

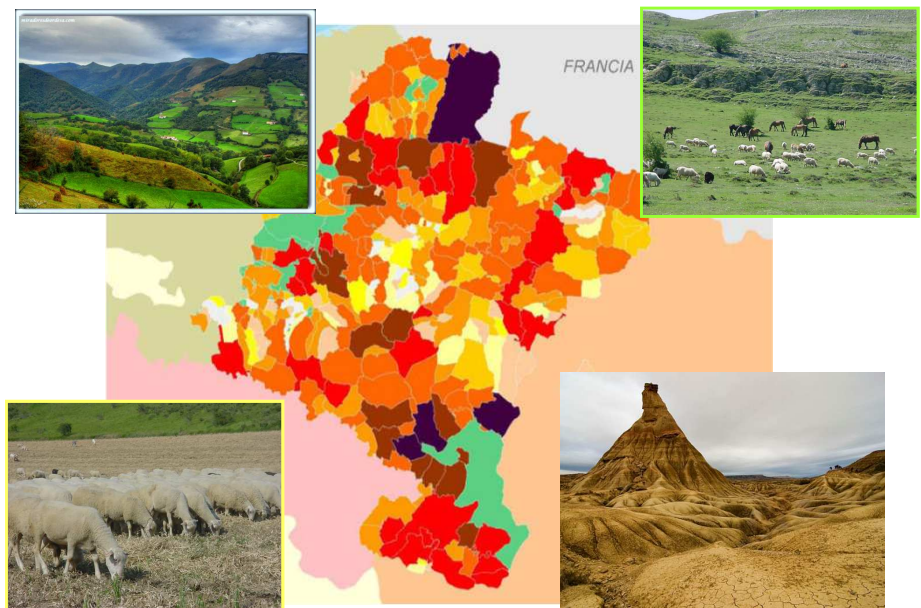
**INTIA**

GRAZING LIVESTOCK IN THE REGION OF NAVARRA (SPAIN) .  
ECONOMIC RESULTS AND DEVELOPMENT OF A TOOL TO DIAGNOSE SUSTAINABILITY  
APPLICATION TO DAIRY SHEEP

