



**CIHEAM**  
BARI

# A CHANGE OF ROUTE

**TOWARDS MORE SUSTAINABLE AND RESILIENT  
FOOD SYSTEMS IN THE MEDITERRANEAN  
COUNTRIES**

**The Mediterranean Diet as a Strategic Resource  
for Accelerating the Agenda 2030 in the Region**

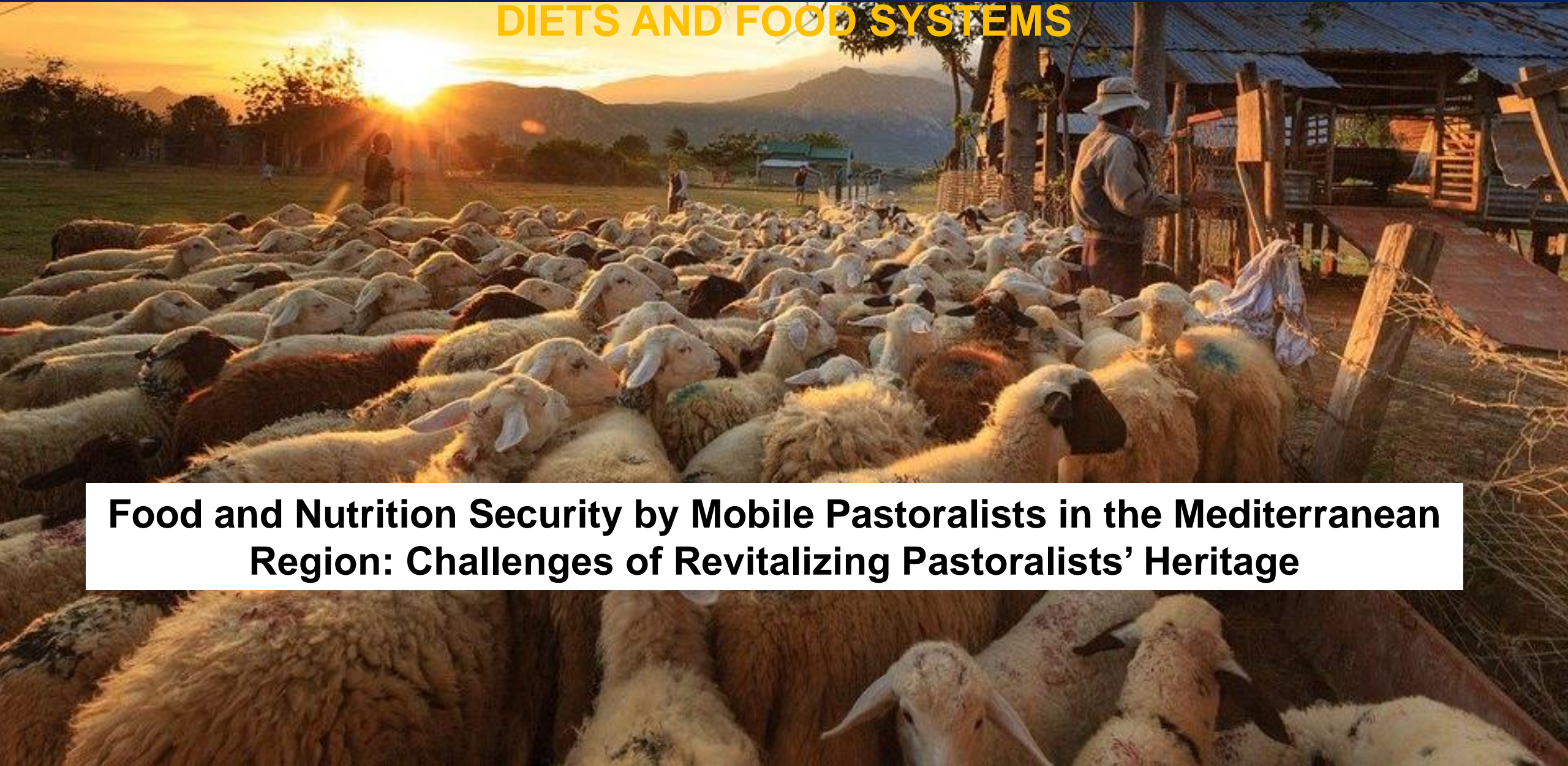
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**3<sup>rd</sup> WORLD CONFERENCE  
REVITALIZATION OF  
MEDITERRANEAN DIET**



# REINFORCING THE INTER-RELATIONS BETWEEN MEDITERRANEAN AGRICULTURAL HERITAGE AND FOOD HERITAGE FOR SUSTAINABLE DIETS AND FOOD SYSTEMS



**Food and Nutrition Security by Mobile Pastoralists in the Mediterranean Region: Challenges of Revitalizing Pastoralists' Heritage**

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- ♦ **Mediterranean food systems represent an array of food and nutritional security**
- ♦ **Mediterranean diets strongly rely on animal proteins and fats.**
- ♦ **This presentation will explore the contributions made by mobile pastoralists to the food and nutritional security in the Mediterranean countries**
- ♦ **It will conclude with the mobile pastoralists' challenges to survive and preserve the heritage of pastoralism and traditional diets.**

# Mediterranean

- ♦ Evolved as socio-cultural and biocultural diversity heritage, the mobile pastoralism involves transhumance across extreme environments while herding animal flocks for accessing and exchanging products and services, seizing ecosystemic opportunities, and evading animal diseases or other risks (Nori, 2019).
- ♦ Mobility is a factor central to pastoral resource management and livelihood patterns. Pastoralists move in order to make the best use of a limited and variable natural resource base while also enhancing its reproduction.
- ♦ Mobility is also a strategy for accessing and exchanging products and services, seizing opportunities, or evading animal diseases or other trouble. The geographical dimensions of mobility vary according to conditions and cultures (Niamir Fuller, 1999).



