

Agriculture Status in I.S. of Iran and Suggestions for Cooperation

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Leading trade fair for agricultural machinery

AGRITECHNICA – The World's No. 1

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E1: Agricultural Machinery

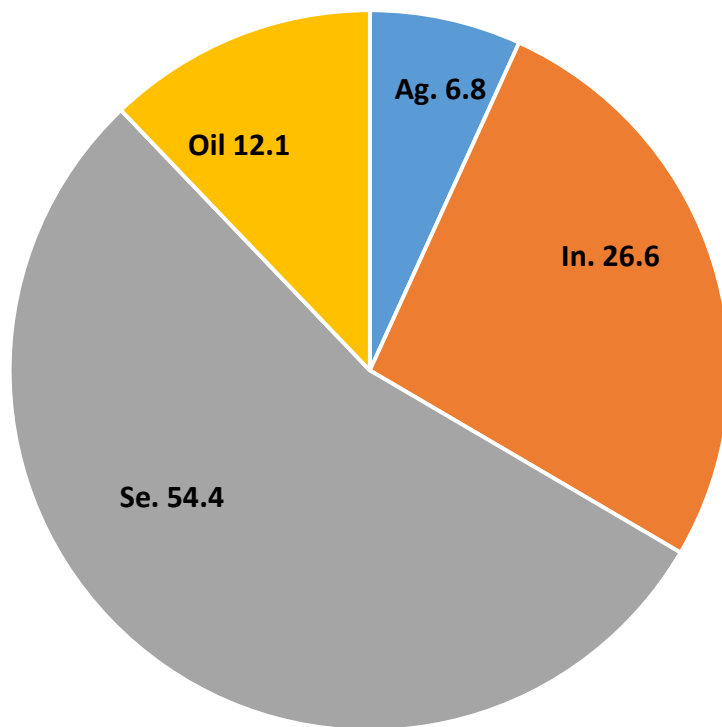
E-2: Suggestions-Seed

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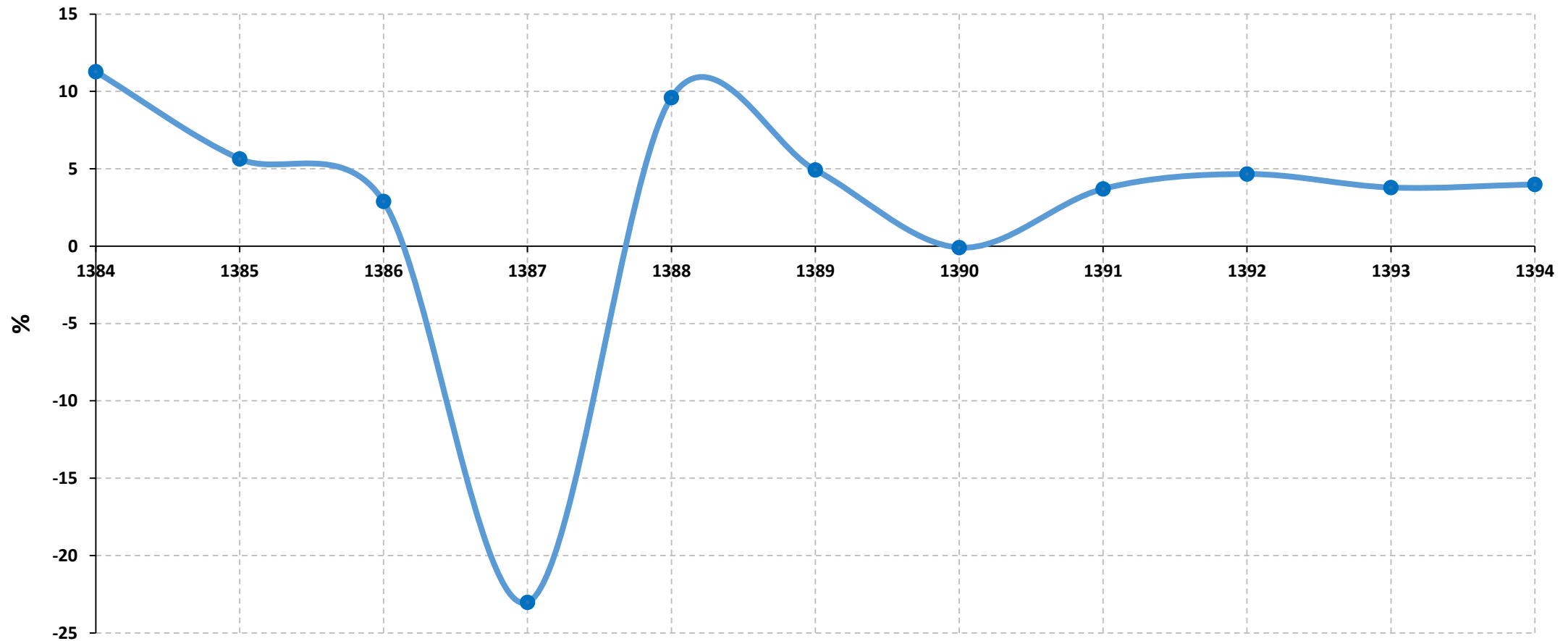
E-4: Medicinal Plants

A: Economic and social status of agriculture in in Iran

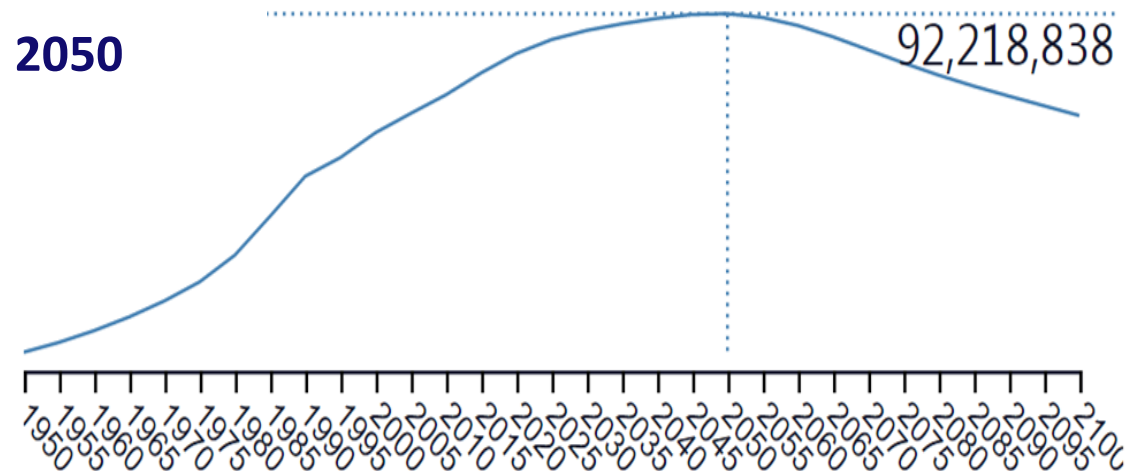
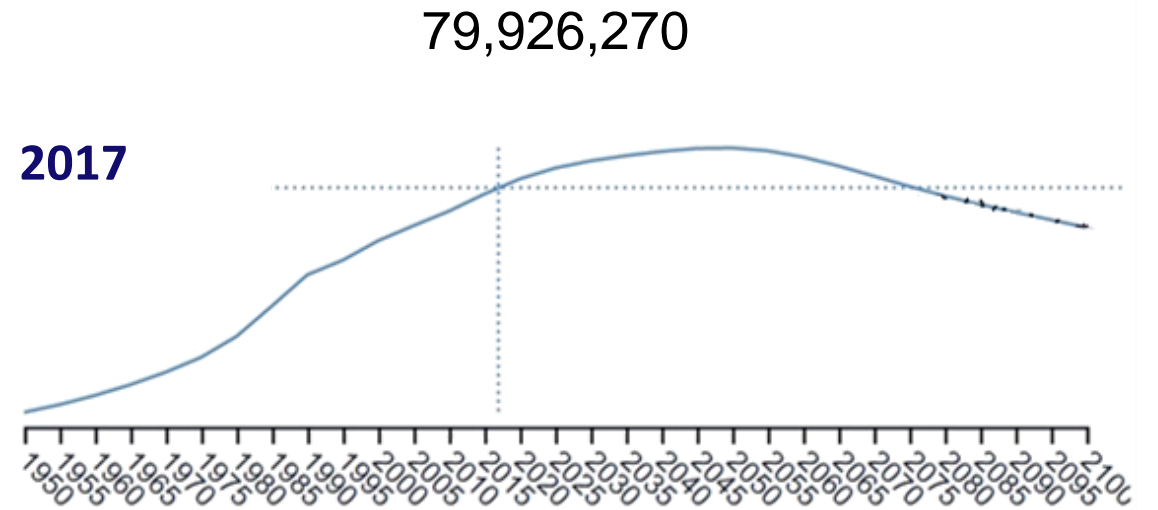
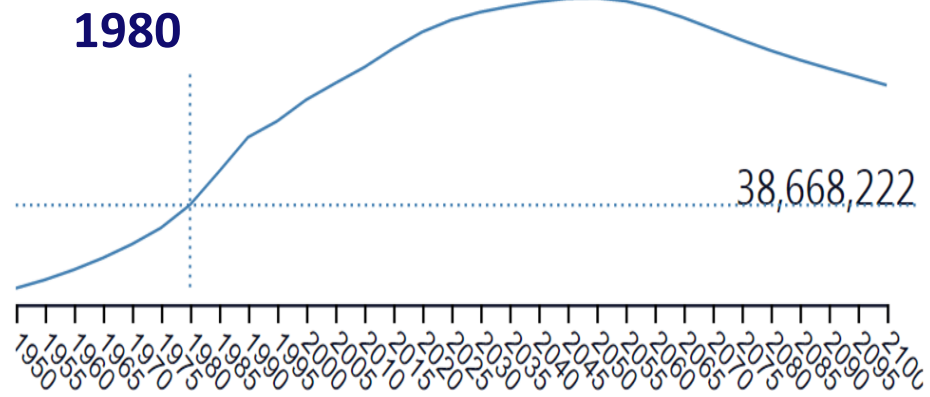
The share of economic sectors of GDP (GDP)-2015



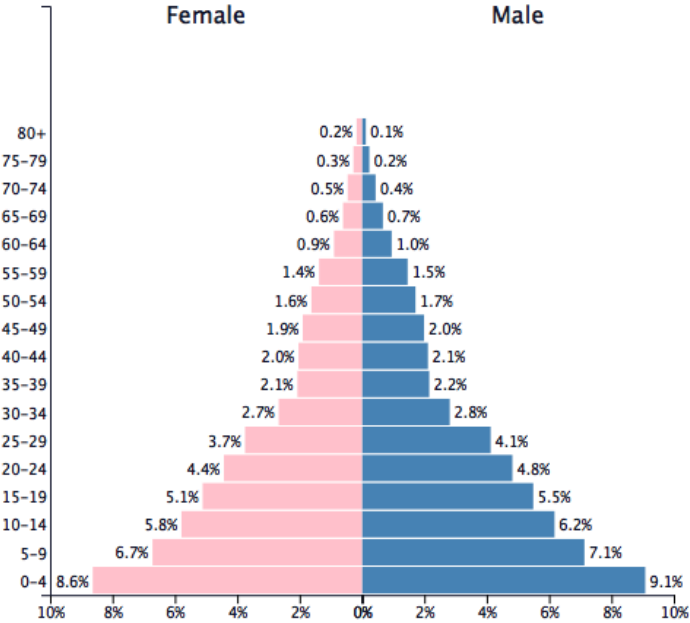
Agricultural sector value added growth



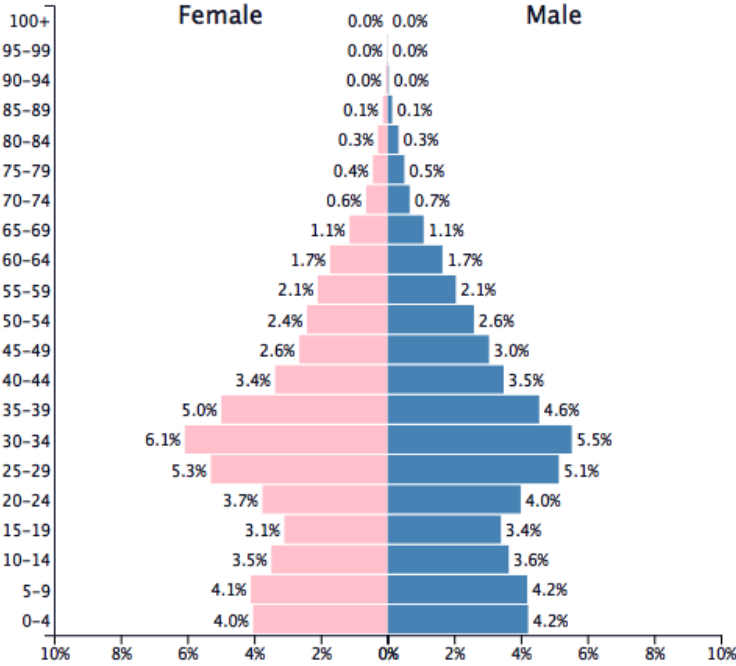
Population in Iran



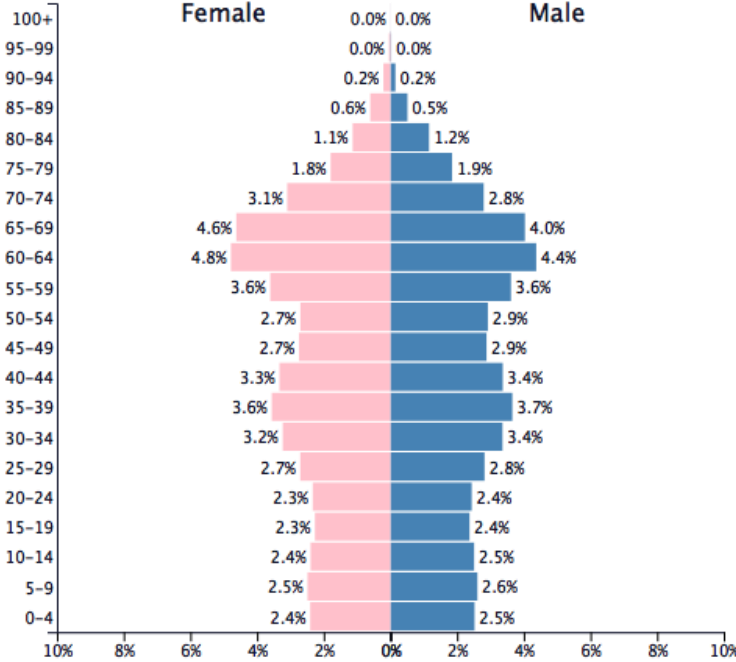
Population pyramid in Iran



1980



2017



2050

Agricultural Stakeholders

- Iran's share in world agricultural land: **1%**
- Total number of agricultural producers: **4'042'811**
- Number of land owner agricultural producers: **3'359'409**
- The average share of agricultural land: **4.9 hectares**
- The relative abundance of land owner agricultural producers:

≤1 ha	1-5 ha	5-20 ha	20-50 ha	≥50 ha
37%	38%	20.2%	3.8%	1%

- **75%** of land owner agricultural producers own less than **5 hectares** of agricultural land

