



Food and Agriculture  
Organization of the  
United Nations



## Hand-in-Hand Initiative

# IRAQ



Investment Forum 2024

## OUTLINE

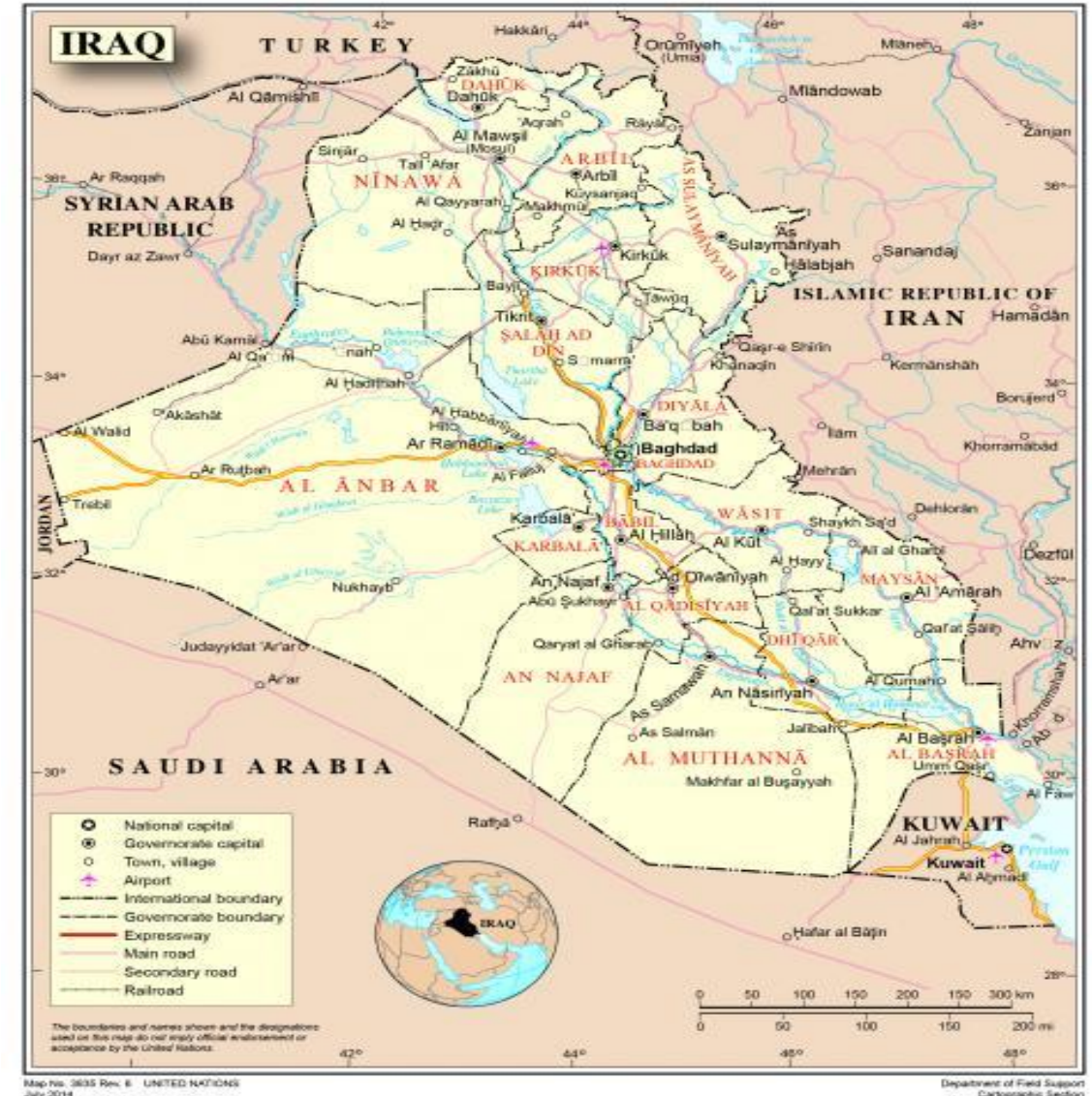
1. Iraq at a glance
2. Why Invest in Iraq
3. Investment Cases:
  - Rural Dairy Production/ Aggregation
  - Dairy Processing and Marketing
  - Backyard Lamb Fattening Clusters