# Transhumance and Pastoralism in Mediterranean

- About 26 million km<sup>2</sup> of land (nearly 25%) worldwide are under managed-grazing systems engaging about 120 million pastoralists/agro-pastoralists worldwide, with about 31 million in southern Mediterranean region (Blench, 2001; Johnsen *et al.*, 2019).
- 1 billion people depend on livestock; 200 million pastoral households
- Pastoralists produce 10% of the world's meat. Animals convert the energy stored in grasses to the milk and meat that feed the human population.



# Role of Pastoralism in Mediterranean



- ♦ In Mediterranean ecoregion, pastoralism has played a key role in shaping arid and mountainous landscapes characterized by highly unpredictable rain patterns and high climatic variability (Nori, 2019).
- ♦ In southern Mediterranean, livestock trade and marketing are also important economic drivers, as the demand for animal protein consumption has grown steadily since the 1960s.
- ♦ In Mediterranean region, small ruminants (sheep, goats) mostly compose the livestock, along with certain proportion of cattle, equines and camels.
- ♦ For example, in Greece, out of 20 dairy-farming products (cheeses) 18 are made of sheep and goat milk (Hadjigeorgiou, 2011).

# Diets Contribution by Pastoralists

- At present, people in the developed world obtain 27% of calories and 56% of protein from animal sources.
- Livestock products contribute 17% calories and 33% protein globally to the world's diets. (Stavi et al., 2021)
- FAO data indicate that human-edible protein from livestock is produced much more efficiently where the sector is dominated by pastoralism.
- This highlights the comparative advantage for livestock production in pastoral systems over intensive industrial livestock production.





# Food and Diets Contribution by Pastoralists

- ♦ **Sheep and goats provide milk being used as fresh milk, sour milk, yoghurt, ghee, cheese and "Jameed" (Beduin-Jordanian food made from goat milk).**
- ♦ **Cattle provide milk being consumed fresh or used to produce ghee and sour milk. Camel's milk is consumed fresh and as sour "Qaress".**
- ♦ **Nevertheless, sustainable livestock production (such as through mobile pastoralism) is able to provide enough animal products for healthy human diets (with high-quality protein), especially when red meat has received health risk alerts.**



# Quality of Animal Proteins

- **Animal food quality is another important aspect. Evidently, mobile livestock is less affected by animal diseases.**
- **Livestock, especially local/native breeds, reared in the open air and fed on natural pastures is more likely to be fit and resistant to diseases.**
- **As a result, the meat, milk and other derived products are of high quality, more secure, and healthier.**
- **Pasture-fed animal products consistently yield a better nutritional profile: healthier lipidic composition, higher content of polyunsaturated fatty acids (PUFAs) or conjugated linoleic acids (CLAs), or higher Omega 3 content (better Omega 6/ Omega 3 balance), low iodine content, etc.**





## Increasing trend – Southern Mediterranean

- ♦ **Meat production in southern Mediterranean increased from 5 million metric ton in 1983 to 15 million metric ton in 2020.**
- ♦ **Milk consumption was 223 million metric ton higher in 2020 compared to 1993.**
- ♦ **Stark differences in southern Mediterranean (mostly arid and plateaus landscapes) and northern Mediterranean (mostly highland landscapes) where number of livestock has increased in the former and decreased in the latter.**



## Increasing trend – Southern Mediterranean

- ♦ **In southern Mediterranean, livestock population (cattle, camels, sheep, goat), especially small ruminants, has got more than doubled in 40 years (from 1967 to 2007) counting from 207.5 million heads to 430.3 million heads.**
- ♦ **Economic reasons, human population growth, oil wealth, advancing urban life, policy favours, subsidies, and higher per capita consumption are certain reasons behind this scramble.**



# Decreasing trend – Southern Mediterranean

- ♦ Northern Mediterranean countries, such as Greece, Spain, Italy, France, etc. witness a decline in population of sheep and goats.
- ♦ For example, sheep in Italy decreased from 1.1293 million heads in 1985 to 0.7285 million heads in 2016.
- ♦ But the average sheep farm size has increased between 1990 and 2020, which means intensification process has gained momentum (Daoud *et al.*, 2016) under various complex reasons including EU's Common Agriculture Policy.



# Pastoralism advantageous

**Scientific research indicates that when industrial livestock production has increased by 4.3%, mixed farming and extensive livestock grazing have increased 2.2% and 0.7%, respectively, reflecting that the preference is given to the openly grazed animals for meat consumption.**