Employment status in Iran's economic sectors during 2013-2015

Item	Agriculture		Industry		Services	
	Volume (1000 person)	Share (%)	Volume (1000 person)	Share (%)	Volume (1000 person)	Share (%)
2013	3913	18.3	7314	34.3	10110	47.4
2014	3812	17.9	7192	33.8	10298	48.3
2015	3961	18	7147	32.5	10860	49.4

B: Agricultural status in Iran

Current Status of Agricultural Land

Item	Area (million ha)	Share of the total area (%)
Pastures	85.3	51.94
Forests	14.8	9.01
Woodlands & Shrubs	2.66	1.61
Deserts	33.6	20.46
Cultivated Lands	18.5 (irrigated= 8.3, drylands=6.7, fallow= 3.5)	11.26
Other	9.35	5.69
Total	164.21	100

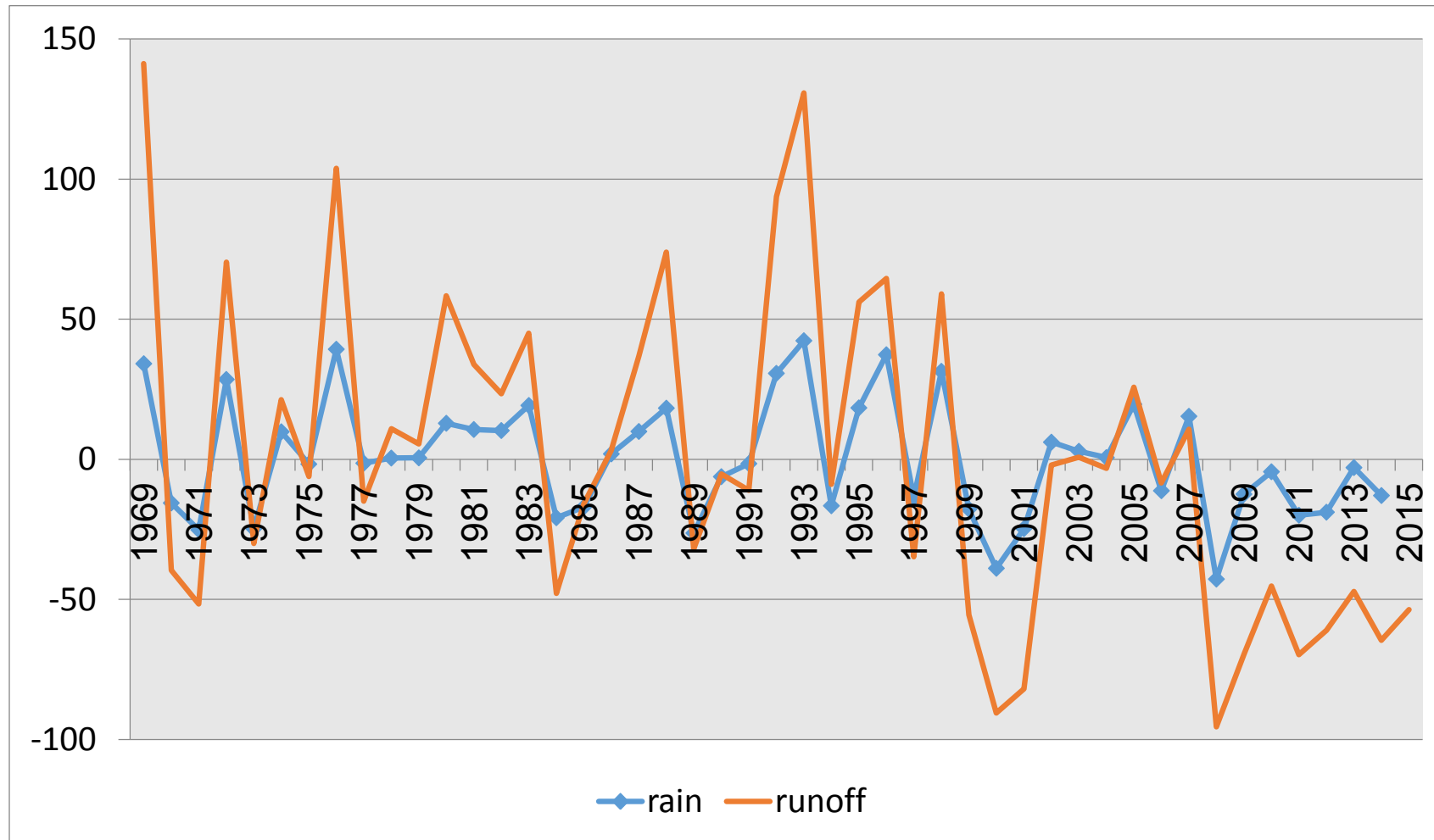
Ministry of Agricultural Jihad

Soil classes in Iran

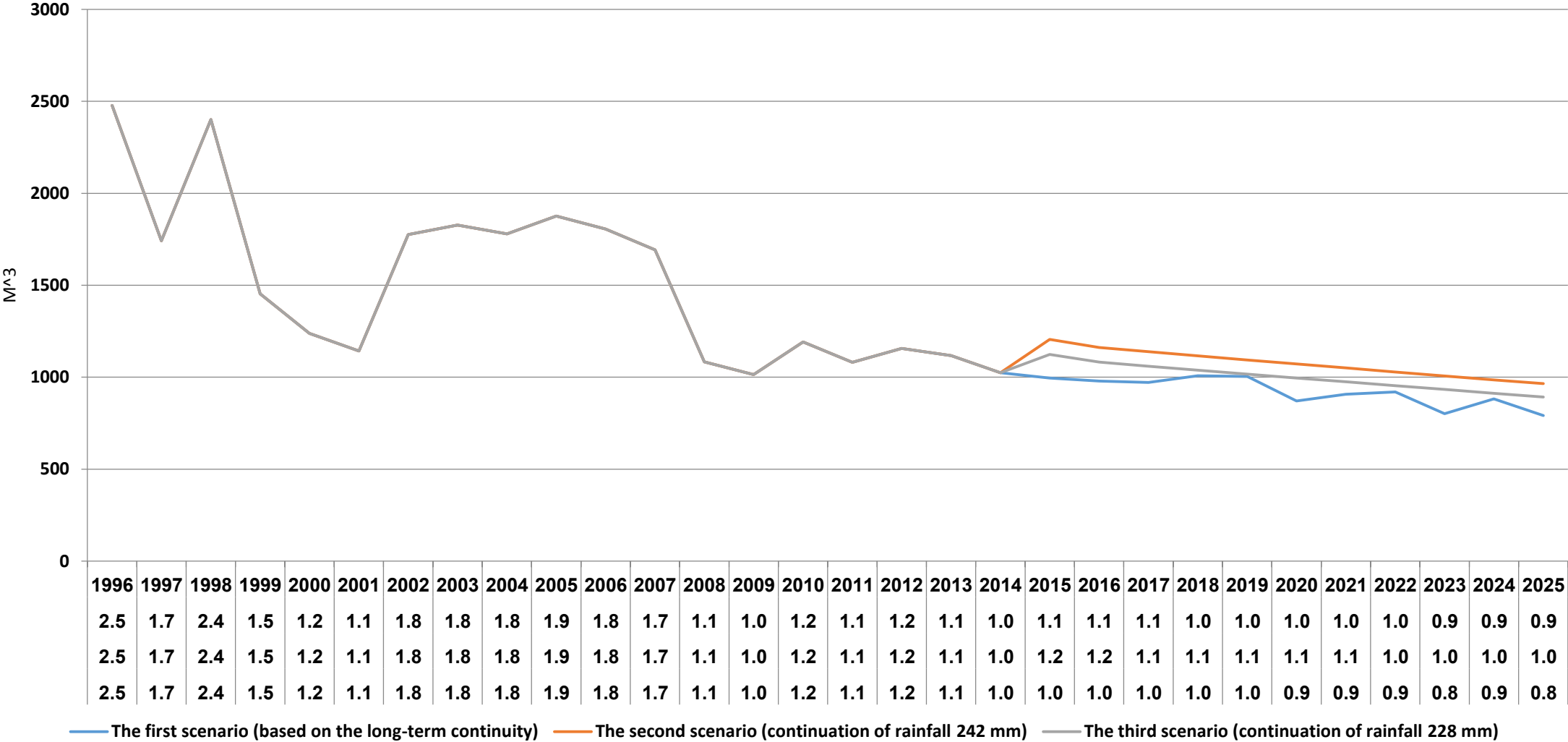
Number	Item	Unit (Million Ha)	Percent of arable lands (%)
1	Class I	1.25	5.61
2	Class II	4.95	22.14
3	Class III	6.58	29.45
4	Class V	3.00	13.43
5	Class IV	2.87	12.87
6	Class VI	2.43	10.86
7	Mixed Lands	1.26	5.65
8	Total	22.34	100

Soil and Water Research Institute, Ministry of Agriculture Jihad

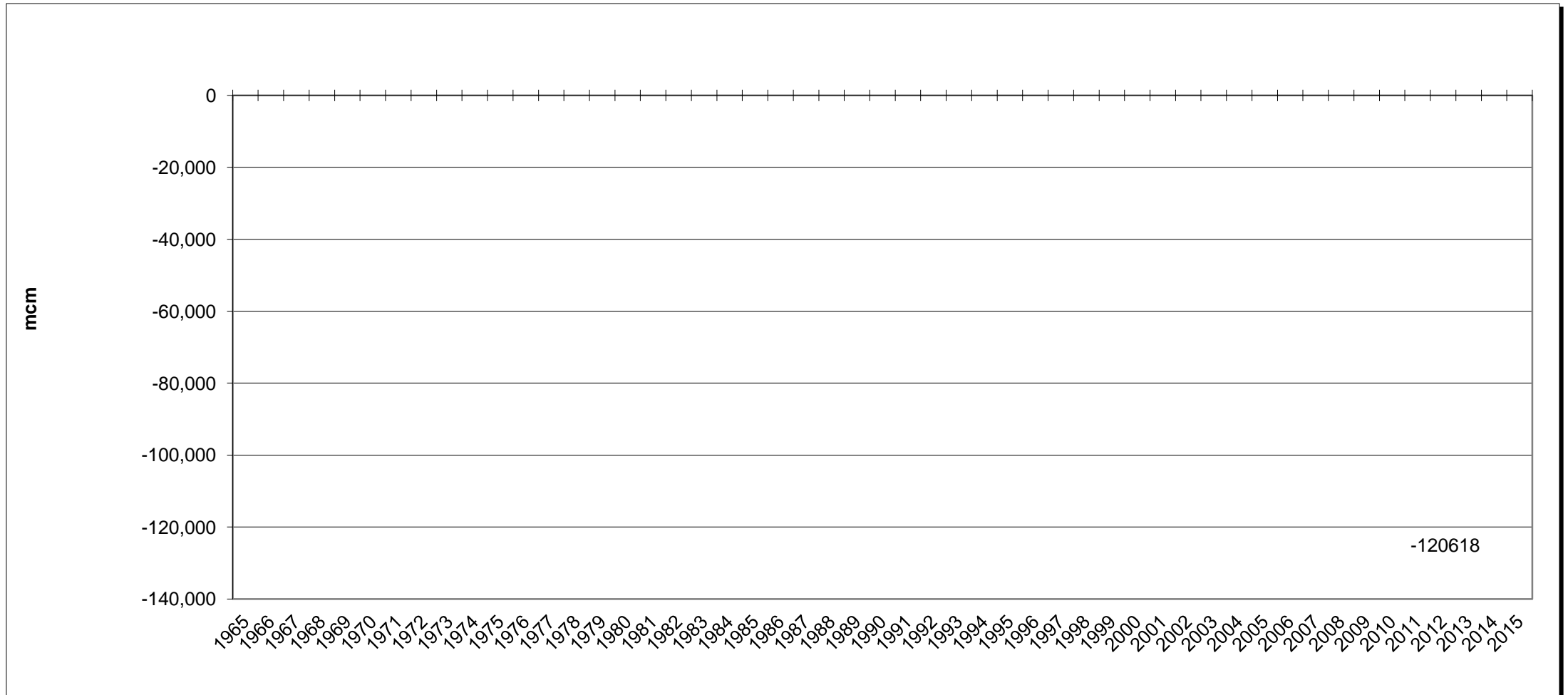
Changes in rainfall-runoff compared to the average 47 year with assuming hundred as moderate