# 1. Iraq at a glance (2022)

- Iraq total land area: 435,052 Sq.Km<sup>2</sup>
- Population: 44 million – (15-64 years = 61 %)
- GDP: 264 Billion USD
- GDP Annual Growth (2023): 7%
- Energy sector provides for 90 % of government revenue
- Unemployment rate: 15.6 %
- Iraqis living below poverty line: 25% (Min of Planning) \*
  - . Highest in Muthanna @52%
  - . Lowest in Kurdistan Region of Iraq @3%
- Agriculture:
  - 2.8% of GDP (2023)
  - 19% active workforce (1/4 women)
  - More than 5 million farmers (including their families)

\* Using WB definition



## 2.1 Why invest in Iraq?



- Iraq, is a stable, upper middle-income country with consumer preference for fresh domestic agri-food products:
  - Politically stable, a country ranked 49 of the major economies in the world;
  - With GDP per capita of \$5,937 (2022);
  - Largely dependent on oil exports for government revenue;
  - **Government wants to diversify the economy by creating a conducive investment environment for a competitive market-based system, starting with the agri-food sector;**
  - Research shows that opportunities exist for import substitution based on improved production platforms, aggregation points, but above all **50% of firms are willing to pay premium to farmers for fresh and quality products based on consumer preferences.**

## 2.2 Attractive Investment Environment



### Iraq vision 2030 Policy

1. Opportunities, while ending the reliance on the oil and gas sector and public sector jobs;
2. **Develop the labor-intensive economic sectors**, in particular **agriculture** and construction.
3. **Diversify the Iraqi economy**
4. **Food Security for All.**

### FAO Country Programme Framework (CPF)

FAO supports policy development in areas such as food security, sustainable natural resource management, and the adoption of climate resilient technology and practices along agricultural value chains.

### Investment Instruments:

1. The **National Investment Commission (NIC)** and One Stop Shop that facilitates the processing of the investment licenses applications, issuing the license, allocating the land, securing tax exemptions, and facilitating the entry and exit of investors and their employees.
2. The **Iraq Development Fund IDF (2 USD Billion 2023-2025)** with strong interest supporting private sector investments in agri-food sector

### Investment Law 13, 2006/ 2015

- **The Iraqi or foreign investor enjoys all the benefits, facilities and guarantees:**
- Own lands and real estate.
- Trading in the Iraqi Stock Exchange
- Extracting the capital that it brought into Iraq and its returns.
- The investment project enjoys exemption from taxes and fees for a period of (10) ten years.
- Exempting assets imported for investment project purposes from duties.

### Agricultural Strategy and Investment Plans (2022-25)

1. Supports agriculture sector and encourages the investments in selected agri-food value chains.
2. Transition towards modern irrigation technologies.
3. Facilitating market access for agricultural products both domestically and internationally
4. Encouraging sustainable practices that preserve natural resources, mitigate environmental degradation, and promote biodiversity conservation.
5. Developing rural infrastructure such as roads, storage facilities, and irrigation networks to facilitate better access to markets and improve overall efficiency in the agricultural value chain.

# Prime Minister's Order



## Republic of Iraq Prime Minister's Cabinet Office (3 September 2023)

To/ The Ministry of Agriculture – Minister's Office  
Subject: Diwan Order 23294



The Prime Minister acknowledges the successful projects implemented by the Ministry of Agriculture with technical support from FAO-UN by establishing modern rural centers of milk collection, dairy manufacturing, and marketing in Nineveh Governorate, and promoting advanced livestock breeding and feeding practices. Therefore, the Prime Minister has endorsed the following recommendations outlined in Diwani Order #23294 (2023). It recommends the following:

1.Recommends the roll out of these successful pilots that have established proof of concept and requests upscaling throughout the country.

2.The Ministry of Agriculture, in collaboration with the Ministry of Planning, is requested to leverage existing funding from the World Bank and IFAD for this purpose.

### Successful pilot projects conducted by MOA/FAO




Milking animals	Sheep	Cows	Buffaloes
Milk yield (kg/ day) Traditional system – no green fodder	0.3	6	6.5
Milk yield (kg/ day) Improved system – with green fodder	0.5	9	8
Increase (%)	67	50	23