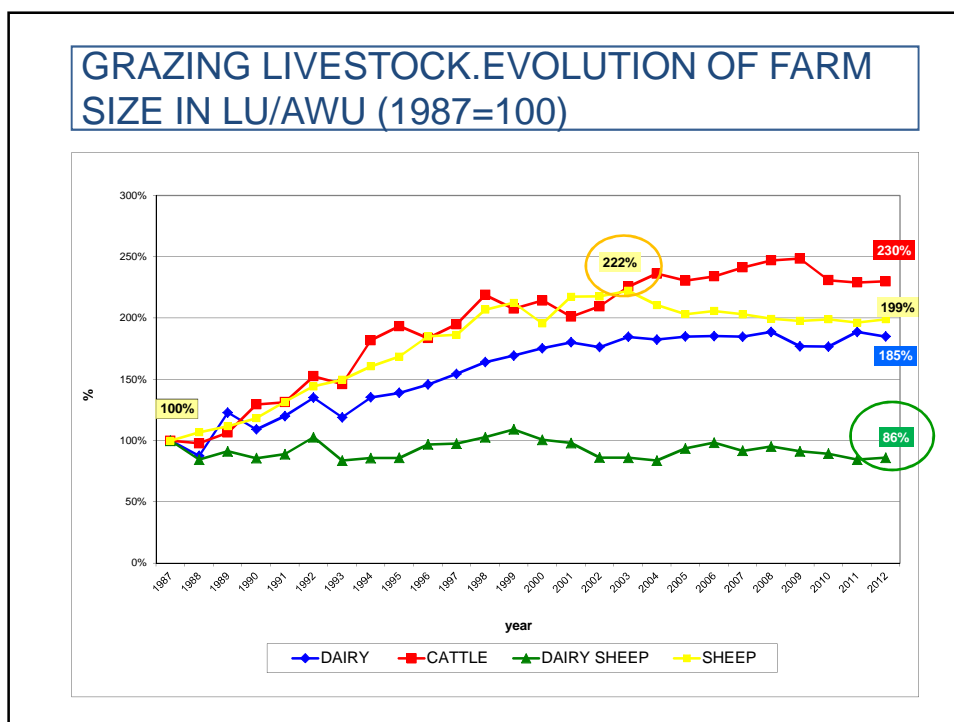
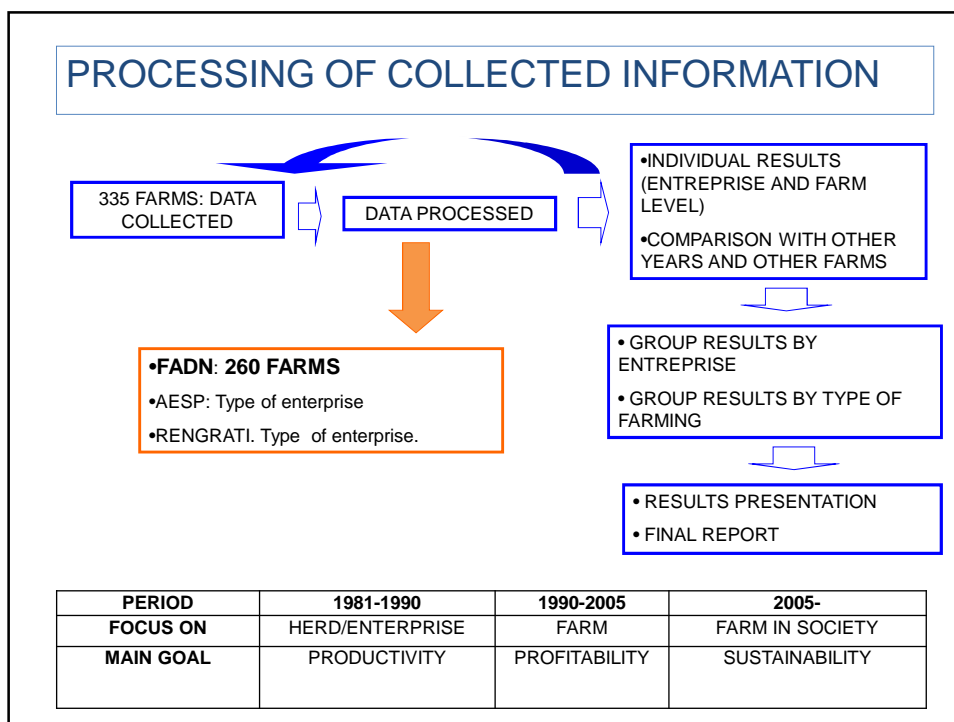
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PACIOLI 21  
Sweden, 22<sup>nd</sup>-25<sup>th</sup> of September 2013