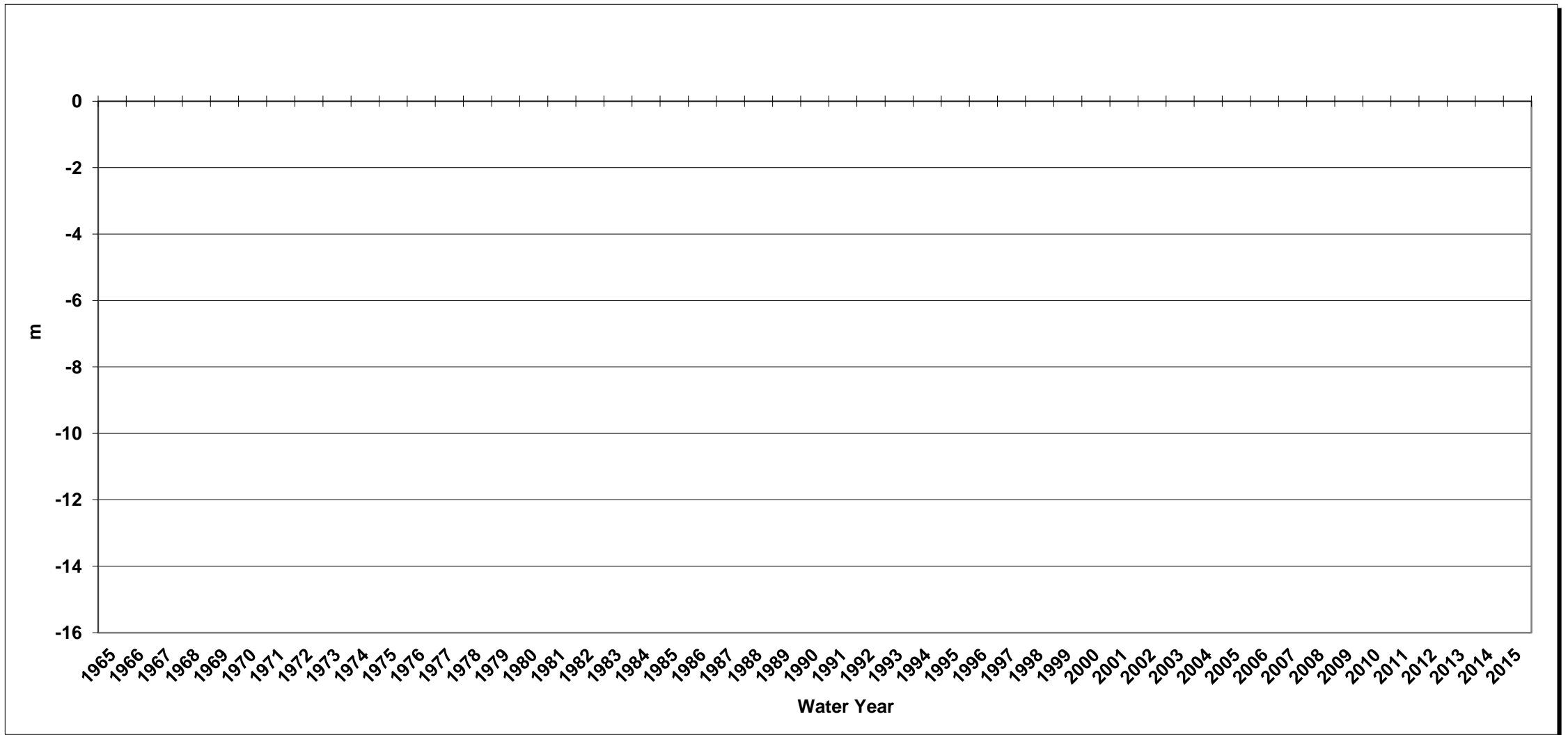
Per capita water resources



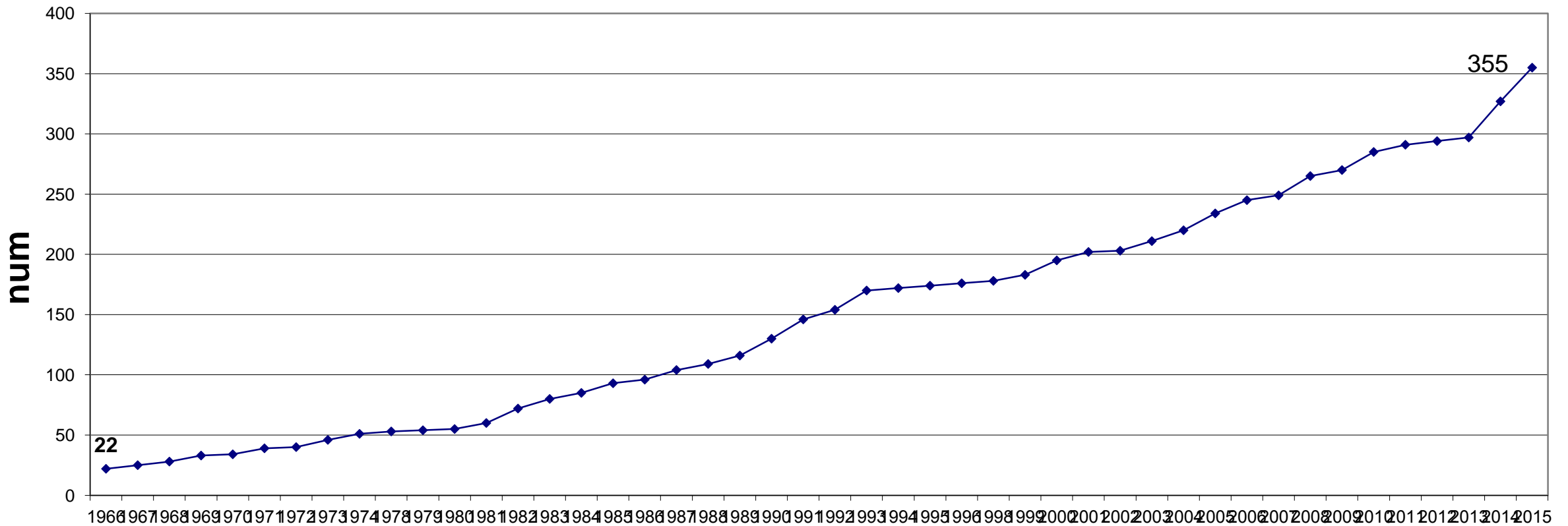
Total reduction of groundwater reservoir capacity from 1965 to 2015



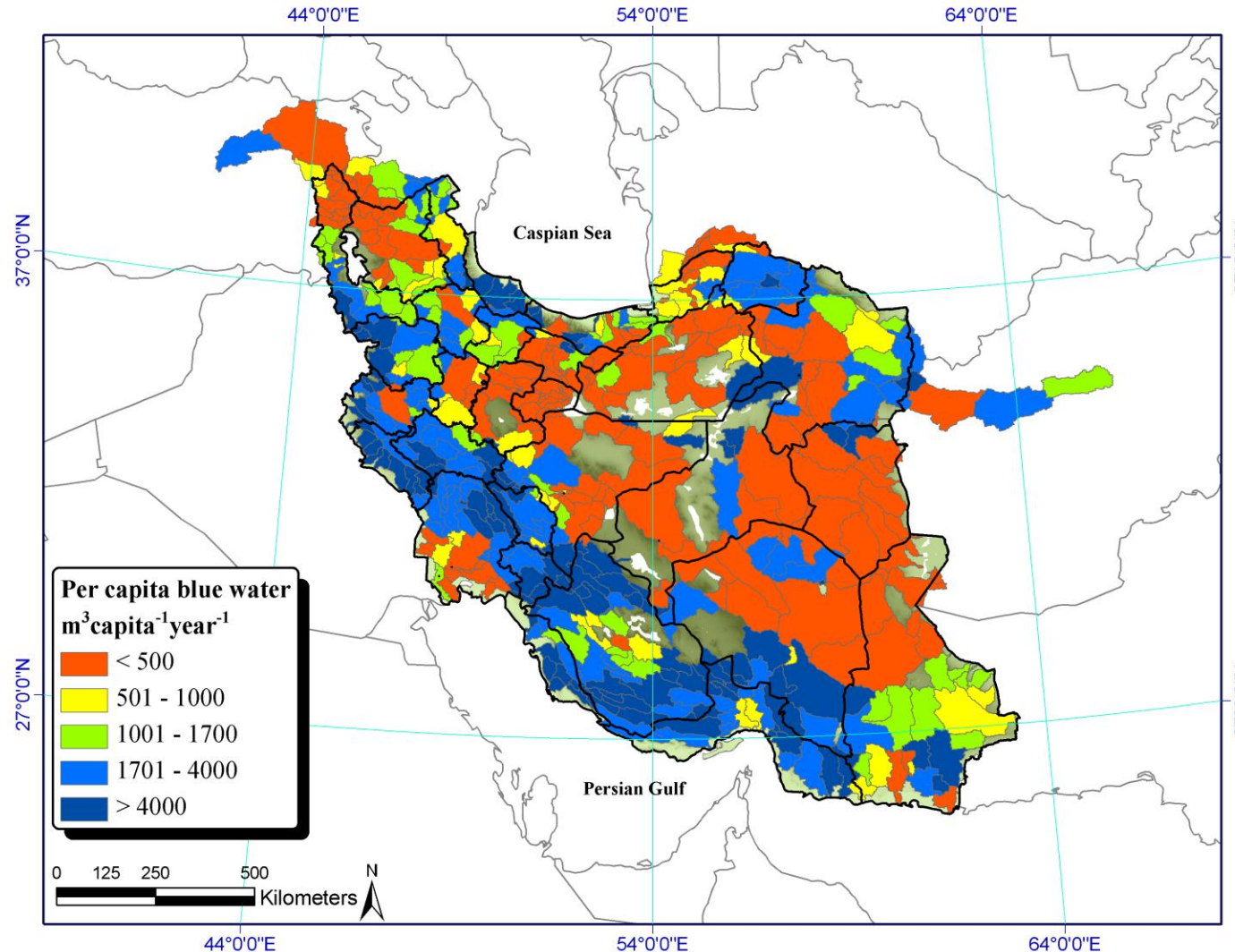
Changing in ground water level from 1965 to 2015



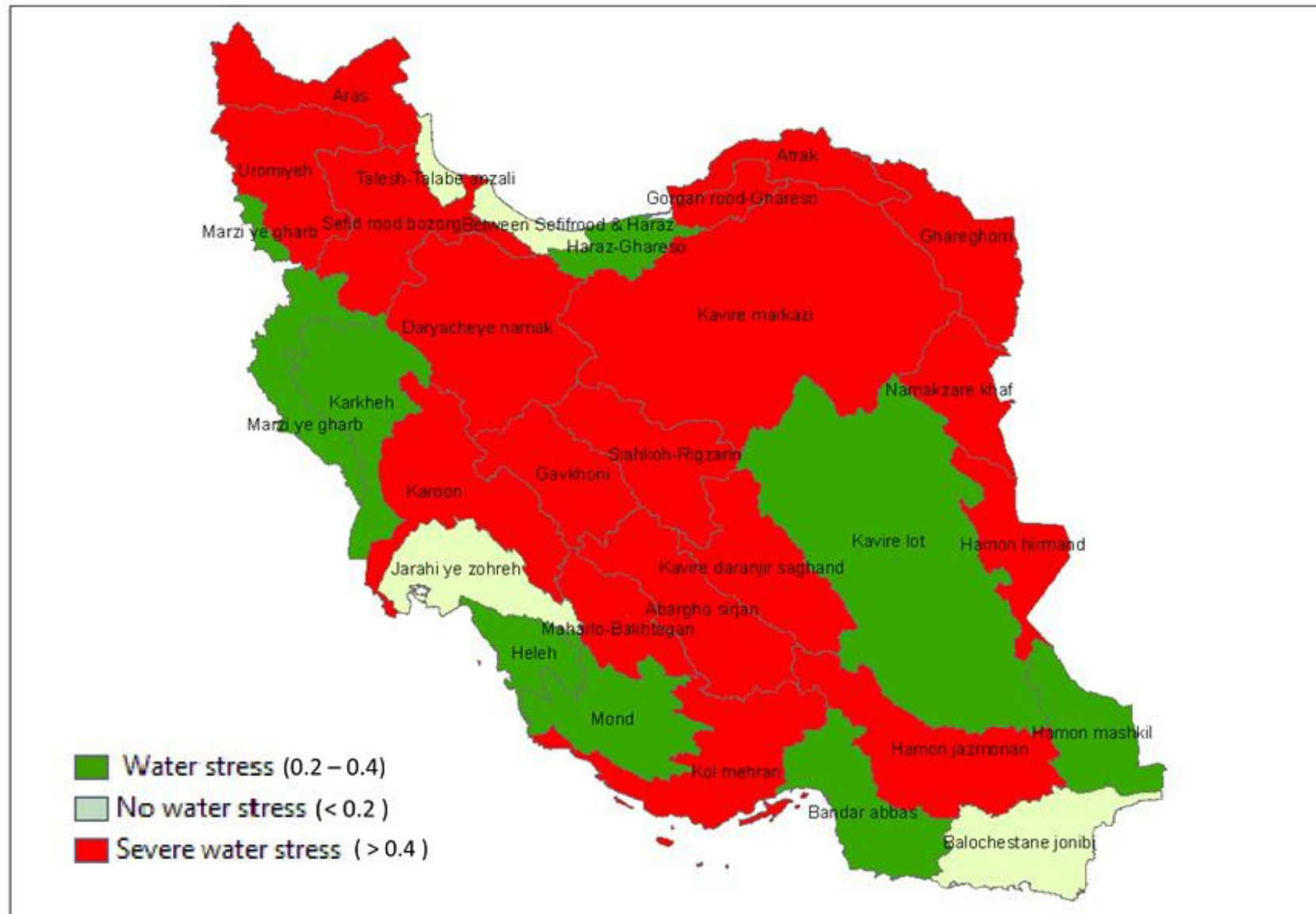
Trend of increasing in number of banned basins from 1966 to 2015



Distribution of water resources per capita (cubic meters per person) 2005



Basin water stress (2006)



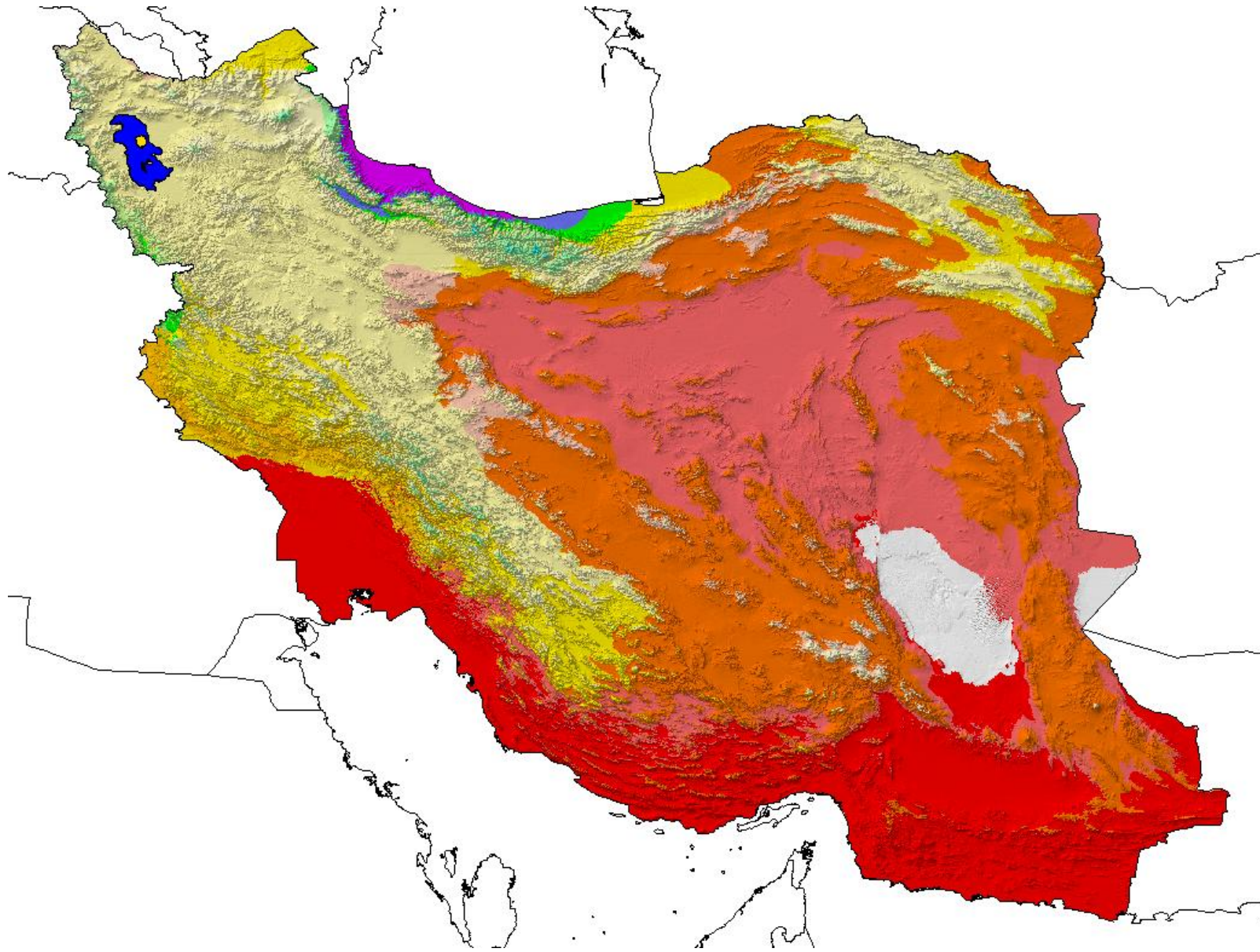
Current and future water allocation (mcm)

2046			2013			Title
Total	G.W	S.W	Total	G.W	S.W	
12365	5594	6771	8957	4661	4296	Domestic
3437	884	2553	2230	884	1346	Industry
560	439	121	560	439	121	Environment
43487	13156	30331	77516.8	43869	33648	Agriculture
59849	20073	39776	89263.8	49853	39411	Total