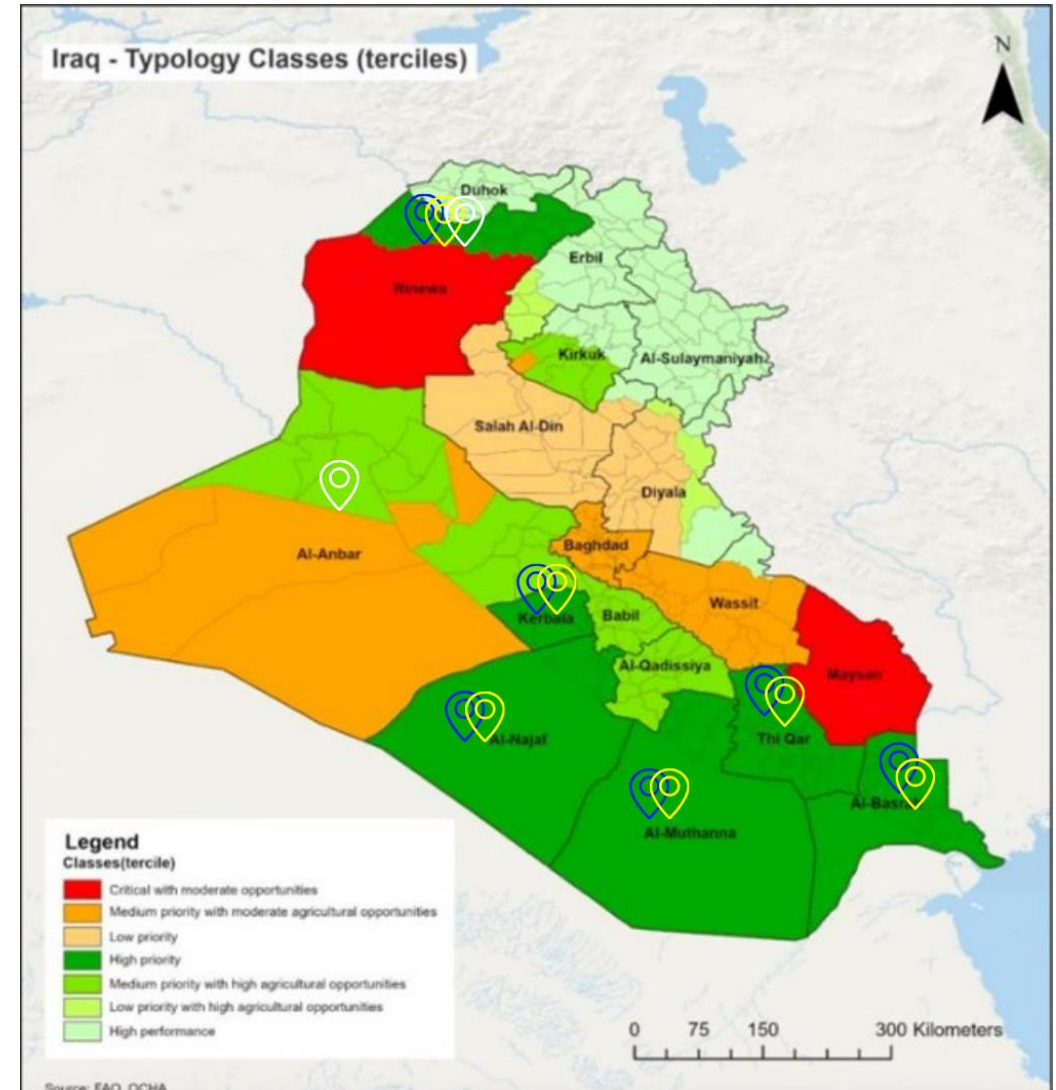


## 2.4 Hand-in-Hand Agricultural Typology Classes

**Hand-in-Hand Classes** are based on different modeled data:

1. Agricultural potential
2. Poverty prevalence
3. Efficiency – potential for revenues given market conditions and experience in farming; and proximity to markets

-  1. **Rural Dairy Production and Aggregation Clusters:** Basra, Thi-Qar, Muthanna, Najaf, Kerbala, Ninevah
-  2. **Dairy Processing and Marketing Clusters:** Basra, Thi-Qar, Muthanna, Najaf, Kerbala, Ninevah
-  3. **Backyard Lamb Fattening Clusters:** Ninevah, Anbar (governorates with large numbers of livestock/ sheep)



## 2.5 Characteristics of the Dairy and Meat Value Chains

Self Sufficiency Ratio SSR

Milk and Dairy products: (20.4 %)

Red Meat (53.4 %)

### Large Market demand for meat, fresh milk and dairy products

Indicator	
Import substitution potential	<input type="checkbox"/> Iraq imports over \$1 billion per year of (livestock value chain) products
Demand	<input type="checkbox"/> Milk and Dairy are both part of the diet. High demand and preferences for local products due to freshness and taste due to taste. A lot of milk consumed is locally produced using imported milk powder
Prices attractiveness	<input type="checkbox"/> Iraqis prefer the local products and 50% of local firms are willing to pay farmers premium for fresh quality produce