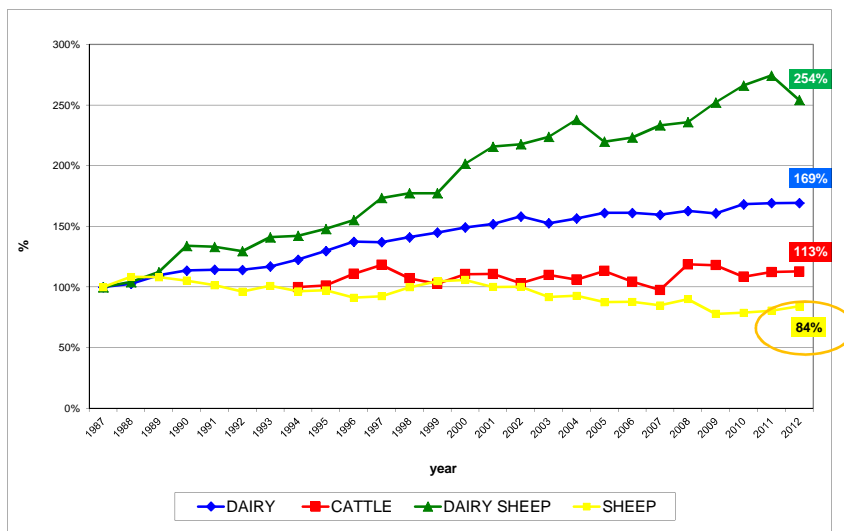
### NAVARRA AND GRAZING LIVESTOCK



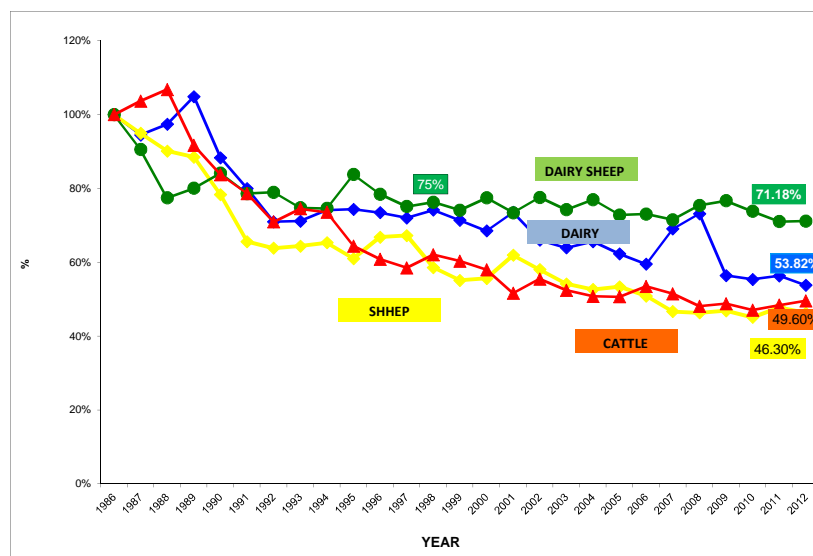
The slide features a central map of Navarra, Spain, divided into numerous small, multi-colored polygons. Surrounding the map are four photographs: top-left shows a lush green valley with mountains; top-right shows a herd of sheep grazing in a field; bottom-left shows a flock of sheep in a dry, open field; bottom-right shows a unique, eroded rock formation (a 'torreón') in a dry landscape. The word 'FRANCIA' is visible on the map to the north.



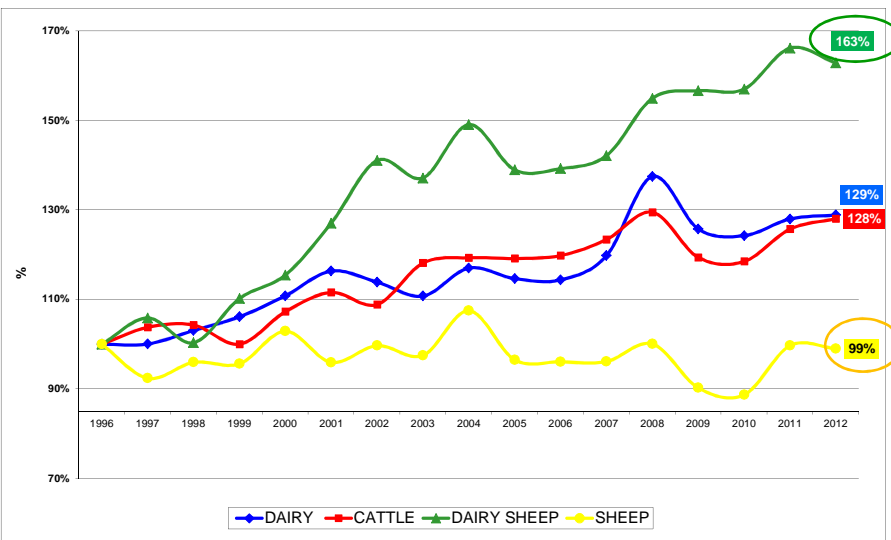
### GRAZING LIVESTOCK .EVOLUTION OF PRODUCTION/LU (1987=100)