The reduction in groundwater pumping to balance the groundwater :11 *10³ mcm

Ministry of energy

The agroclimatic zones map of Iran by UNESCO method

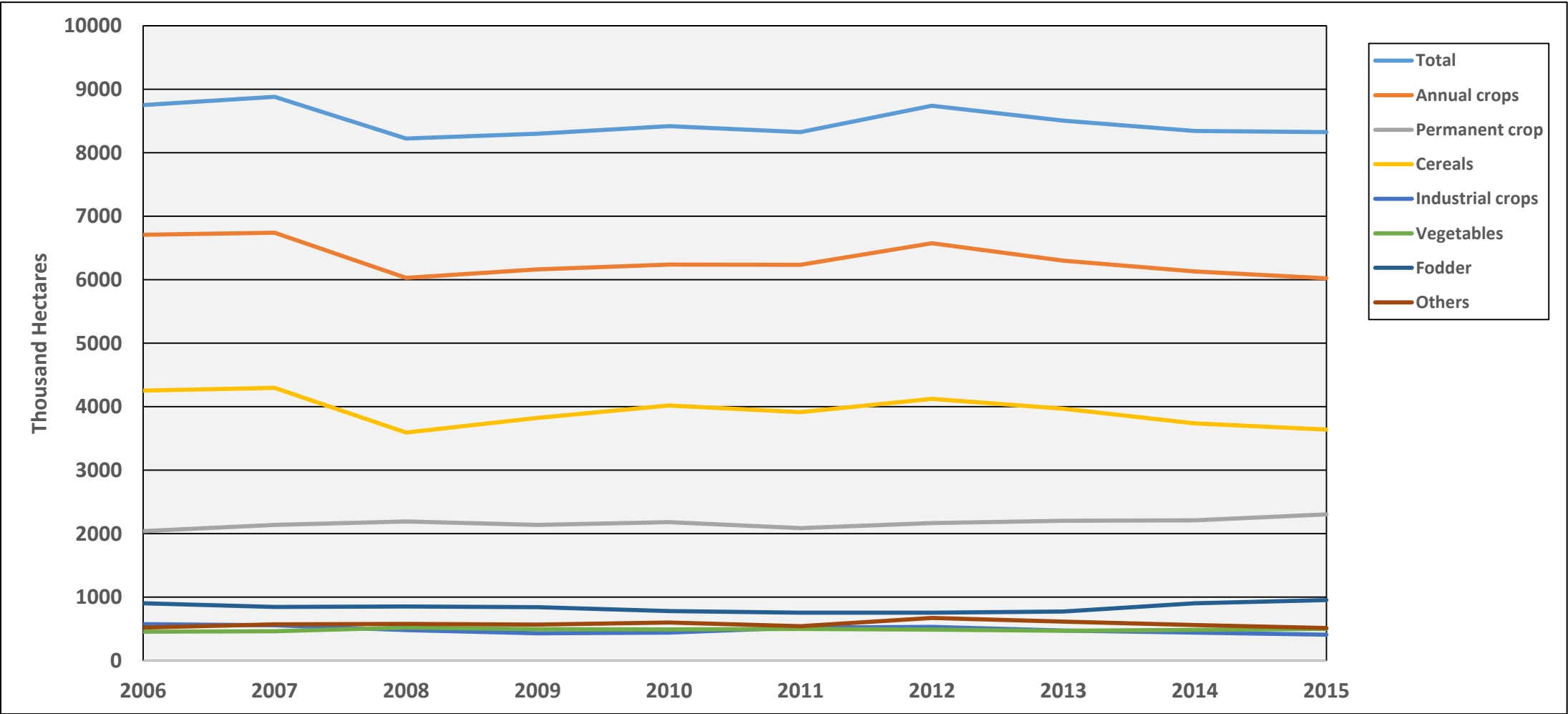


Map Guide

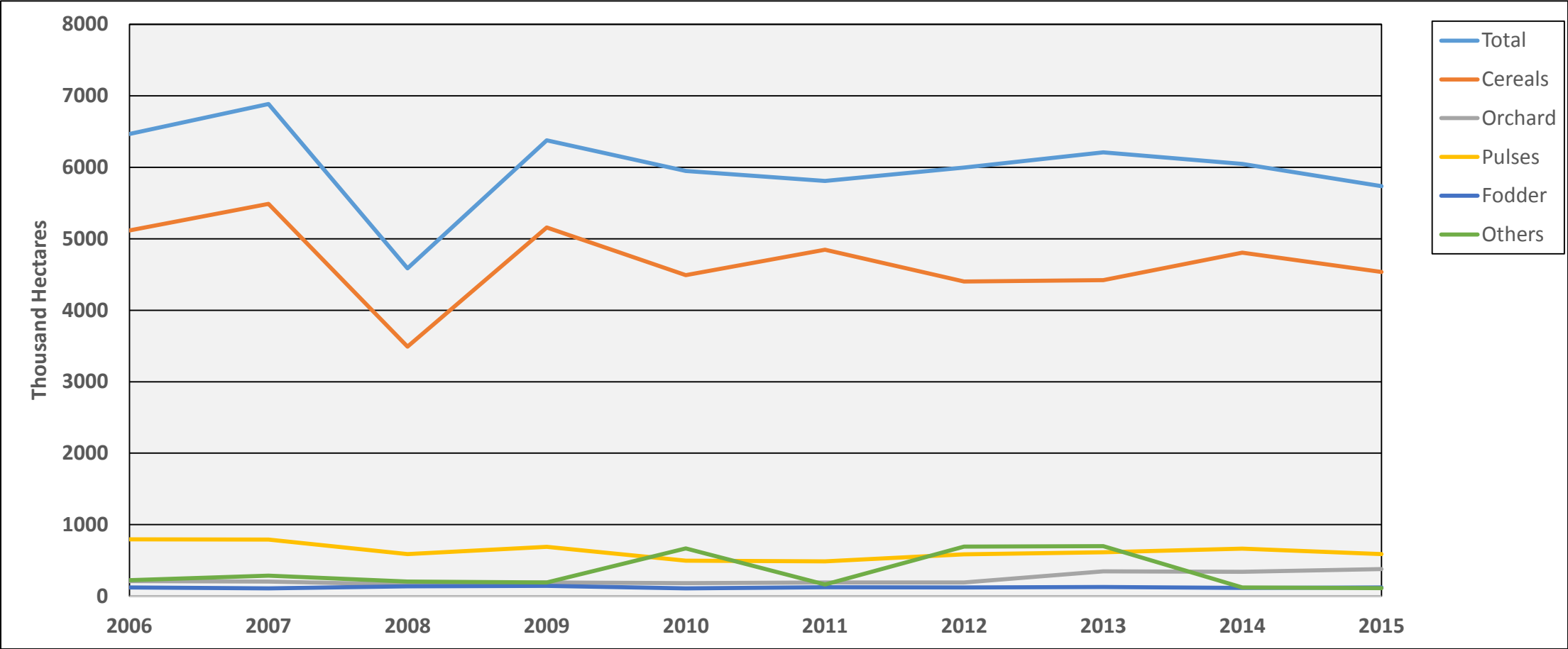
COLOUR	Symbol	Moisture regime	Aridity Index	Temperature regime winter	Range_Win	Temperature regime summer	Range_Sum	No. grid cells	% of country	approx. area (sq.km)
	HA-M-VW	Hyper-arid	< 0.03	Mild	10° - 20°C	Very warm	> 30°C	55598	2.5%	41647
	HA-C-VW	Hyper-arid	< 0.03	Cool	0° - 10°C	Very warm	> 30°C	4944	0.2%	3687
	A-M-VW	Arid	0.03 - 0.2	Mild	10° - 20°C	Very warm	> 30°C	374998	16.7%	286822
	A-M-W	Arid	0.03 - 0.2	Mild	10° - 20°C	Warm	20° - 30°C	12534	0.6%	9705
	A-C-VW	Arid	0.03 - 0.2	Cool	0° - 10°C	Very warm	> 30°C	419665	18.7%	305814
	A-C-W	Arid	0.03 - 0.2	Cool	0° - 10°C	Warm	20° - 30°C	586071	26.2%	429257
	A-C-M	Arid	0.03 - 0.2	Cool	0° - 10°C	Mild	10° - 20°C	15	0.0%	11
	A-K-W	Arid	0.03 - 0.2	Cold	<= 0°C	Warm	20° - 30°C	50982	2.3%	36485
	A-K-M	Arid	0.03 - 0.2	Cold	<= 0°C	Mild	10° - 20°C	3680	0.2%	2758
	SA-M-VW	Semi-arid	0.2 - 0.5	Mild	10° - 20°C	Very warm	> 30°C	7350	0.3%	5380
	SA-C-VW	Semi-arid	0.2 - 0.5	Cool	0° - 10°C	Very warm	> 30°C	36238	1.6%	26454
	SA-C-W	Semi-arid	0.2 - 0.5	Cool	0° - 10°C	Warm	20° - 30°C	163123	7.3%	117526
	SA-C-M	Semi-arid	0.2 - 0.5	Cool	0° - 10°C	Mild	10° - 20°C	10	0.0%	8
	SA-K-W	Semi-arid	0.2 - 0.5	Cold	<= 0°C	Warm	20° - 30°C	385312	17.2%	271593
	SA-K-M	Semi-arid	0.2 - 0.5	Cold	<= 0°C	Mild	10° - 20°C	67638	3.0%	47039
	SH-C-VW	Sub-humid	0.5 - 0.75	Cool	0° - 10°C	Very warm	> 30°C	483	0.0%	344
	SH-C-W	Sub-humid	0.5 - 0.75	Cool	0° - 10°C	Warm	20° - 30°C	12000	0.5%	8380
	SH-K-W	Sub-humid	0.5 - 0.75	Cold	<= 0°C	Warm	20° - 30°C	17389	0.8%	12248
	SH-K-M	Sub-humid	0.5 - 0.75	Cold	<= 0°C	Mild	10° - 20°C	22140	1.0%	15529
	SH-K-C	Sub-humid	0.5 - 0.75	Cold	<= 0°C	Cool	0° - 10°C	48	0.0%	33
	H-C-W	Humid	0.75 - 1	Cool	0° - 10°C	Warm	20° - 30°C	6740	0.3%	4682
	H-K-W	Humid	0.75 - 1	Cold	<= 0°C	Warm	20° - 30°C	573	0.0%	395
	H-K-M	Humid	0.75 - 1	Cold	<= 0°C	Mild	10° - 20°C	598	0.0%	419
	H-K-C	Humid	0.75 - 1	Cold	<= 0°C	Cool	0° - 10°C	77	0.0%	53
	PH-C-W	Per-humid	> 1	Cool	0° - 10°C	Warm	20° - 30°C	12319	0.5%	8502
	PH-K-W	Per-humid	> 1	Cold	<= 0°C	Warm	20° - 30°C	70	0.0%	48
	PH-K-M	Per-humid	> 1	Cold	<= 0°C	Mild	10° - 20°C	11	0.0%	8
	PH-K-C	Per-humid	> 1	Cold	<= 0°C	Cool	0° - 10°C	27	0.0%	19

C: Agri-production in Iran

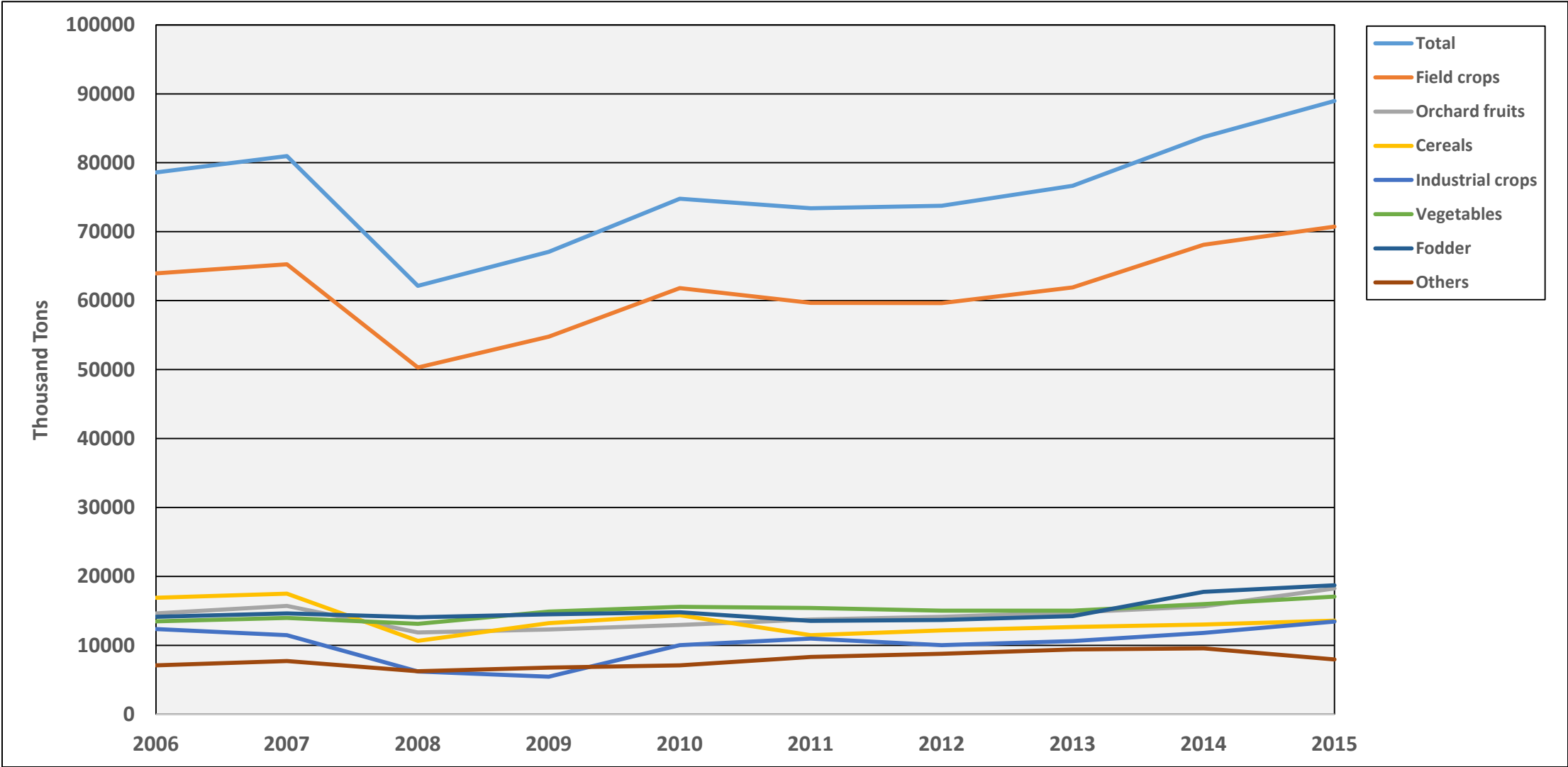
Total Irrigated Area (Annual Crops & Permanent Crops)



