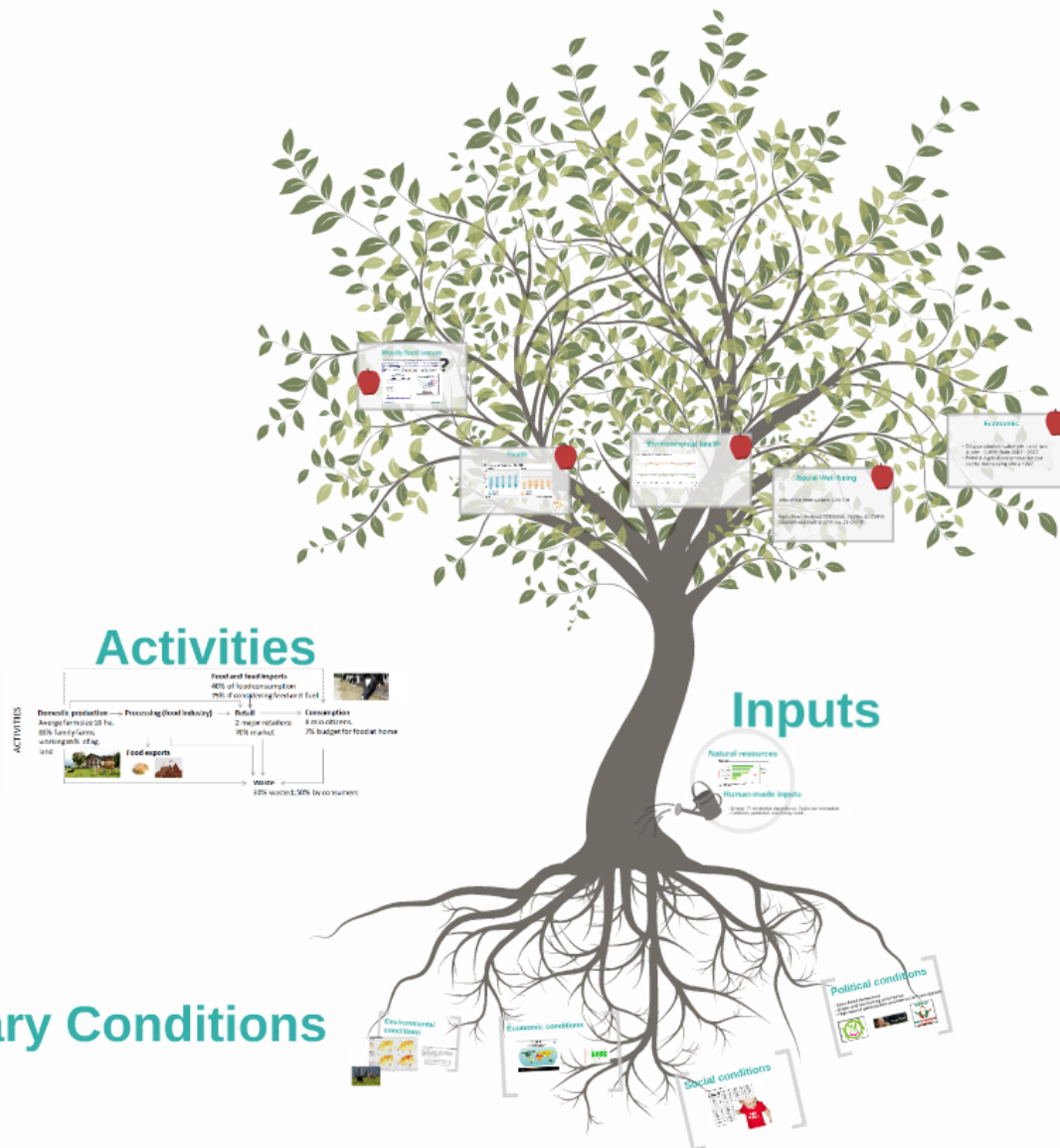


The Swiss Food System

Presentation for the Academia Engelberg
2014 Science Dialogue, 16.10.2014
Danielle Tendall (ETH) & Benjamin Graeub (FAO)