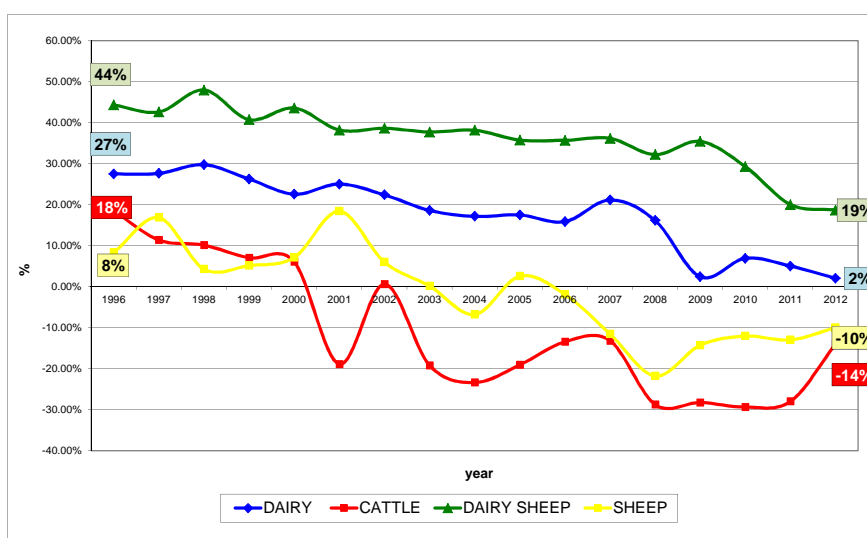
### GRAZING LIVESTOCK .PRICES IN REAL TERMS(1986=100)



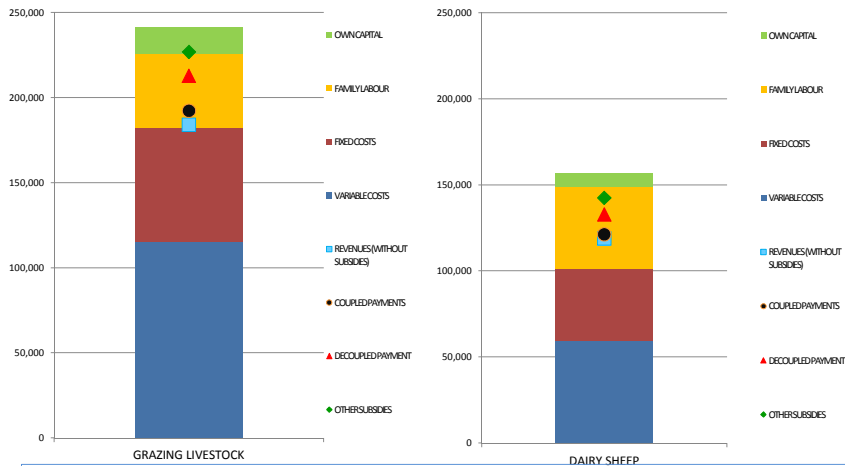
### COSTS( Operating+ Depreciation+ External factors) PER LU IN REAL TERMS (1996=100)



### GRAZING LIVESTOCK .EVOLUTIONOF NET MARGIN/TOTALOUTPUT (WITHOUT SUBSIDIES)



## GRAZING LIVESTOCK AVERAGE AND DAIRY SHEEP SPECIALIZED FARMS. RESULTS 2012



Dairy sheep has better NM but worst FNI. Lower coupled subsidies ( no subsidies in sheep milk), lower single payment ( small herds), other subsidies ( investments)

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## SUSTAINABILITY IN DAIRY SHEEP

- ✓NAIA: Nekazaritzako Adierazleak Iraunkortasuna Aztertzeko
- ✓Economically small but : local breeds vs foreign breeds, extensive vs intensive management, purchased concentrates vs pasture based feed, peasant knowledge vs modernisation, “commodities” vs differentiated products, artisan production vs industrial, direct sales or short distribution channels vs large shopping centres.
- ✓It's the only type of farming where on farm processing and direct sale is relevant.
- ✓Production without European specific policy
- ✓Established mainly on less favoured areas
- ✓Milk used for two cheeses with geographical indication.
- ✓Three different strategies are used by farmers:
  - LM: Local breed (Latxa), milk sold to industries.
  - LC: Local breed(Latxa),on farm cheese processing and direct sale.
  - FM: Foreign breeds ( Assaf and Lacaune), milk sold to industries.