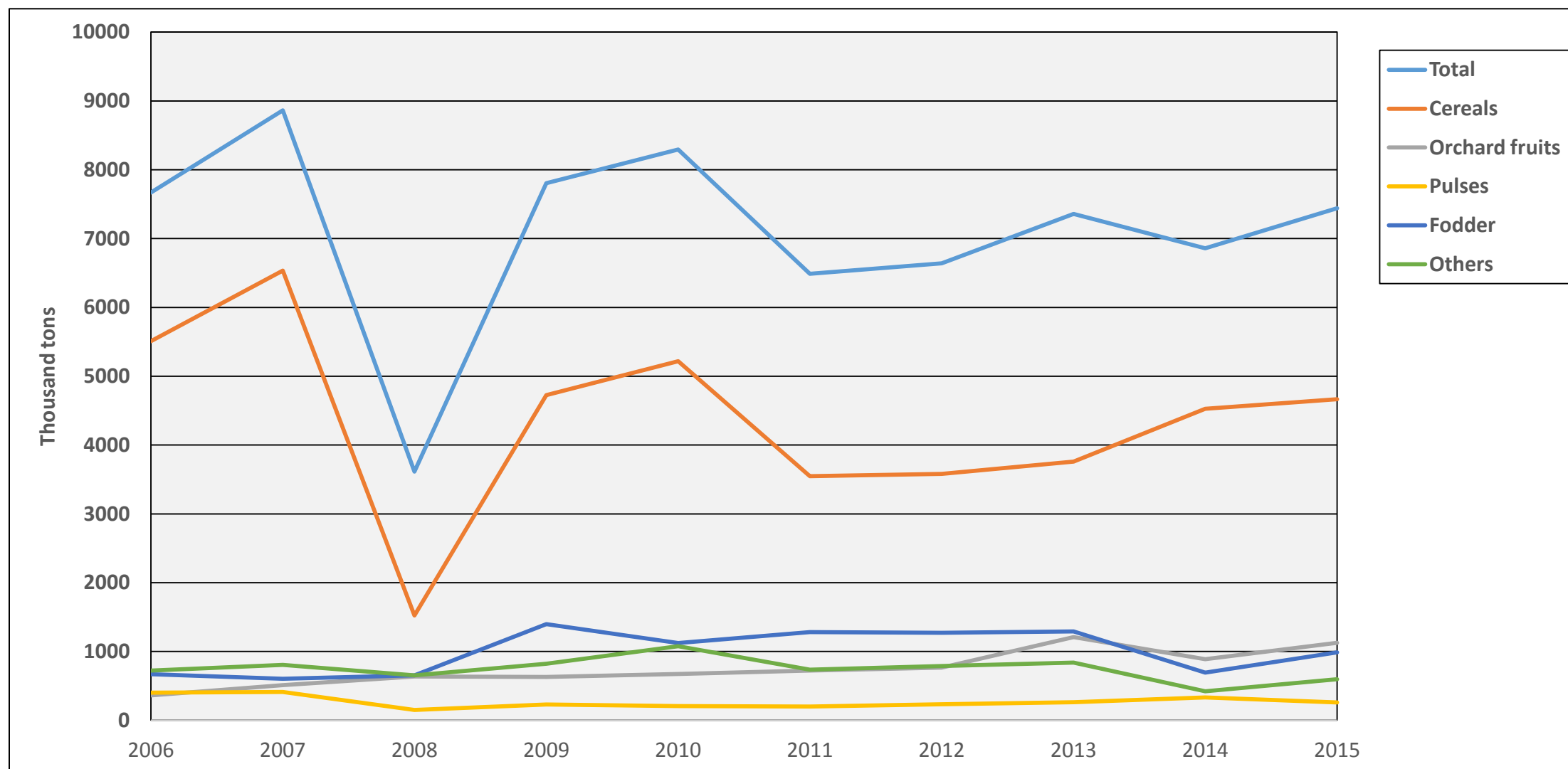
Total Dryland Area (Annual Crops & Permanent Crops)



Total Irrigated Production



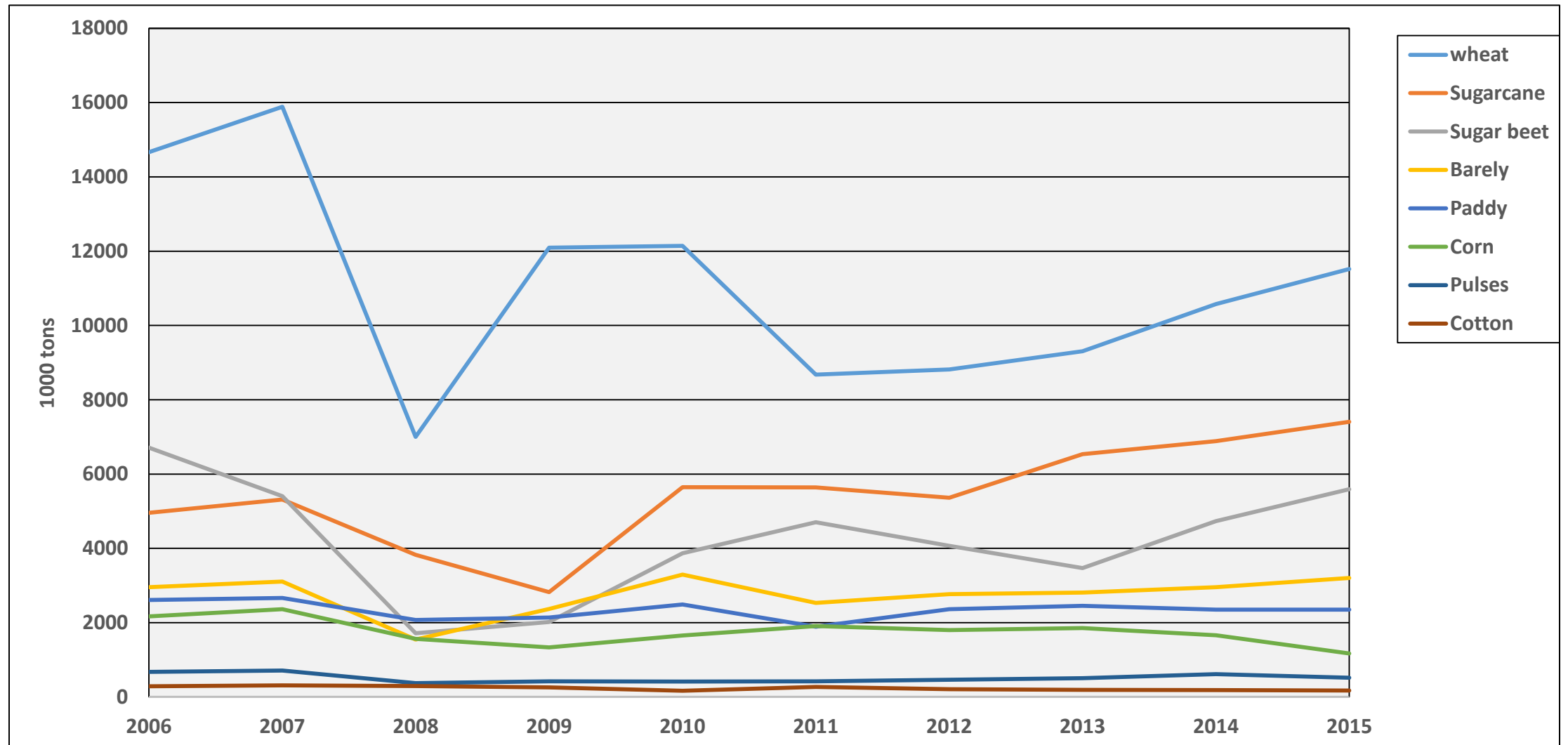
Total Dryland Production



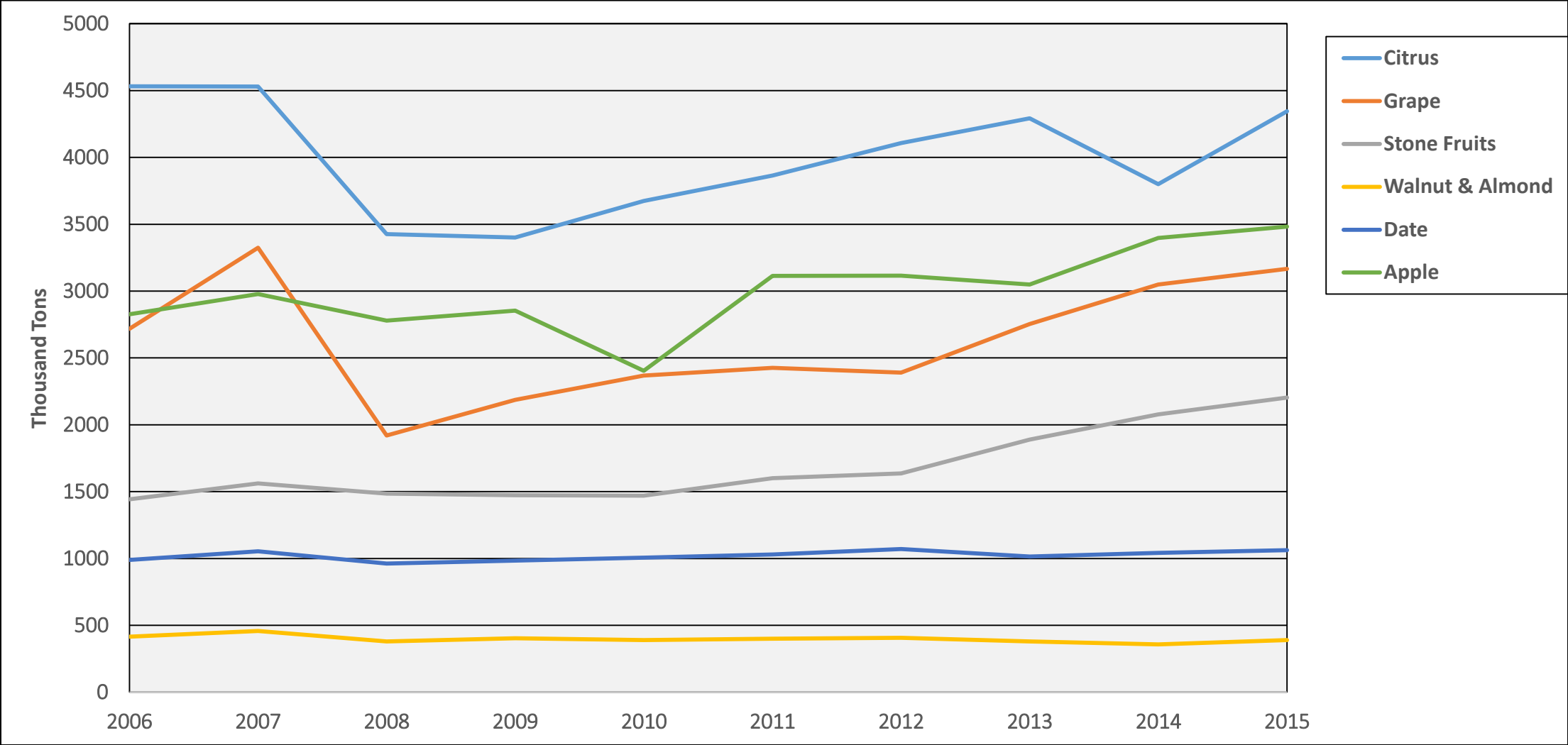
The Volume of area of arable land, Crops and field yield (average 2013-2015)

Number	item	Area of arable land (1000 Ha)			Crops (1000 tons)			Yield (ton/Ha)		
		irrigated	rainfed	total	irrigated	rainfed	total	irrigated	rainfed	total
1	Wheat	2298	3761	6059	7130	3338	10468	3.1	0.9	1.7
2	Barely	710	993	1703	2011	979	2990	2.8	1	1.8
3	Paddy (Rough Rice)	545	0	545	2381	0	2381	4.4	0	4.4
4	Flint corn	230	0	230	1560	0	1560	6.8	0	6.8
5	Chick-pea	9.5	478	487.5	12	207	219	1.3	0.4	0.4
6	Bean	106	2.5	108.5	205	4.2	209.2	1.9	1.7	1.9
7	Lentil	7.8	135	142.8	8	68	76	1	0.5	0.5
8	Cotton	78	0	78	181	0	181	2.3	0	2.3
9	Sugar beet	95	0	95	4597	0	4597	48.4	0	48.4
10	Sugar cane	88	0	88	6844	0	6844	77.8	0	77.8
11	Soybean	58	8	66	130	15	145	2.2	1.9	2.2
12	Canola	48	42	90	91	35	126	1.9	0.8	1.4
13	Potato	159	0	159	4902	0	4902	30.8	0	30.8
14	Onion	58	0	58	2176	0	2176	37.5	0	37.5
15	Tomato	153	0	153	5948	0	5948	38.9	0	38.9
16	Watermelon	128	0	128	3747	0	3747	29.3	0	29.3
17	Cucamber (Greenhouse)	75	0	75	1633	0	1633	21.8	0	21.8
18	Alfalfa	581	56	637	5516	146	5662	9.5	2.6	8.9
19	Field corn (Silage)	190	1.7	191.7	9466	31	9497	49.8	18.2	49.5

Production of Main Field Crops



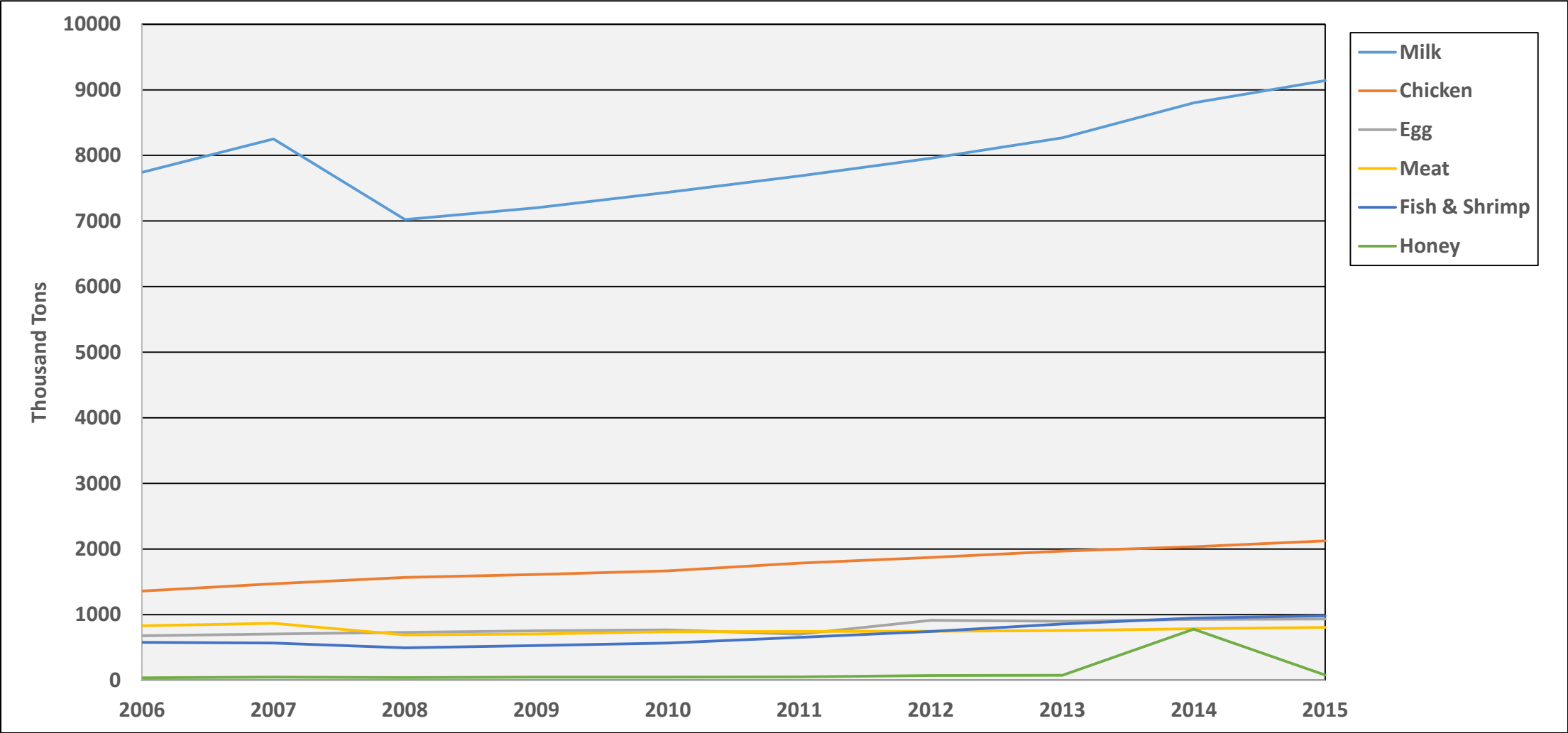
Production of Main Horticultural Crops



The Volume of permanent crop land products and yield (average 2013-2015)