Outcomes

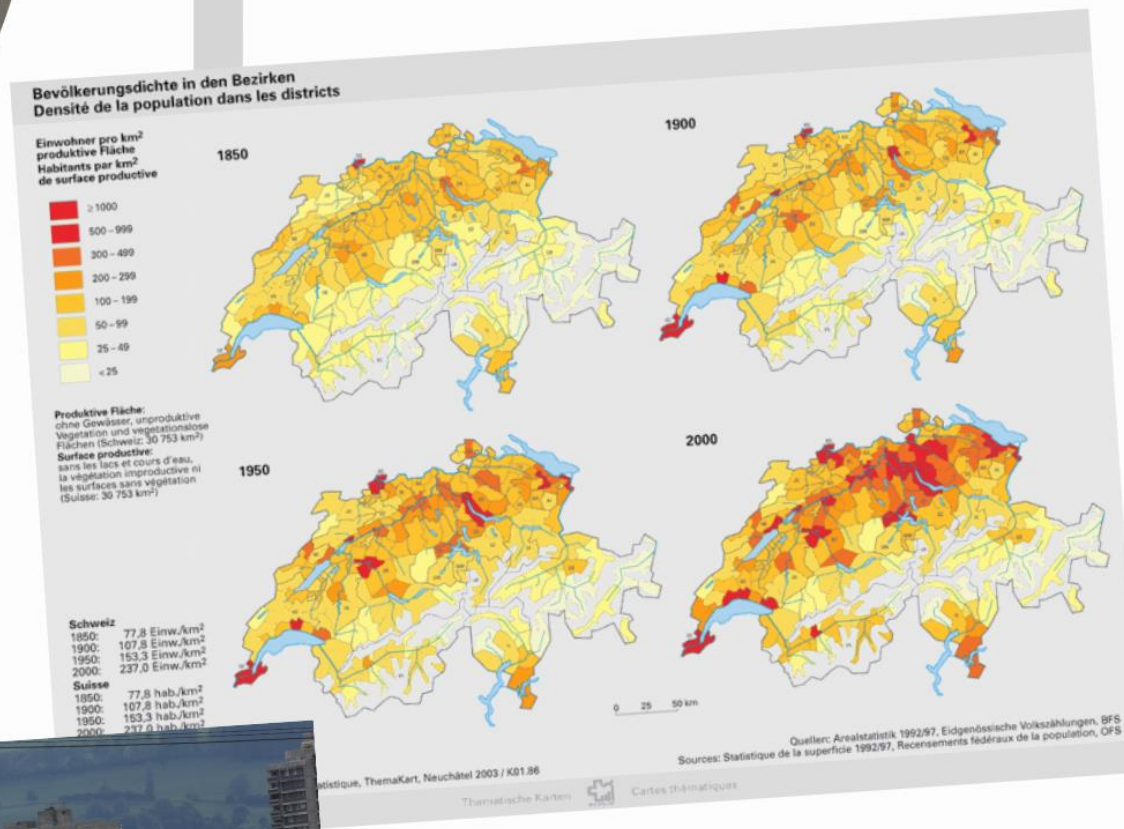


Boundary Conditions

Boundary Conditions



Environmental conditions

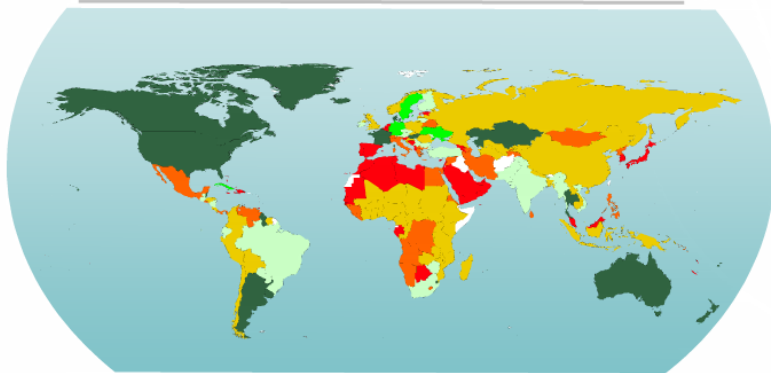


- "Switzerland's environment is under **intense pressure**"
- During the 1970s and 1980s **ambitious environmental policies** were created
- High public involvement

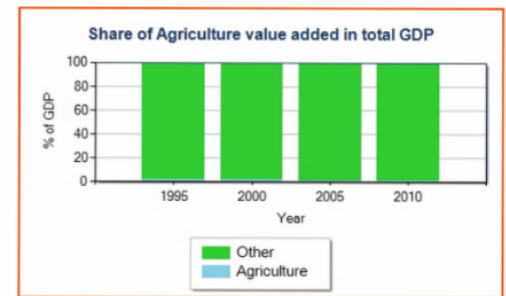
OECD Environmental Performance Reviews:
Switzerland 2007