### Competitive Supply

Indicator	
Natural endowments	<input type="checkbox"/> Opportunities exist to replace expensive imports with production/ marketing of green fodder crops/ feed using climate smart methods, increasing efficient water use / management. Increase SSR. <input type="checkbox"/> Large livestock population (14.3M sheep; 1.7M cows; 1.2M goats; 0.6M buffalos; and 0.2M camels)
Infrastructure	<input type="checkbox"/> A good basic infrastructure exists covering basic services such as electricity, water roads, cold-storage, etc. Targeted improvements needed.
Human capital	<input type="checkbox"/> Capacity development of farmers and workers covering the value chain is very much needed. Labour force is present, <input type="checkbox"/> Successful models for capacity development have been established, upscaling required.



### 3. Investment Opportunities



1. **Rural Dairy Production and Aggregation Clusters**
2. **Dairy Processing and Marketing Clusters**
3. **Backyard Lamb Fattening Clusters**

## 1. Upscaling Investments in Rural Dairy Production/ Aggregation Clusters

### Aggregation/Consolidation of Dairy Sector

#### Products :

Milk/dairy products and live animals (lambs)

#### Market :

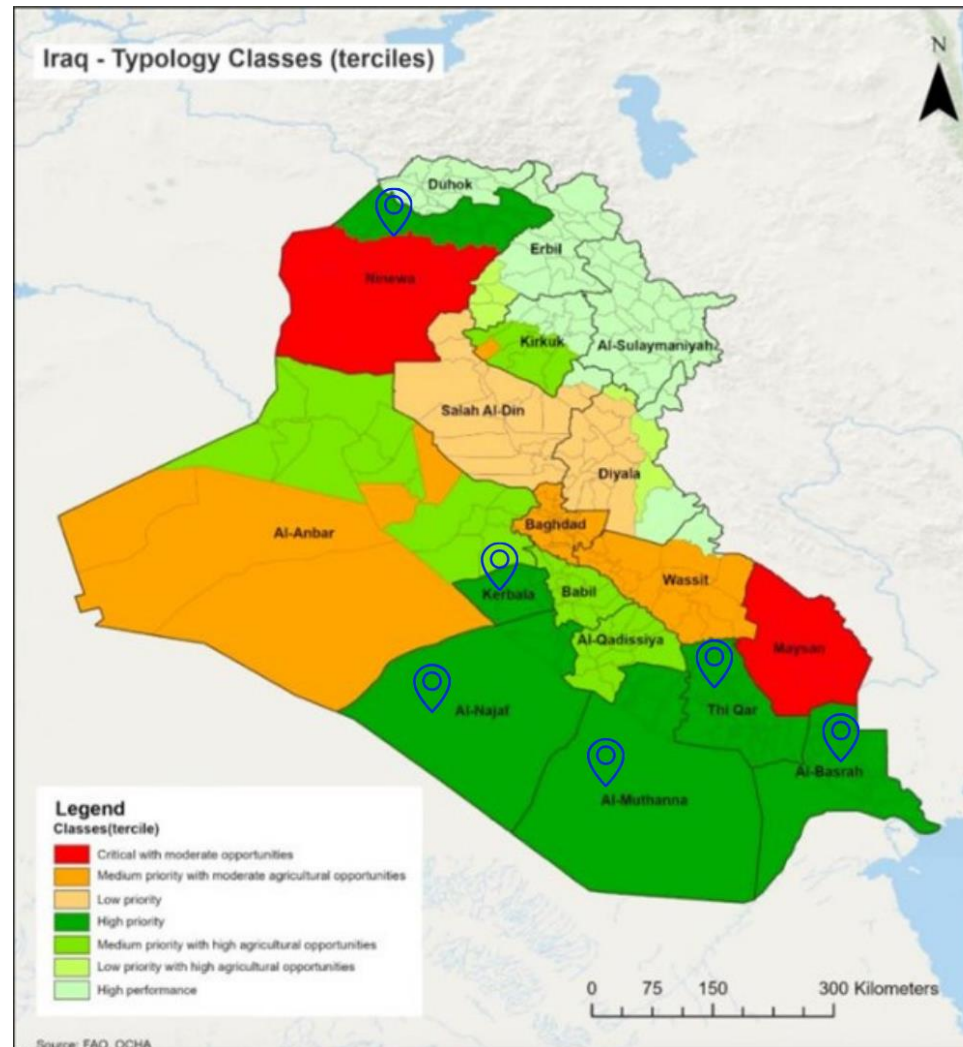
Local market - import substitution of dried milk powder

#### Major geographical clusters:

Cluster 1: Niniveh G.