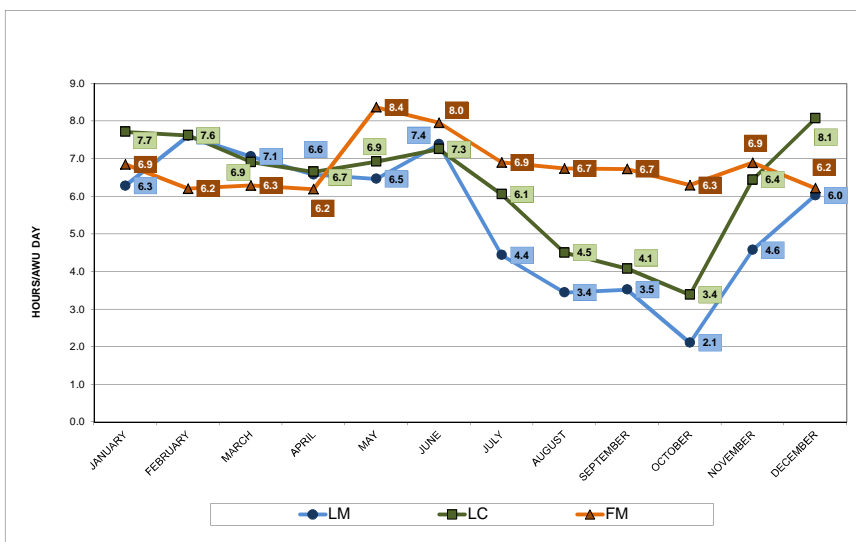
## SUSTAINABILITY INDICATORS: 136

ECONOMIC: 27	SOCIAL: 66	INTERNAL	ENVIRONMENTAL: 43
Autonomy	Farm ownership	INTERNAL	Livestock and territorial base
Risk and diversification	Generation of Employment		Land management
Costs	Quality of life		Nutrient balance
Stability	Quality of labour		Effluent management
<b>Profitability</b>	Gender indicators		Landscape and Biodiversity
	Animal welfare	EXTERNAL	Energy
	Environment valuation	EXTERNAL	<b>GHG emissions</b>
	<b>Product quality and closeness to consumers</b>		

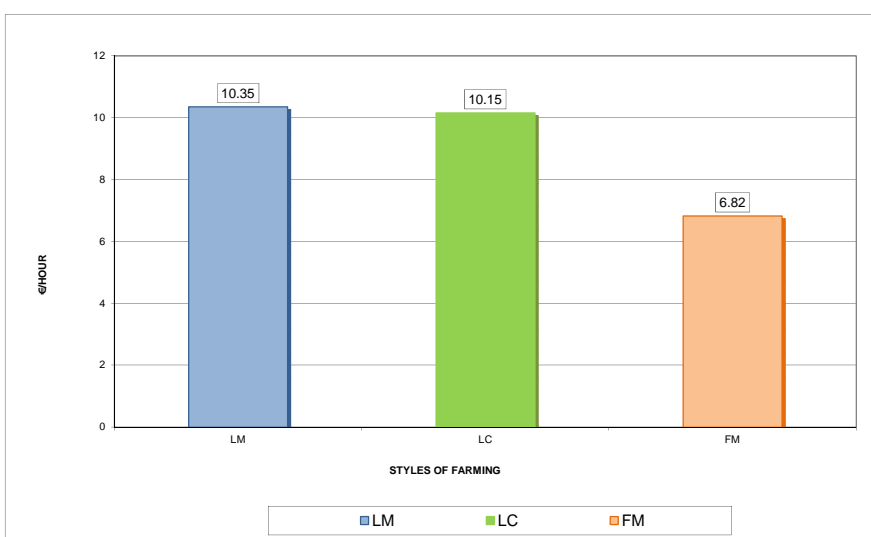
### PROFITABILITY (8): Net margin/AWU, FL/AWU, NM/milk litre, NM/T & TO, GM/ T & TO , FL/hour.