Number	Item	Land (1000 Ha)			Production (1000 tons)			Yield (ton/Ha)		
		Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total
1	Apple	202	0	202	3300	0	3300	16.3	0	16.3
2	Peach	46	0	46	672	0	672	14.6	0	14.6
3	Grape	207	69	276	2705	284	2989	13.1	4	10.8
4	Almmond	91	86	177	113	40	153	1.2	0	0.9
5	Walnut	108	6	114	210	10	220	1.9	1.7	1.9
6	Date	179	20	199	990	46	1036	5.5	2.3	5.2
7	Citrus	208	33	241	3754	391	4145	18	11.8	17.2
8	Pomegranate	68	0	68	998	0	998	14.7	0	14.7
9	Kiwi	9.7	0	9.7	280	0	280	28.9	0	28.9
10	Tea	0.28	27	27.28	0.95	85	85.95	3.4	3.1	3.2
11	Pstachio	317	0	317	242	0	242	0.8	0	0.8
12	Safran	87	0	87	309	0	309	3.6	0	3.6

Production of Main Livestock, Poultry and Fisheries Products

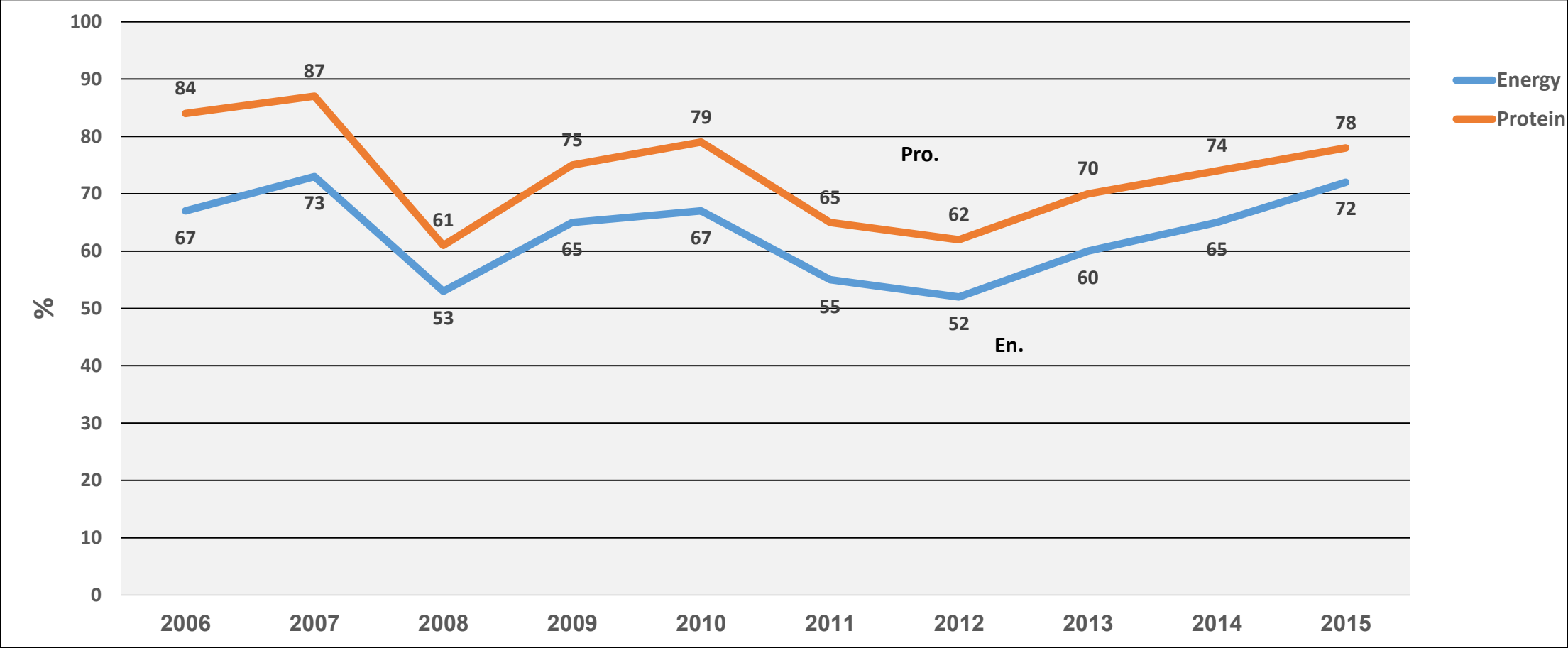


the Volume of Livestock, poultry and Fishery production (average 2013-2015)

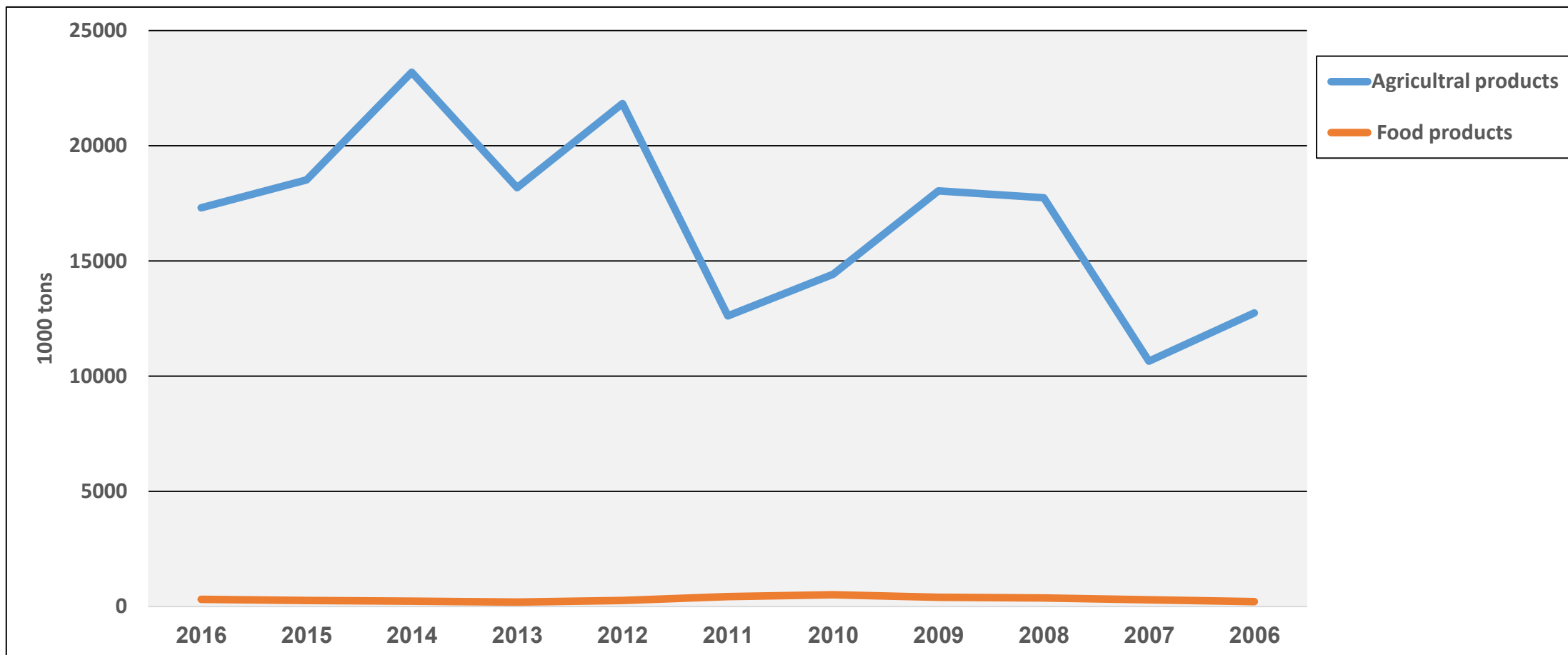
Item	Value (1000 tons)
Red meat	782
Chicken	2040
Egg	916
Milk	8736
Fish +Shrimp	937
Honey	77

D: Agribusiness in I. S. of Iran (Imports & Exports)

Changes in the percentage of self-sufficiency in energy and protein supply over the years 2006-2015



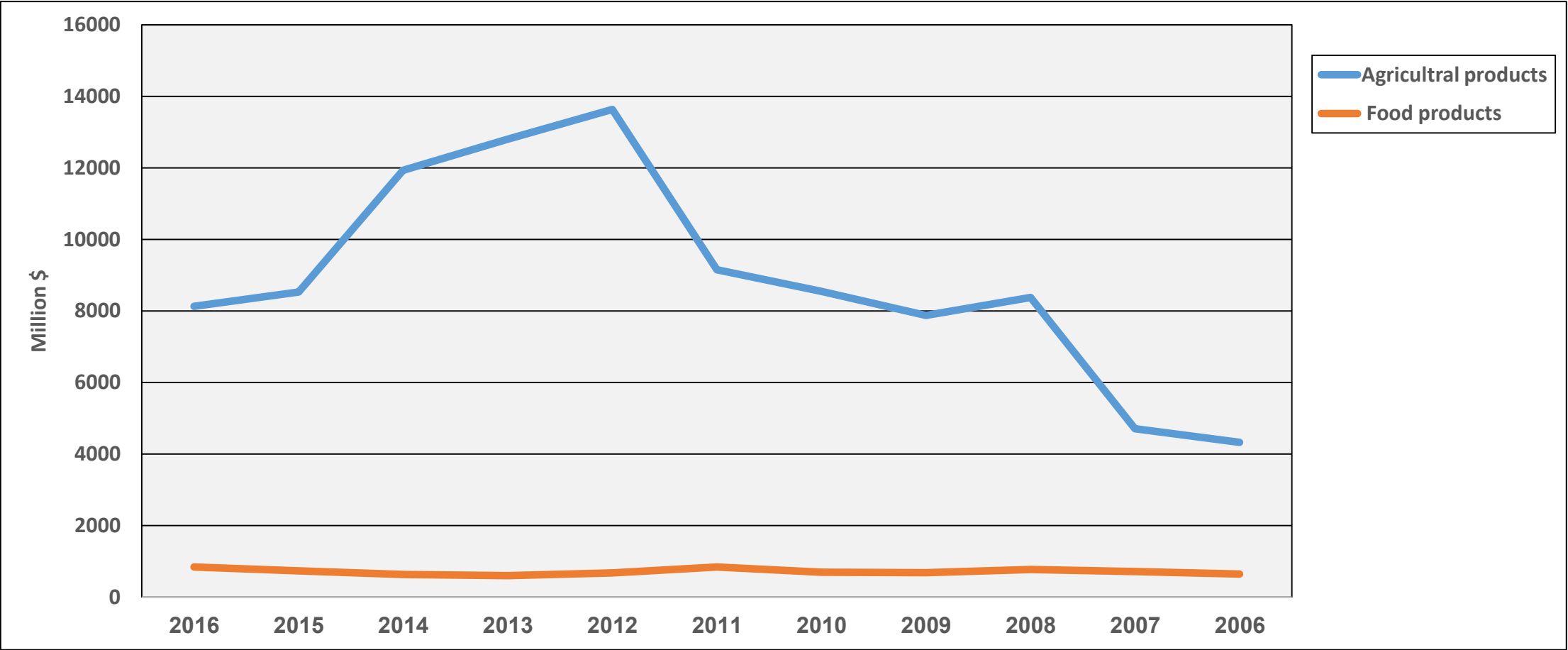
Quantity of agricultural imports-Summary