Cluster 2: Najaf/Karbala G.

Cluster 3: Basra, Muthana, Thi-Qar G.



# 1. Upscaling Investments in Rural Dairy Production/ Aggregation Clusters



Bottlenecks	Investments Needed
1. Limited knowledge and skills about livestock management notably improved feeding practices and feed management.	1(a). Establishment of animal feed/nutrition research unit (1) ( <i>Public</i> ) 1(b). Facilitate and <b>expand green fodder seed cultivation</b> - alone or through intercropping – encourage efficient water management and climate-smart techniques based on success stories by MOA/ FAO covering 10,000 farmers ( <i>Public</i> )
2. Unorganized production with low volumes of marketable surpluses constrains market access.	2. Organize farmers (100K) into commercially viable producers' organizations (1000) to carry out consolidation/ aggregation of supplies and assist with registration. ( <i>Public/ Private</i> )
3. Limited capacity of farmers in disease/pest control	3. Undertake capacity building (100,000 farmers) in livestock management; improved feeding; disease/ pest control; deworming; sheep dips; vaccination campaigns and improved breeding practices. ( <i>Public</i> )
4. Limited availability of appropriate milk handling and collection facilities/tools and equipment.	4. Establish milk handling and collection centers (240) that provide access to market/processing units and assist with registration. ( <i>Private</i> )

Risks	Mitigations
1(a). Arid climate and limited rainfall/water flow can adversely affect fodder crop growth. 1(b). Skilled labor shortage and high rate of turnover.	1(a). Use drought resistant varieties to cope with arid conditions and invest in efficient irrigation systems 1(b). Establish training programs to develop local talent and create compensation packages to retain skilled personnel
2. Risk of governance and social issues (resistance to change, trust) while organizing producers into producers' organizations.	2. Program to encourage community engagement and awareness and highlight the benefits of collective action and trust, respect the integral local costumes, and advocate for clear policies and regulations
3. Availability of human resources having technical skills in feeding, disease/pest management and milk hygiene.	3(a). Integrated livestock management approach and climate smart feed production, and herd and milk hygiene management. 3(b). Training program for local experts and extension workers to ensure sustainable knowledge transfer.
4. Poor milk hygiene and faulty packaging material used for improved dairy products.	4. Introduce equipment/tools and machinery for improved product quality assurance and introduction of appropriate packaging material.

## Investment Feasibility: Upscaling Rural Dairy Production/Aggregation

### Physical Targets

Increased milk yield – 20%+

Reduced lamb mortality – 50%

Reduce post-production losses – 50%

Chilling capacity in production clusters – 20/30% of milk production

### Beneficiary Targets and Benefits

Producers benefited: 100,000

Producers' organizations strengthened: 1,000

Livestock heads outreached: 4.6 million

Collection centers established: 240

Indirect beneficiaries: 40,000

Milk entering supply chains: 500,000 tons annually by year 10

### Estimated carbon balance

-405,058 tCO<sub>2</sub>-eq for 20 years of accounting

#### Investment 2025-2031

- Total: USD 95 million
- Private: USD 64 million
- Public: USD 31 million

#### Net Present Value (NPV) (2025 – 2035)

- **NPV:** USD 45 million
- Highly viable

#### Internal Rate of Return (IRR) 2025-2035

- 24%
- Highly viable

## 2. Upscaling Investments in Dairy Processing and Marketing

### Dairy Milk Processing and Marketing

#### Products :

Traditional dairy products based on local milk supply chain  
- Pasteurized milk, yogurt, yogurt drink, cream, cottage cheese!

