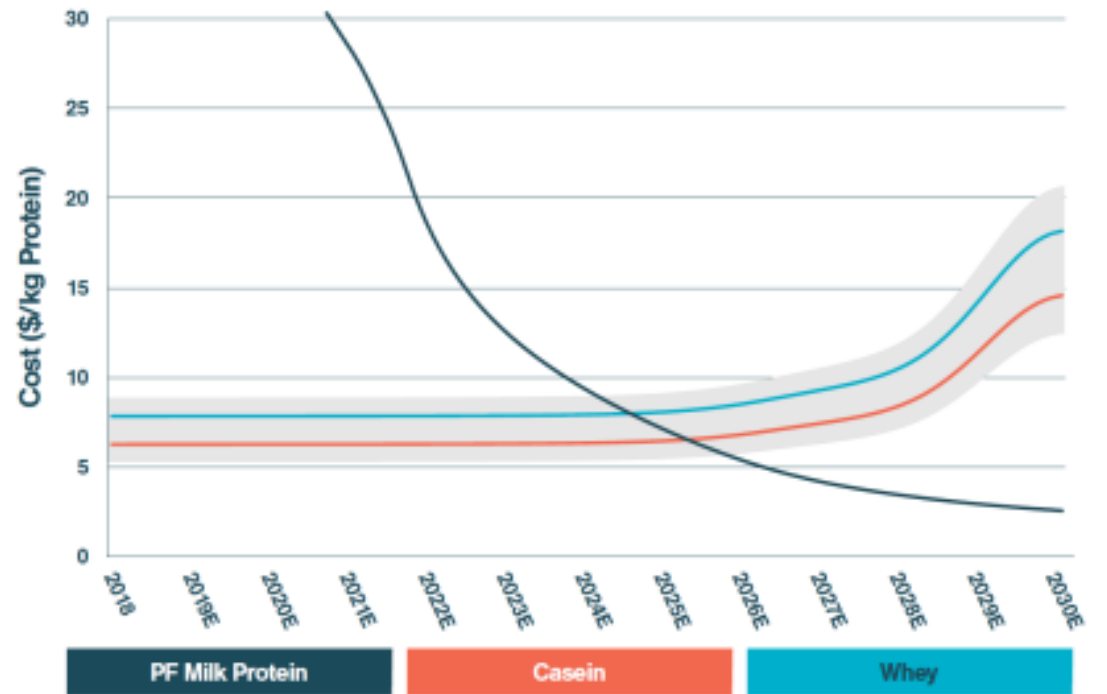


Figure 5. PF Disrupting More Industries as Costs Fall



Source: RethinkX

Figure 31. The Cost of PF Dairy



Source: RethinkX

The study formulates the prediction of the destruction of the world milk system



2.2 The Disruption of the Cow

2.2.1 Proteins: The Disruption Starts Here

As we have seen, proteins produced by modern food production methods are already used in healthcare, vitamins, and cosmetics. They are now beginning to disrupt major, recognizable portions of the wider food market. We already eat many foods with ingredients produced by PF, yet very few of us are aware of it. These include valencene (orange taste and smell), raspberry aroma, sweeteners like thaumatin, and vitamins, as well as a number of enzymes used in food processing like rennet, amylase, or lipase (see Box 7). More recently, the process is being used to make soy leghemoglobin (heme).³⁰ Many of these products have already completely disrupted the markets they entered.

The next proteins to be disrupted are those produced by cows, namely those in milk and meat. They will instead be created directly from micro-organisms rather than extracted from the cow (the macro-organism). These individual proteins will then be built up to make the end product, whether it be ground meat, a burger, or a steak. This is a complete reversal of conventional production methods, where the cow is broken down into constituent components and then processed according to which end product is desired. In the conventional system, single molecules such as whey are the hardest and most expensive to produce. In the new system, they are the easiest and cheapest to produce. Crucially, the single protein molecules made using modern production techniques will be superior, purer, and more consistent than those extracted from the cow.