Islamic Republic of Iran Customs Administration

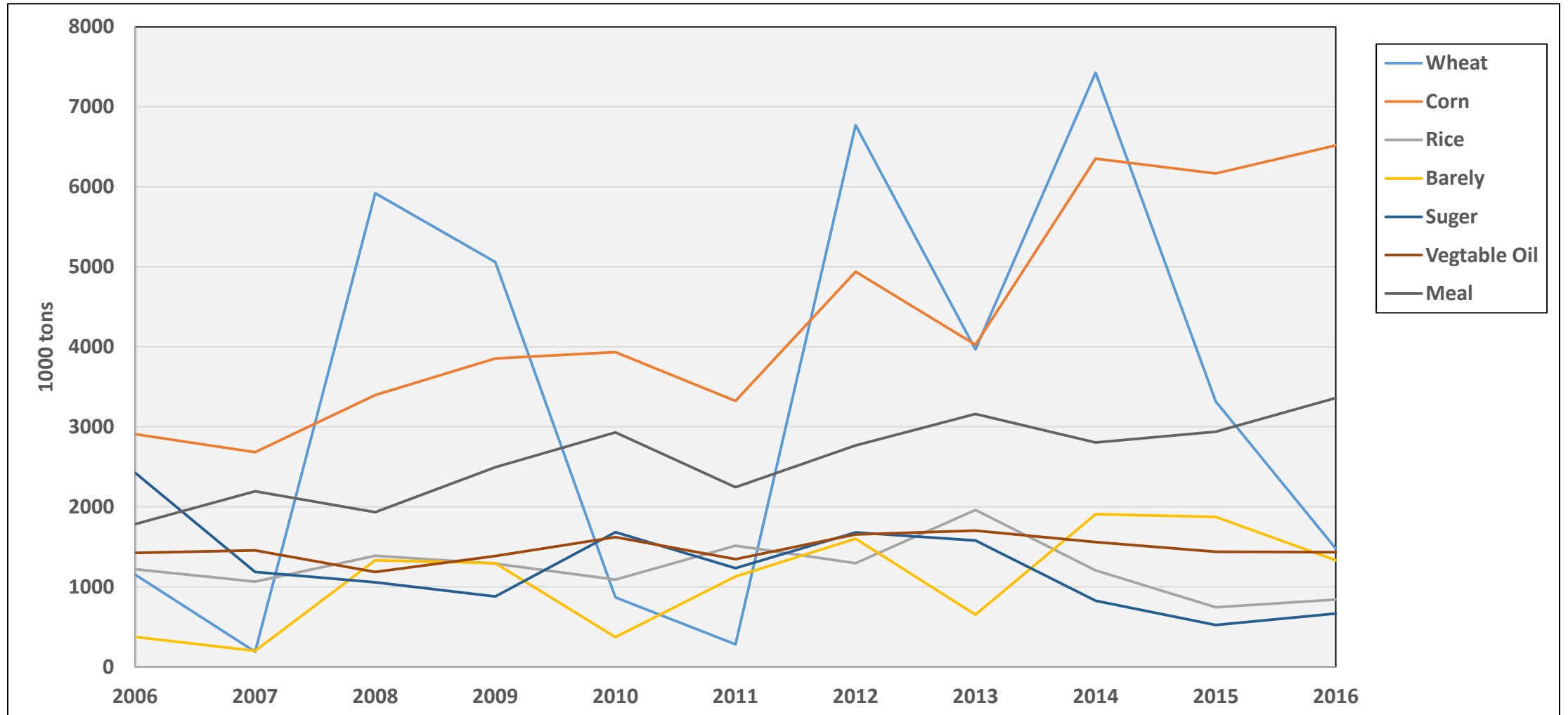
Value of agricultural imports-Summary

Unit: million \$

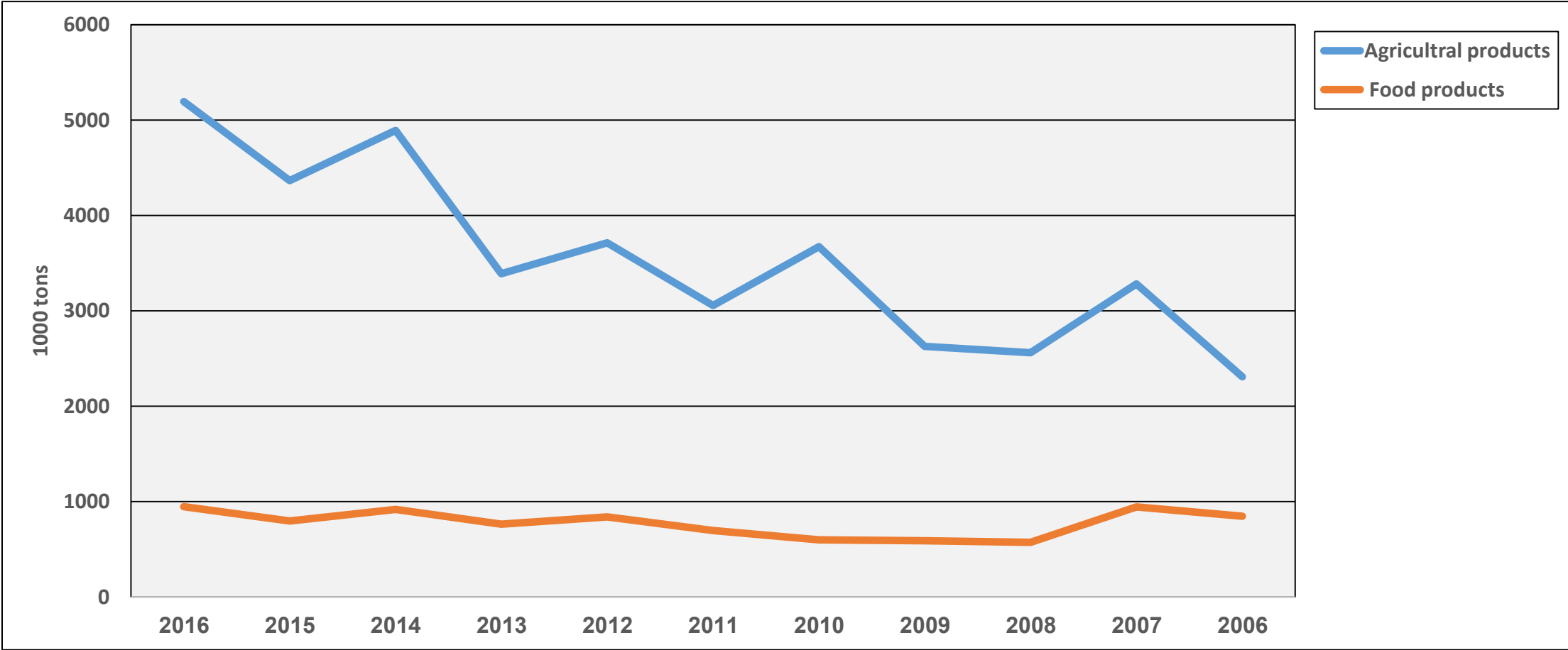


Islamic Republic of Iran Customs Administration

Quantity of main agricultural crops import (2006-2016)

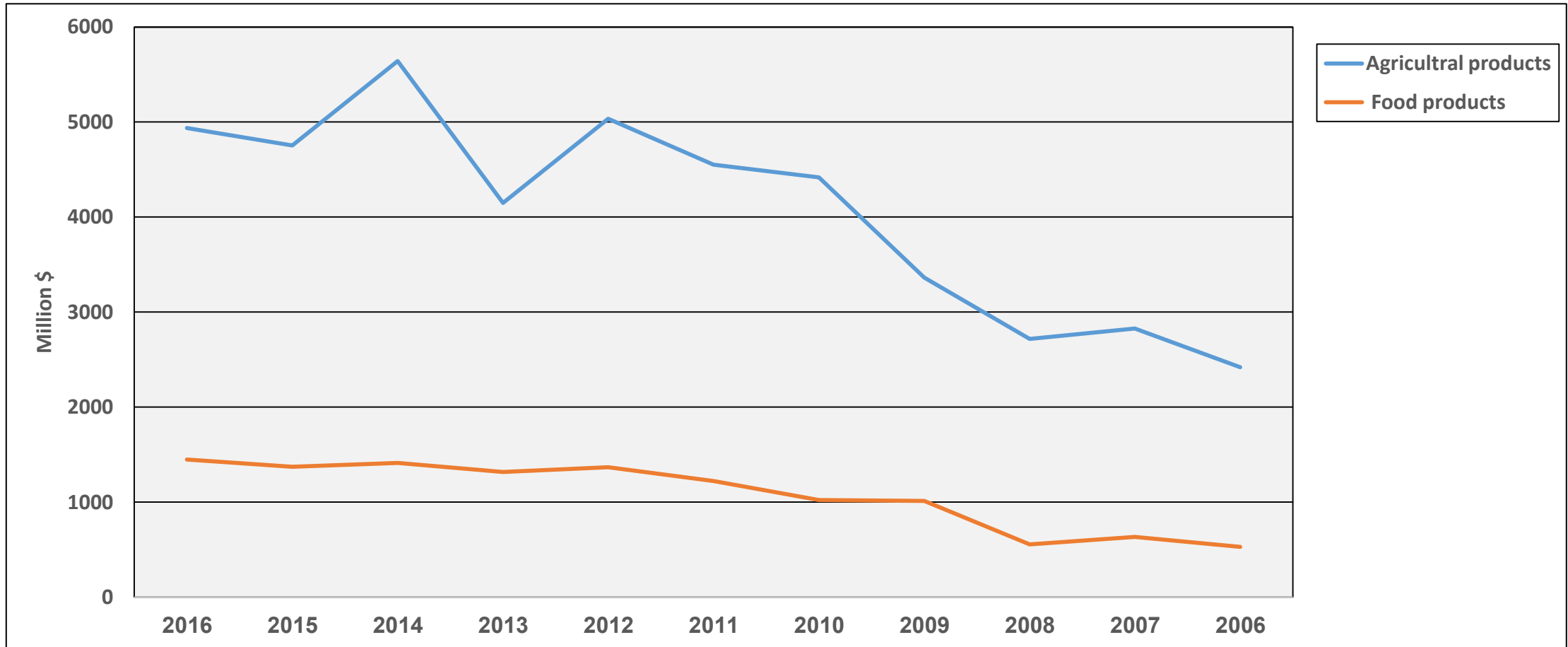


Quantity of agricultural exports-Summary



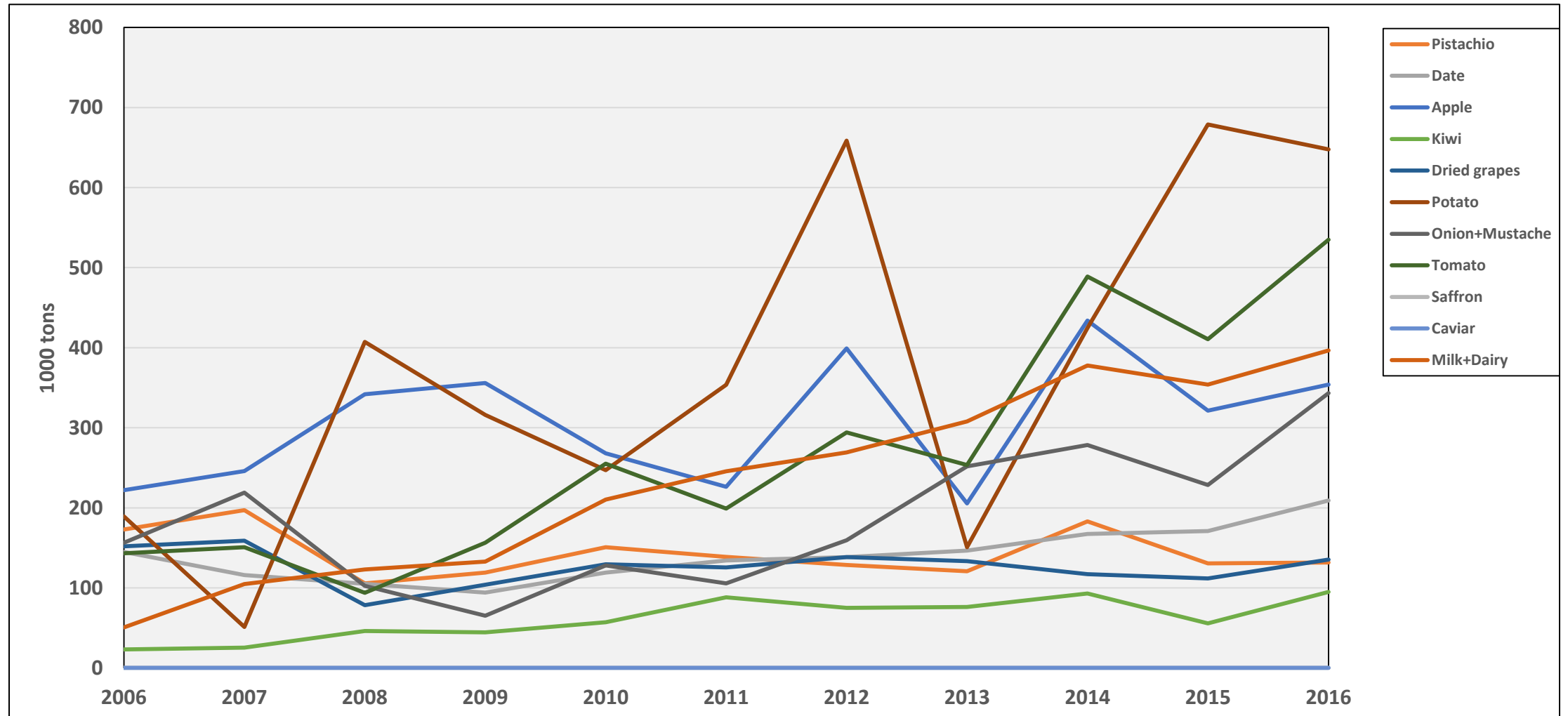
Islamic Republic of Iran Customs Administration