#### Market :

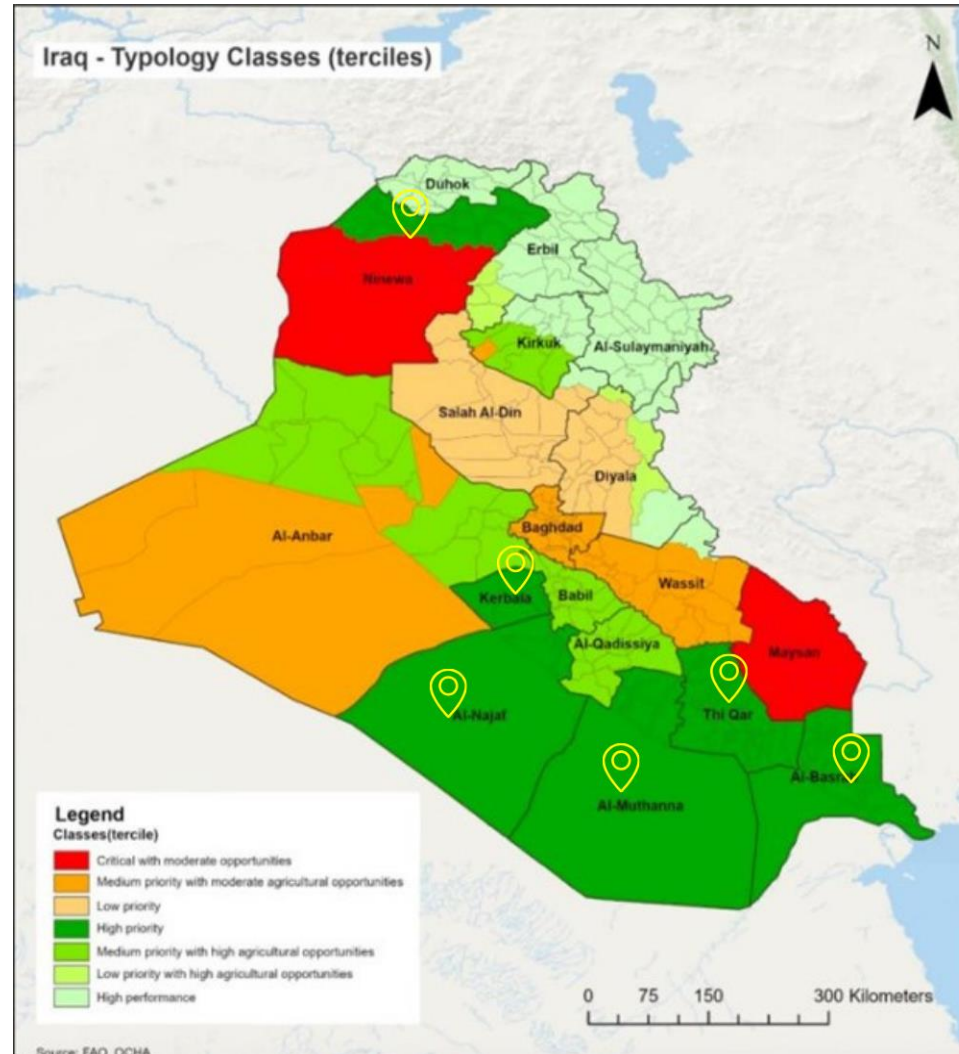
Local market - import substitution of milk and dried milk powder

#### Major geographical clusters:

Cluster 1: Ninveh G.

Cluster 2: Najaf/Karbala G.

Cluster 3: Basra, Muthana, Thi-Qar G.



## 2. Upscaling Investments in Dairy Processing and Marketing



Bottlenecks	Investment Needed
<p>1. High dependence on imported milk/milk powder with low market share of locally processed dairy products.</p>	<p>1. Promote small/medium scale dairy processing (100 processing units) for supply of traditional dairy products sourcing milk from local farmers. (<i>Private</i>)</p>
<p>2. High cost of local processing especially milk aggregation, collection and marketing</p>	<p>2. Scaling up/expand POs to rural milk collection centers (including cold storage facilities - fixed and mobile). (<i>Public/ Private</i>)</p>
<p>3. Low level of knowledge, lack of investment in processing and limited access to processing and cold-chain/storage technologies/ facilities.</p>	<p>3(a). Promote (through loan scheme) investment in small dairy processing and facilitate access to technology, and product development. (<i>Public/ Private</i>)            3(b). Promote renewable energy (solar) for the collection center and processing units (<i>Public/ Private</i>)</p>
Risks	Mitigations
<p>1. The competition from imported dairy products can pose challenges to SMEs.</p>	<p>1. Build private sector partnerships to upgrade quality of products and streamline cold chain while developing marketing strategy and campaigns.</p>
<p>2. Technical issues in processing units and non-availability of operation and maintenance services.</p>	<p>2. Agreement with machinery/equipment suppliers shall include after sale services; training, installation and O&amp;M for 3 years to train local technicians.</p>
<p>3(a). Costs of production are higher in Iraq than in neighboring countries.            3(b). The initial investment for solar panels and related infrastructure can be high.</p>	<p>3(a). Explore value addition opportunities, in line with preferred local taste for dairy products in Iraq, to enhance marketability and profit margins.            3(b). Government and private sector investments required to a phased implementation to spread out costs and introduce climate smart technologies.</p>