Figure 8. Molecular Composition of Milk

The key to understanding the disruption of milk is that PF only needs to disrupt 3.3% of the milk bottle – the key functional proteins – to bring about the collapse of the whole cow milk industry

3.3% Protein

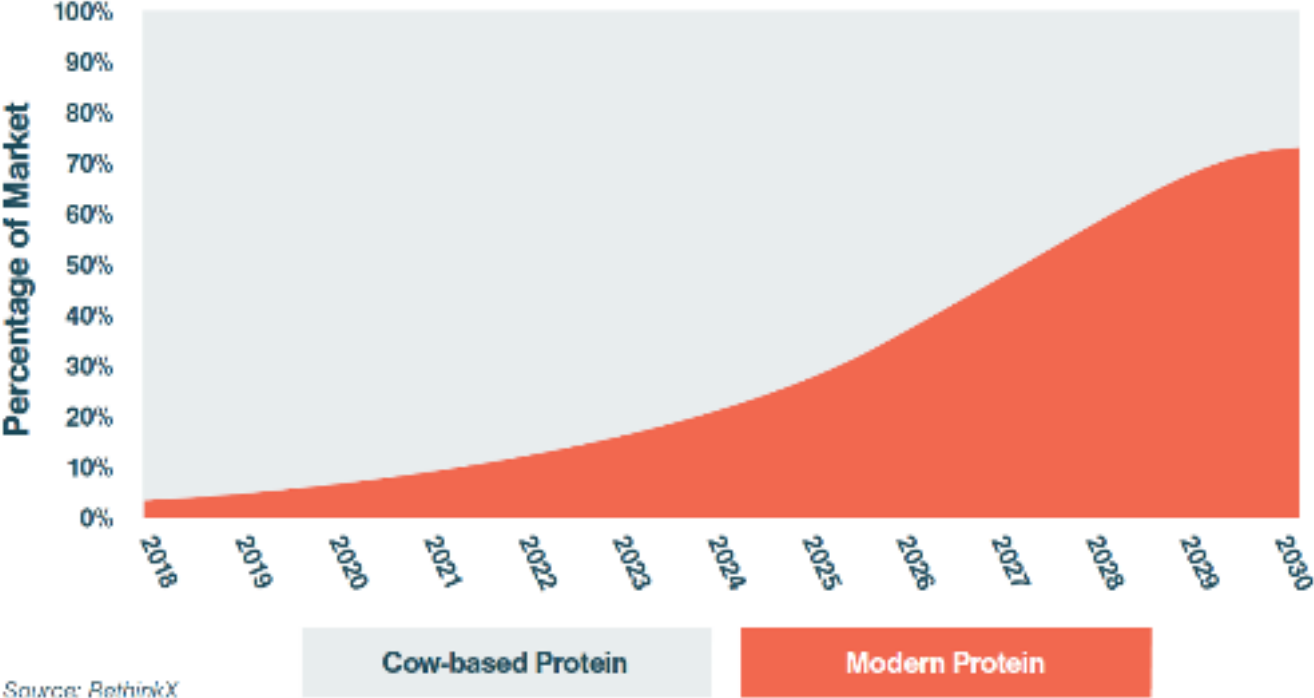


Source: RethinkX

Until the actual market situation is reversed