Value of agricultural exports-Summary

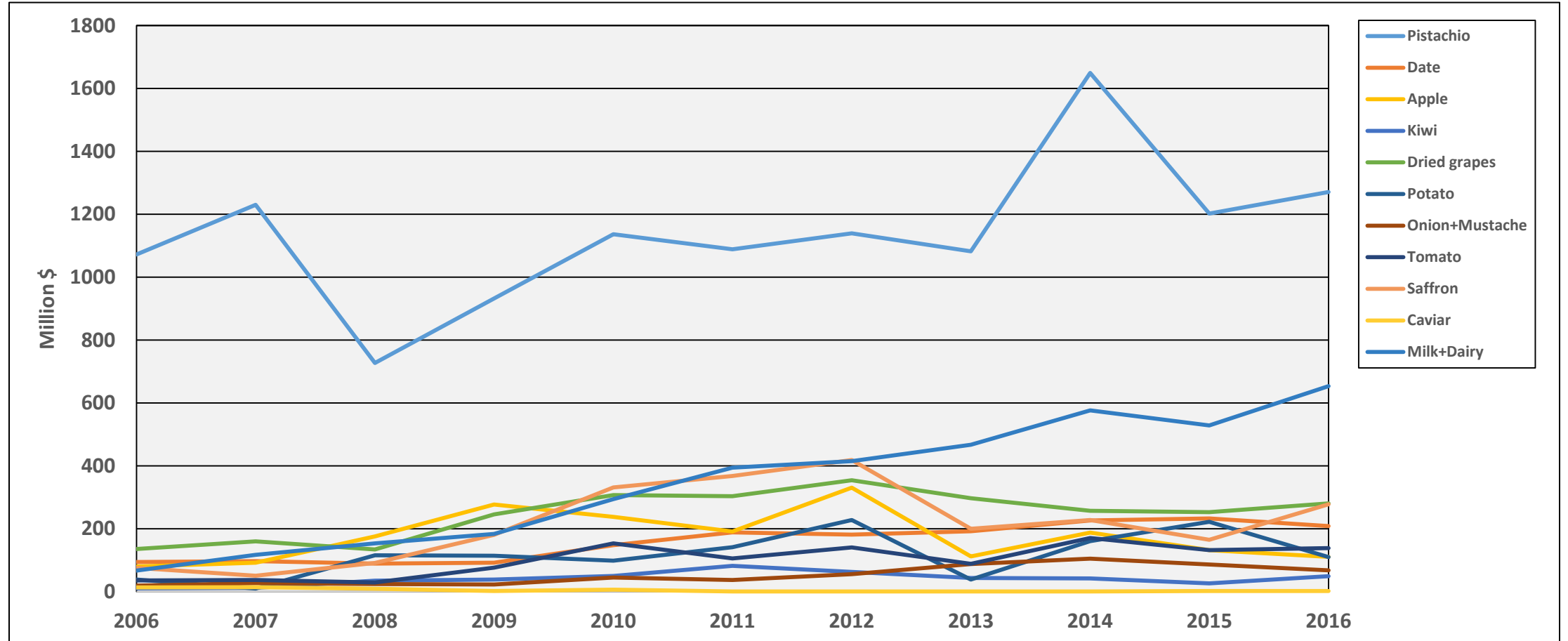


Islamic Republic of Iran Customs Administration

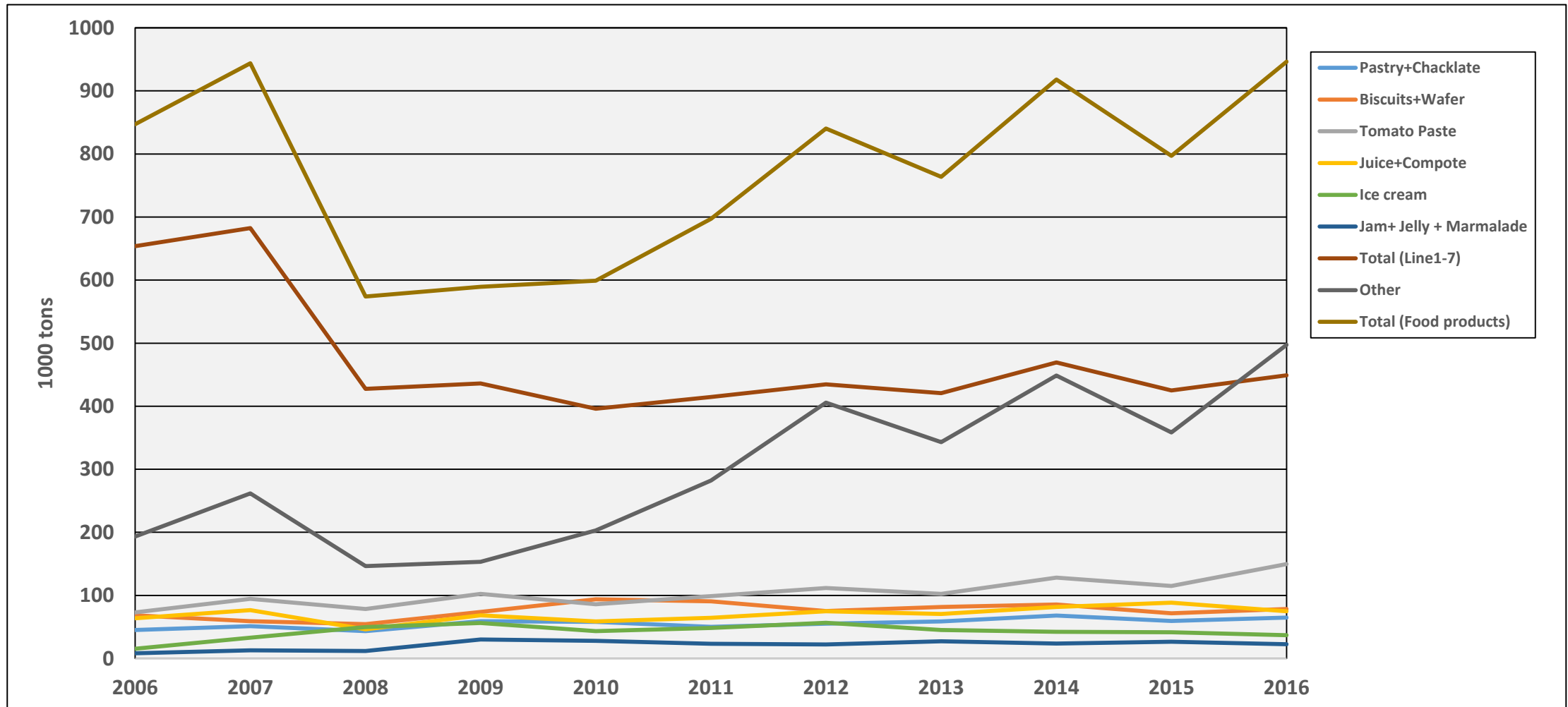
Quantity of main agricultural products export (2006-2016)



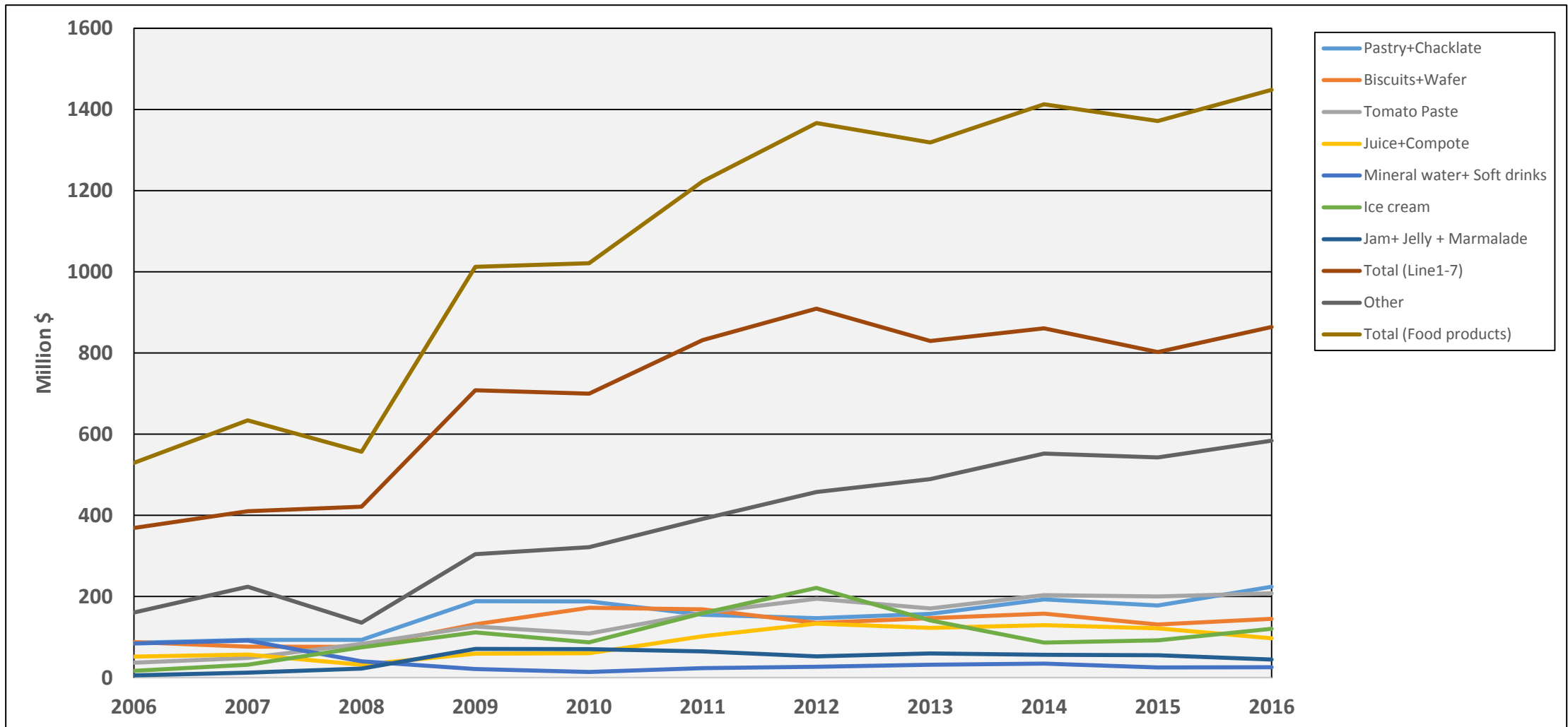
Value of main agricultural products export (2006-2016)



Quantity of food products export (2006-2016)



Value of food products export (2006-2016)



Iran's Export and Import Status and Germany's share (%) in 2016

Number	Item	Unit	Quantity	Value	note
1	Total imports of Iran	1000 tons- milion \$	33400	43684	
2	from Germany	1000 tons- milion \$	971	2537	
3	Share of Germany	%	2.9	5.8	
4	Import of agricultural and food products	1000 tons- milion \$	17615	8965	The main products of Iran imported from Germany is : wheat, Homogenized totton & Tobacco, Dietary supplement, barely, seed of sugar beet (80% of imports)
5	from Germany	1000 tons- milion \$	589	288	
6	Share of Germany	%	3.3	3.2	
7	Total exports of Iran	1000 tons- milion \$	129892	44042	
8	from Germany	1000 tons- milion \$	39	320	
9	Share of Germany	%	0.03	0.7	
10	Export of agricultural and food products	1000 tons- milion \$	6142	6386	Most of Iran's exports to Germany is: Fruit and medicinal plants types (79% of exports)
11	from Germany	1000 tons- milion \$	23.1	215	
12	Share of Germany	%	0.4	3.4	

Imports of seeds, fertilizers and pesticides from Germany in 2016

Number	Item	Iran		Germany		Share of Germany (%)	
		Quantity (1000 tons)	Value (million \$)	Quantity (1000 tons)	Value (million \$)	Quantity (1000 tons)	Value (million \$)
1	Seed	3.9	128.6	0.4	18.7	10.3	14.5
2	Fertilizer	209	151.5	0.62	1.2	0.3	0.8
3	Pesticide	26.1	166	1.85	33.4	7.1	20.1

Volume of Imports of agricultural machinery to Iran and Germany' share (%) (2016)

Number	Item	Iran		Germany		Share of Germany (%)	
		Quintity (1000 tons)	Value (milion \$)	Quintity (1000 tons)	Value (milion \$)	Quintity (1000 tons)	Value (million \$)
1	Tillage machines	4.2	8.7	0.02	0.16	0.5	1.8
2	Tractors	9.2	67.5	2.1	17.9	22.8	26.5
3	Harvesters	6.6	36.8	1	4.5	15.2	12.2
4	Total	20	113	3.12	22.56	15.6	20.0

Import Regulations

- The list of agri-products for imports and their tariffs shall be subject to approbation of Ministry of Jihad Agriculture
- Tariffs on essential food products is at least 5%
- Tariffs on other agricultural products is 10-45%
- The volume of agri-products for import shall be approved by Ministry of Jihad Agriculture
- Imports of agri-products especially during the harvesting season is banned in order to help local production
- Imports of all agri-products shall be subject to certificate obtained from the Ministry of Jihad Agriculture and to compliance with the quarantine regulations
- The importation of seeds and saplings on a commercial scale shall be subject to international certificates (ISTA)

Export Regulations

- No limitations are placed on agri-products
- In some cases, export subsidies on agri-products were permitted
- Export of subsidized agri-products (wheat, chemical fertilizer) is prohibited

E: suggestion for Cooperation

Volume of Imports of agricultural machinery to Iran and Germany' share (%) (2016)

Number	Item	Iran		Germany		Share of Germany (%)	
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E1: Agricultural Machinery

Agricultural Machinery in Iran

- 470000 Unit of different size Tractors (HP 45-160)
- 16000 Unit of Combine for Grain Harvest (HP 100-200).
- 6000 Unit of Combine for Paddy Harvest.
- 155000 Unit on Tiller (HP 4.5-13)
- Other Machinery for Tillage, Planting, cultivation and Harvesting



Suggestions-Machinery

- Transferring the technology and importing the adapted transplanters for different agricultural crops specially Vegetables, Melons, Corn, Sugar beet, Cotton and Canola .
- Gain advantages from Germany's experience in promoting horticulture, livestock (Dairy Farms) and poultry's mechanization.
- Transferring the technologies for minimum tillage and direct seeding

Suggestions-Machinery

- Gain advantages from Germany's experience in promoting horticulture, livestock (Dairy Farms) and poultry's mechanization.
- Transferring the technologies for minimum tillage and direct seeding

Suggestions-Machinery

- Planning and supporting the transfer of modern technologies in climate-smart agriculture.
- Planning and supporting the transfer of modern technologies and launching the production line of heavy-duty tractors, combine harvesters, forage harvesters, modern sprayers and other machineries effective in development of sustainable and conservative agriculture and water management.

Suggestions-Machinery

- Gain advantages from Germany's experiences in machinery instructions and testing and evaluating methods in order to improve the quality of Iran's agricultural machinery.
- Equipping specialized laboratories including laboratories for testing pesticide sprayers and tractors.
- Transferring the technology and technical knowledge in order to reducing agricultural lost from planting to harvesting.

E-2: Suggestions-Seed

The Volume of Certified Seeds (Crops) in 2016-2017 and its share from the total

Number	Item	Production (1000 t)		Demand (1000 t)	the share (%)	Number of commercial varieties
1	Wheat	Irrigated	340	500	68	54
		Rainfed	134	550	24	12
		Total	474	1050	45	66
2	Barley	Irrigated	17	123	14	26
		Rainfed	5	130	4	8
		Total	22	253	9	34
3	Maize	Irrigated	11	11	100	34
4	Rapeseed	Irrigated	1450	1450	100	39
5	Potato	Irrigated	22	550	4	up to 7 mostly one
6	Total		892.45	3168.45	28	74-81

Suggestions-Seed

- In Iran, law for seed registration and quality control were approved in 2003.
- According to this law the Ministry of Jihad Agriculture is obliged to identify and register new cultivars and supervision and monitor the affairs related to seed control.
- Seed has privatized in IRAN

Suggestions-Seed

- In order to implement the provisions of this law “Seed and Plant Certification and Registration Institute” was established in Ministry of Jihad Agriculture and its duty was to identify, register, control and certify seeds and saplings.

Suggestions-Seed

- The importation of seeds and saplings on a commercial scale shall be subject to international certificates (ISTA, OECD and None GMO) and also Phytosanitary certificate.
- We are member of OECD in Seed business

Suggestions-Seed

- In 2016, the volume of imported seeds from Germany to Iran was 404 tons with the value of 18.7 million dollars which was 7% of total German's agricultural commodities imported to Iran. Imported seeds were mainly sugar beet.

Suggestions-Seed

- Germany's seed companies will cooperate with Iranian's Seed companies in different crops. The priorities are Canola, Cereals (Wheat, Barely), Potato, Forage crops, Maize, Sunflower.
- The cooperation will be for domestic use and export.
- Germany's seed company can register their seed under their names.

E-3: Suggestions-Pesticides

Suggestions-Pesticides

- In 2016, the volume of formulated pesticides imported from Germany to Iran was 1850 tons with the value of 33.4 million dollars which was near 1.5% of total German's nonagricultural commodities imported to Iran.
- Active presence of German companies in order to introduce and submit new, low risk and environmental friendly pesticides.

Suggestions-Pesticides

- Supporting investment in pesticide production In IRAN and knowledge exchange.
- Cooperating in how to imply integrated pest management strategies particularly in common key pests.
- Cooperating in introducing and applying new chemical, non-chemical and biological pesticides.

Suggestions-Pesticides

- Cooperating in training and educating Iranian farmers and experts in order to identify the best controlling methods for diseases in cereals and rapeseed.
- Conducting training courses about quality control of pesticides, sprayer's new technologies and biological control for plant protection experts.

E-4: Medicinal Plants

Introduction-Medicinal Plants

- Due to Iran's diverse climate more than 7000 medicinal plants growing in different parts of this country and 1728 species are exclusively native.
- Moreover, species like Licorice (*Glycyrrhiza glabra*), Bugloss (*Ferula assa foetida*), Wild Celery (*Kelussia odoratissima*), Galbanum (*Ferula gummosa*), Barberry (*Berberis vulgaris*) and Chamomile (*Matricaria chamomilla*) are also growing in Iran which have a great economic capacity in drug industry.

Introduction-Medicinal Plants

- Area under cultivation of medicinal plants in Iran is 180 (1000 hectares) which produces 178 (1000 tons) and Saffron exclusively grows in 106 (1000 hectares) and produces 336 tons.
- According to the plans made in the next five years, 100 (1000 hectares) of Iran's arable lands will be added to area under cultivation of medicinal plants, therefore Iran is ready to supply Germany's herb raw material in format of long-term fix price contracts.

Introduction-Medicinal Plants

- In 2016, 4400 tons of medicinal plants with the value of 43.4 million dollars exported from Iran to Germany. There is a capacity to improve and enhance this volume, as well.
- In 2016, the value of exported medicinal plants from Iran to Germany was more than 20% of total exported agricultural products which represents the importance of exporting these products to Germany.

Suggestions-Medicinal Plants

- Iran is prepared to comply with Germany's standards for producing herb raw material in order to use in related industries.
- Iran is also willing to cooperate with Germany in order to import machinery and new technologies for industrialized seed production and mechanized herb crop cultivation.

Suggestions-Medicinal Plants

- We are interested in purification of Saffron's natural compounds such as Crocin and Safranal and gain experience from well-known companies like DEVEX and FLAVEX.
- Iran is willing to cooperate with Germany's pharmacologist produce herb medicine

Thank You For Your Attention