## Investment Feasibility: Small Scale Dairy Processing and Marketing

### Physical Targets

Small processing facilities: 100  
Processing capacity created: 600,000 liters/day  
Export processing capacity: 15% of production  
Collection centers networked: 240  
Reduced milk losses: 3000-5000 per day

### Beneficiary Targets and Benefits

Producers with guaranteed market: 100,000+  
Extended shelf-life: 5-7 days  
Market expansion: local and regional centers  
Import substitution: 20,000 tons by yr 10

### Estimated carbon balance

-177,903 tCO<sub>2</sub>-eq for 20 years of accounting

### Investment 2025-2031

- Total: USD 74 million
- Private: USD 62 million
- Private: USD 12 million

### Net Present Value (NPB) (2025 – 2045)

- NPV: 32 million
- Highly viable

### Internal Rate of Return (IRR) 2025-2045

- 18%
- Highly viable

### 3. Upscaling Investments in Backyard Lamb Fattening Clusters

#### Backyard Lamb Fattening and Marketing

**Products :**

Live fattened lambs, red meat (mutton) and by products

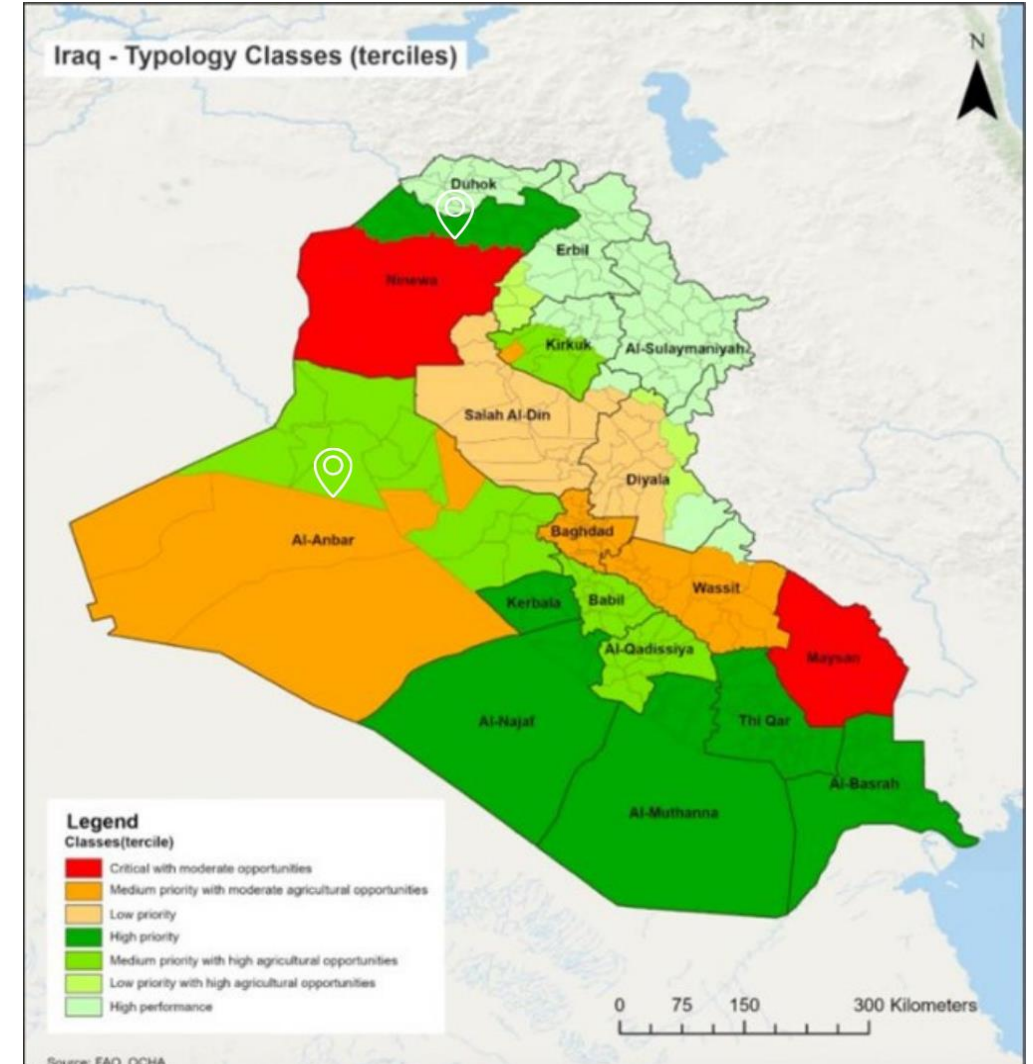
**Market :**

Local and export markets in GCC

**Major geographical clusters:**

Cluster 1: Niniveh G.