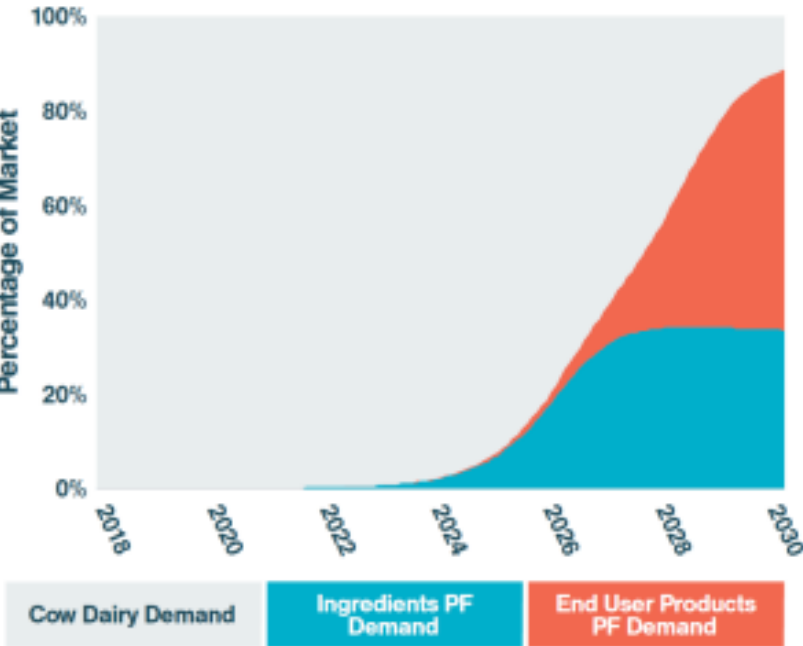


Figure 17. Modern Protein Market Share

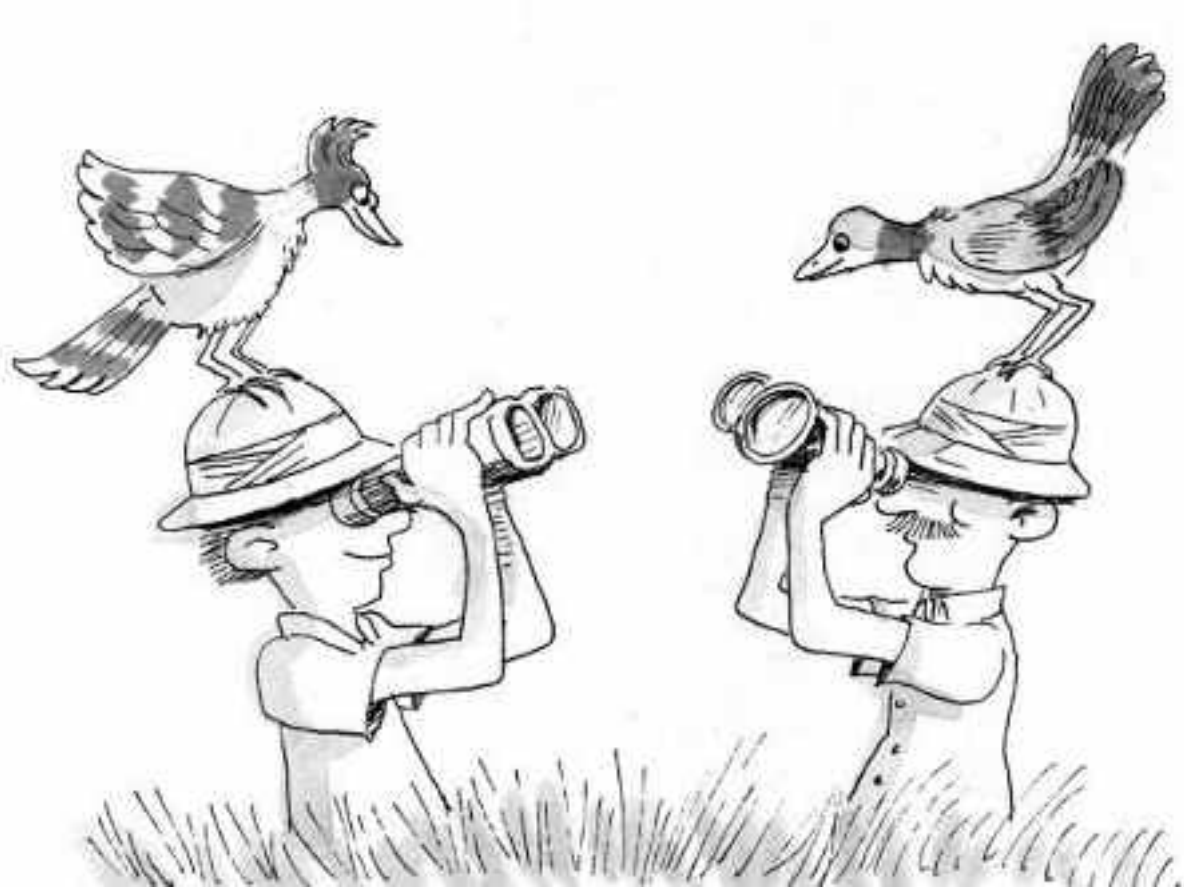


By 2030, we expect almost 90% of U.S. dairy protein demand to come from PF alternatives.

Figure 9. U.S. Dairy Protein Demand



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Milk and cheeses are NOT just proteins!