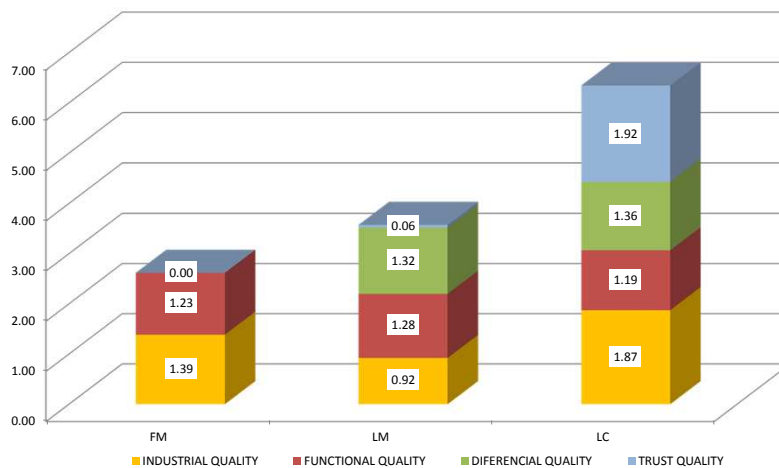
## HOURS/DAY PER PERSON WORKED BY STYLE OF FARMING



## PROFITABILITY (8): Net margin/AWU, FL/AWU, NM/milk litre, NM/T & TO, GM/ T & TO , Family Labour/hour.

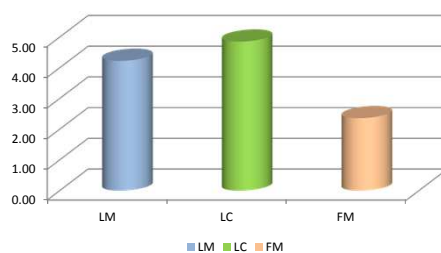


**PRODUCT QUALITY & CLOSENESS TO CONSUMERS**  
 (11 indicators): Germs, Cells, Dry extract, ω6/ω3, organic, origin, no GMO, direct sale.....

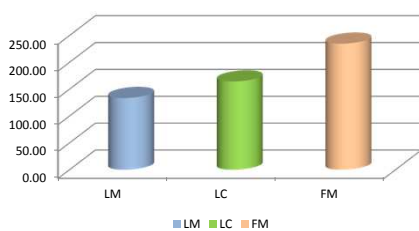


**GHG EMISSIONS(4): CO<sub>2</sub> equivalent per litre, AWU, HA, NM**

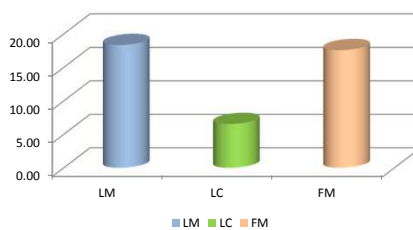
**GHG/LITRE MILK**



**GHG/AWU**

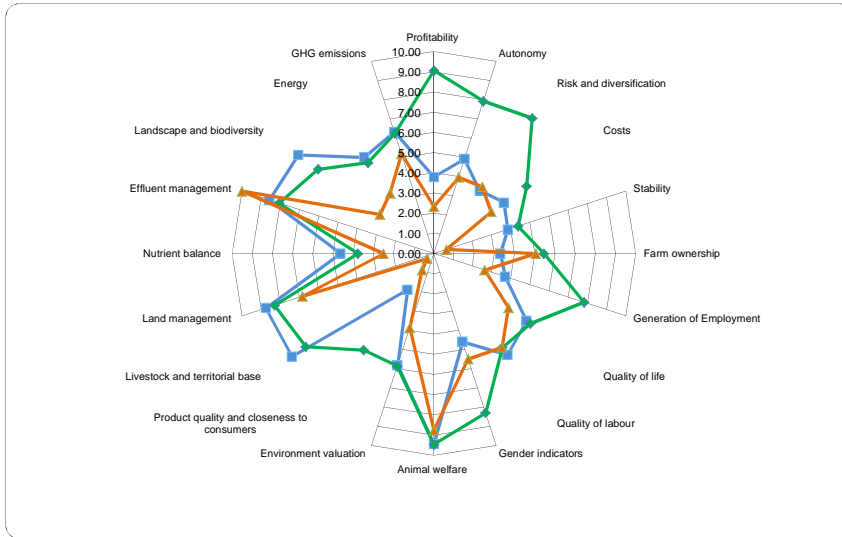


**GHG/NM**





## SUSTAINABILITY OF DAIRY SHEEP STYLES OF FARMING



THANK YOU