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SUMMARY – This paper describes the research areas, research environments, geographical scope and facilities of the project developed by ICARDA "Small ruminant production in the dry areas".

Key words: Small ruminants, dry areas, ICARDA.

RESUME – *"International Center for Agricultural Research in the Dry Areas (ICARDA). Production de petits ruminants en zones arides". Cet article décrit les domaines de recherche, les environnements de recherche, la portée géographique et les moyens du projet "Production de petits ruminants en zones arides", mis en œuvre par l'ICARDA.*

Mots-clés : *Ovins, caprins, zones arides, ICARDA.*

This project is an integral part of ICARDA's Natural Resource Management Program (NRMP) and aims at improving the productivity of small ruminant production systems in the dry areas targeting the increase of farmer's income with a market-oriented and natural resource management approach.

Research areas

(i) Constraint analysis and characterization of production systems through production monitoring and monitoring of the production base.

(ii) Characterization of markets and market opportunities for small ruminant products, identifying niches where Small Ruminants (SR) have a comparative advantage for a better production system orientation.

(iii) Use of technologies to improve small ruminant productivity and farmers' income integrated in adaptive market-oriented research. Technologies consider efficient low-cost management strategies that optimize use of available feed resources, reduce parasite loads, and decrease inbreeding and risks to the resource base. Currently, attention is given to biological and economic feasibility of:

- Strategies to improve SR feeding systems (i.e. use of byproducts and shrubs to cope with forage shortages).
- Management strategies to better target market opportunities (i.e. breeding out of season for production systems with availability of feed resources, to produce milk and lambs in periods favoured by higher demand and prices).

(iv) Transformation of primary products that capitalize on added value (i.e. to process milk into milk derivatives such as cheese and yoghurt), as a means to further increase the income of farmers.

(v) Characterization of small ruminant breeds along with characterization of their production and market environments, to allow better matching of breed potentials with those of the resource base and markets and setting the basis of their appropriate management as germplasm resources.

Research environments and geographical scope

West Asia and North Africa (WANA).
Central Asia and the Caucasus (CAC).

Research complementary areas

The project looks for strategic alliances with advanced research institutions, in research areas that will help solving problems faced by SR production systems in the dry areas. Research collaboration is sought through specific project development and the hosting of Associate Professional Officers/Junior Professional Officers (APO/JPO) exchanges as well as post-graduate programs. Areas of research interest include:

(i) Further work in shrubs and by-product utilization to enhance the feed base.

(ii) Mineral deficiencies in dry areas.

(iii) Molecular genetic characterization of SR breeds.

(iv) The role of the fat tail in the adaptation to dry environments and the alternative to use this trait as part of feeding strategies to improve productivity.

(v) Modelling of SR production incorporating range and crop-livestock interactions.

(vi) SR epidemiology.

(vii) Identification of main causes and improvement of low fertility rates in sheep in WANA.

(viii) Milk transformation and quality.

Interaction with other NRMP projects

The project interacts closely with ICARDA's Forage and Range Management projects and participates in integrated research with the Socioeconomics and Water projects, as well as with the Center's GIS facility.

Facilities

In its mandate regions ICARDA maintains a network of sound collaborative research with NARS to conduct on-farm studies. In addition, at its headquarters located in Tel Hadya (25 km south of the City of Aleppo, Syria), the project has access to modern research facilities that include laboratories for animal nutrition and health analysis; a flock of about 400 Awassi sheep and a herd of 100 Shami (or Damascus) goats for specific on-station studies; and a small plant for milk processing and transformation.