≠

Alcohol



≠

Proteins

People do not want just proteins, they want values also



Milk and cheeses (mainly from sheep) are biological, social and cultural complex systems



Complex biological matrix (>1.000 compounds) with high nutritional values

Complex taste and flavour

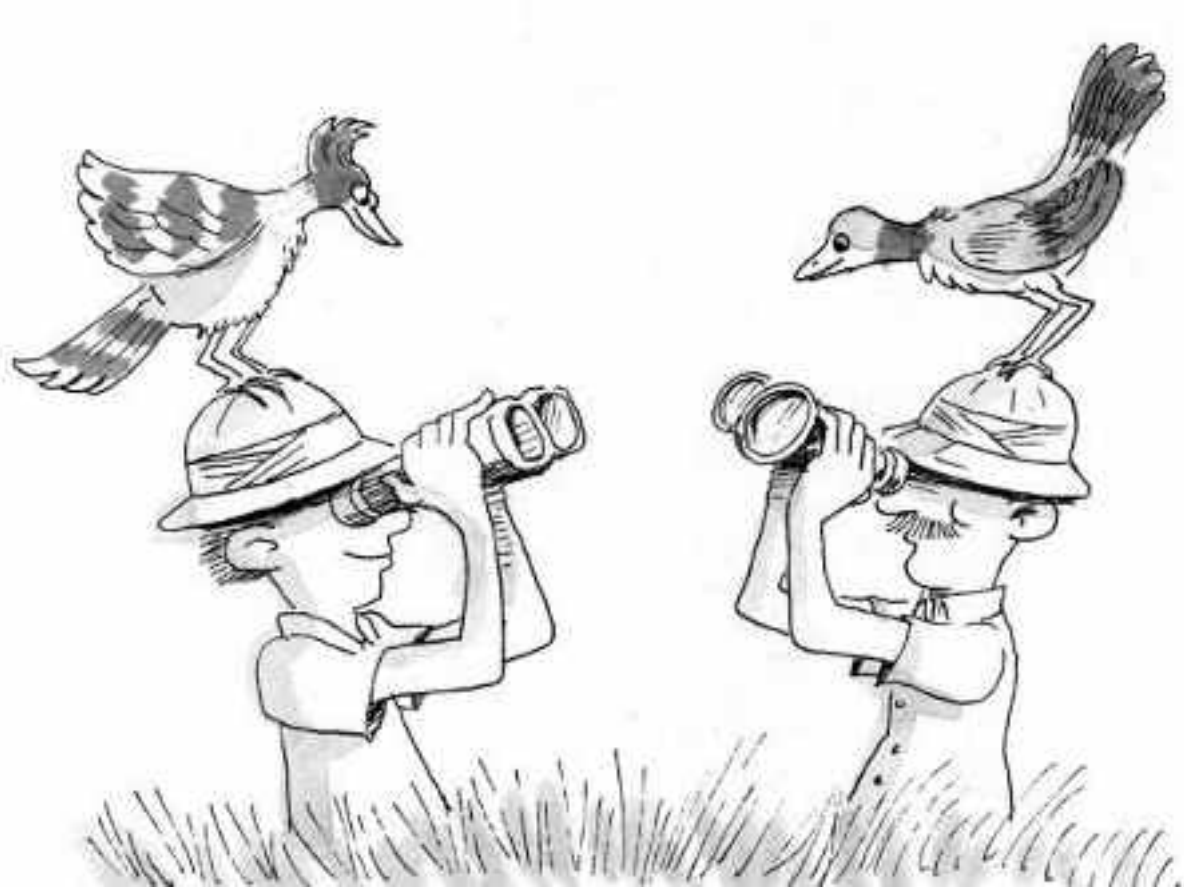
Complex economy and employment

Complex cultural heritages and landscape

Tradition, animal welfare and environment are *central values* in consumer choices over price