Cluster 2: Anbar G.





### 3. Upscaling Investments in Backyard lamb fattening clusters

Bottlenecks	Investment Needed
1. Low profitability of farmers due to traditional fattening practices.	1. Scale up successful models for backyard lamb fattening with early weaning and intensive stall-feeding under optimal fattening units (20,000 farms). <i>(Private)</i>
2. Low profitability of farmers due to high mortality rate and poor animal health.	2. Introduce livestock health management, deworming and pest control measures (20,000 farms). <i>(Public)</i>
3. Poor feeding practices before and after weaning and poor quality of feed.	3. Scale up successful models for milk replacements for weaning and introduce appropriate feeding practices for optimal fattening. <i>(Private)</i>
4. Poor slaughterhouse conditions and inappropriate handling.	4. Upgrade slaughterhouses (10), improve livestock market infrastructure (1) and introduce SoPs for handling and butchery techniques. <i>(Public/Private)</i>

Risks	Mitigations
1(a). Inconsistent quality and availability of feed can affect lamb growth rates and health. (b). Disease outbreaks due to close confinement and high stocking densities, challenges in maintaining high biosecurity	1(a). Develop a reliable supply chain for quality feed and explore locally available feed options. (b). Implement strict biosecurity protocols to prevent disease outbreaks, train farmers on early disease detection and management, improve access to veterinary services and medications, and establish partnerships with veterinary schools or NGOs.
2. Extreme temperatures/heat waves cause stress and health problems.	2. Adequate shelter/sheds with proper ventilation, and explore options for livestock insurance.
3. Lack of trust of farmer in the milk replacement and stall-feeding.	3. Scale up successful models to harvest the benefits of early weaning and intensive fattening/feeding.
4. Non-accreditation of slaughterhouse and packing facility hinders growth in exports.	4. Accreditation and certification of slaughterhouse(s) and packing facilities.



## Investment Feasibility: Backyard Lamb Fattening Clusters

### Physical Targets

- Increase daily weight gain: 50%
- Reduced mortality: 30-50%
- Improve meat recovery rate: 5%
- Export processing capacity: 15% of production

### Beneficiary Targets

- Producers: 20,000
- Producers' organizations: 150-200
- Meat export groups: 50-60
- Indirect beneficiaries: 10,000
- Meat exports: 12,000 tons by year 7

### Estimated carbon balance

- 34,843 tCO<sub>2</sub>-eq for 20 years of accounting

#### Investment 2025-2031

- Total: USD 438 million
- Private: USD 344 million
- Public: USD 93 million

#### Net Present Value (NPV) (2025 – 2035)

- NPV: 49 million
- Highly viable

#### Internal Rate of Return (IRR) 2025-2035

- 24%
- Highly viable

# Summary of Investments



<p><b>Total Investments: USD 606 million</b>  <b>Government investments (23%): USD 136 million</b>  <b>Investment Gap (77%): USD 470 million</b></p>	<p><b>22%</b>  Overall IRR  <b>\$125 million</b>  Overall NPV</p>	<p><b>252,100</b>  Direct  Beneficiaries</p>	<p><b>245,000</b>  Indirect  Beneficiaries</p>	<p><b>US\$1067</b>  Increased Per  Capita Income</p>	<p><b>-617,805 Tons</b>  Reduced CO<sub>2</sub>  Emissions</p>
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Summary	Dairy Production/ Aggregation	Dairy Processing and Marketing	Backyard Lamb Fattening
<b>Investment estimates (USD):</b>	95 million	74 million	438 million
<b>Private Sector Investment (USD):</b>	64 million (46%)	62 million (83%)	344 million (72%)
<b>Internal Rate of Return (IRR):</b>	24%	18%	24%
<b>Net Present Value (USD):</b>	45 million	32 million	49 million
<b>Beneficiaries – Direct (Persons)</b>	124,000	100	128,000
<b>- Indirect (Persons)</b>	40,000	140,000	65,000
<b>Farmers' Income Enhancement:</b>	30-50%		
<b>Sustainable benefits</b>			
Additional Employment:	4,000	1000 /1500	20,000
Increased annual income/capita:	US\$500/farmer	US\$300,000 per processor	US\$1635 per farmer
<b>Reduced CO2 Emissions</b>	-405,058 tons	-177,903 tons	-34,843 tons