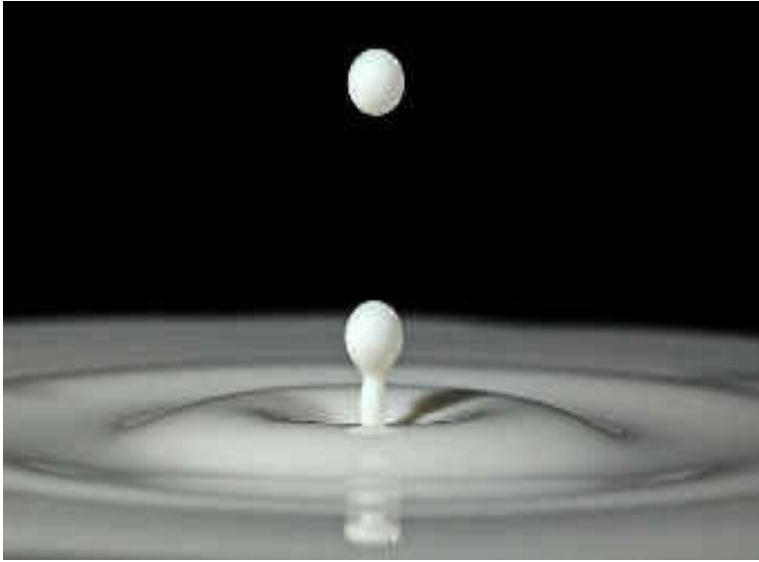


Rationale

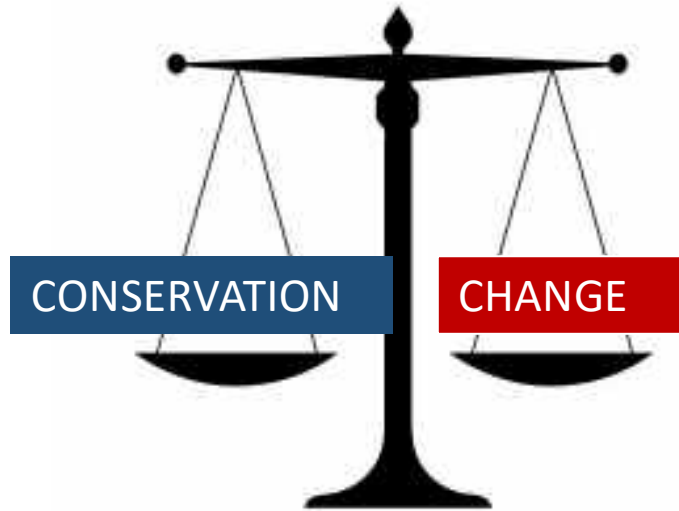


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Remembering that sheep milk is a drop in a milk sea (we are not worried about the fake cheese...)



We should elaborate a strategy for dairy sheep sector based on the balance of two pillars:



Strategy for *Conservation* (the 3p rules)



1. PRESERVE, the traditions to maintain the typicity of the cheeses



2. PROTECT, the PDO against the frauds



3. PROMOTE, the PDO cheeses in old and new markets

Strategy for *Change* (the 3i rules)



1. INVENT, new types of cheeses



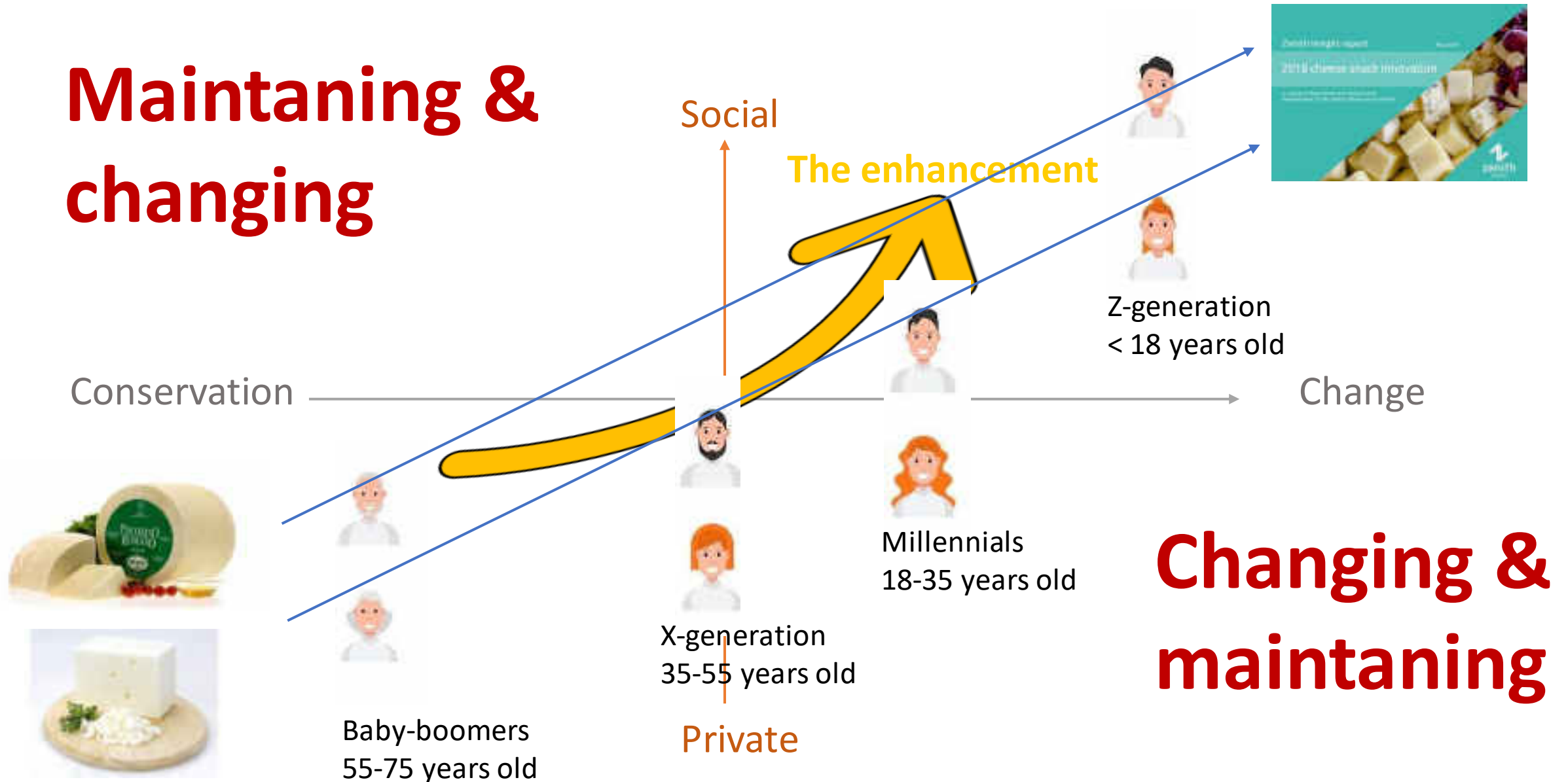
2. INNOVATE, the traditional cheeses



3. INVESTING, in *eco* and *ethic* labels for the whole production chain

The right product for all the people (by KKIENN Ltd, 2019)

Maintaining & changing



Italy sheep cheese system: what should be done?



1. Incentive policies to push the cheesemakers for respect the voluntary limitation of Pecorino Romano production
2. Take into account the whole sheep cheese production in determining the milk price
3. Promote also other sheep cheeses PDO over Pecorino Romano
4. Certificate for carbon neutral and animal welfare the whole production chain
5. Invent new products and promote the traditional ones in the restaurants and touristic market

Greek sheep cheese system: what should be done?



1. Government intervention for:

- Protection at global level of the originality, authenticity and quality of Feta cheese against frauds made mainly of cow milk
- Addressing the problem of large sheep milk imports from foreign countries
- Creation of a carefully regulated and supervised system for efficient controls especially in the retail sector (restaurants etc.)

2. Promotion of other sheep cheeses DOP (Greece produces a total of 21 DOP cheeses)

Finally, our dairy sheep systems are weak: they have to pool to attack the global market

UNESCO INTANGIBLE CULTURAL HERITAGE



The Mediterranean diet has been declared intangible heritage of UNESCO in 2010 in Nairobi, Kenya, because it is considered a cultural heritage to be safeguarded



2020 marks the 10th anniversary of the declaration of the *Mediterranean Diet* as an UNESCO intangible heritage

The four Mediterranean sheep flag cheeses are not competitors

- France



Roquefort

- Greece



Feta

- Italy



Pecorino Romano

- Spain



Manchego

They can compose the Mediterranean cheese basket for the 10° UNESCO anniversary

UNESCO INTAGIBLE CULTURAL HERITAGE





Thank you for your attention