Economic conditions

التجارة الصافية في الأغذية
食品贸易净额
Net trade in food
Commerce net de produits alimentaires
Comercio neto de alimentos



2000-2002 < -50 -25 0 25 50 > % (Exports-Imports)/Consumption (calories) No data



Social conditions

The where-to-be-born index, 2013

Rank	Country	Score*	Rank	Country	Score*	Rank	Country	Score*	Rank	Country	Score*
1	Switzerland	8.22	21	Italy	7.21	=40	Cuba	6.39	61	Bulgaria	5.73
2	Australia	8.12	22	Kuwait	7.18	42	Colombia	6.27	62	El Salvador	5.72
3	Norway	8.09	=23	Chile	7.10	43	Peru	6.24	=63	Philippines	5.71
4	Sweden	8.02	=23	Cyprus	7.10	=44	Estonia	6.07	=63	Sri Lanka	5.71
5	Denmark	8.01	25	Japan	7.08	=44	Venezuela	6.07	65	Ecuador	5.70
6	Singapore	8.00	26	France	7.04	=46	Croatia	6.06	=66	India	5.67
7	New Zealand	7.95	27	Britain	7.01	=46	Hungary	6.06	=66	Morocco	5.67
8	Netherlands	7.94	=28	Czech Rep.	6.96	48	Latvia	6.01	68	Vietnam	5.64
9	Canada	7.81	=28	Spain	6.96						
10	Hong Kong	7.80	=30	Costa Rica	6.92						
11	Finland	7.76	=30	Portugal	6.92						
12	Ireland	7.74	32	Slovenia	6.77						
13	Austria	7.73	33	Poland	6.66						
14	Taiwan	7.67	34	Greece	6.65						
15	Belgium	7.51	35	Slovakia	6.64						
=16	Germany	7.38	36	Malaysia	6.62						
=16	United States	7.38	37	Brazil	6.52						
18	U.A.E.	7.33	38	Saudi Arabia	6.49						
19	South Korea	7.25	39	Mexico	6.41						
20	Israel	7.23	=40	Argentina	6.39						

Source: Economist Intelligence Unit



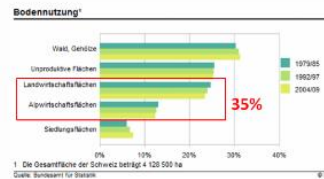
Political conditions

- Semi-direct democracy
- Stable and functioning governance
- High level of participation and interest in Food System



Inputs

Natural resources

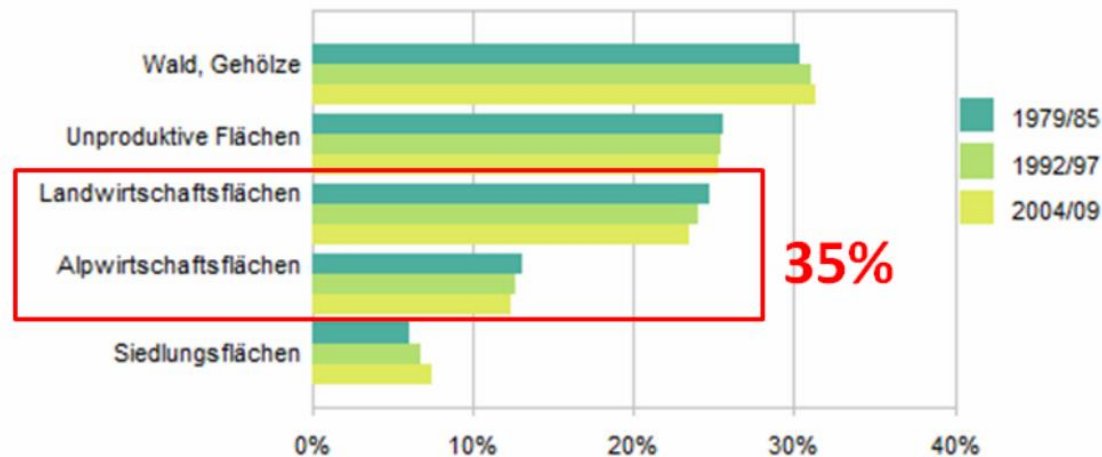


Human-made inputs

- Energy: 77.6% foreign dependence; 79.2% non-renewable
- Fertilizers, pesticides, machinery, seed...

Natural resources

Bodennutzung¹



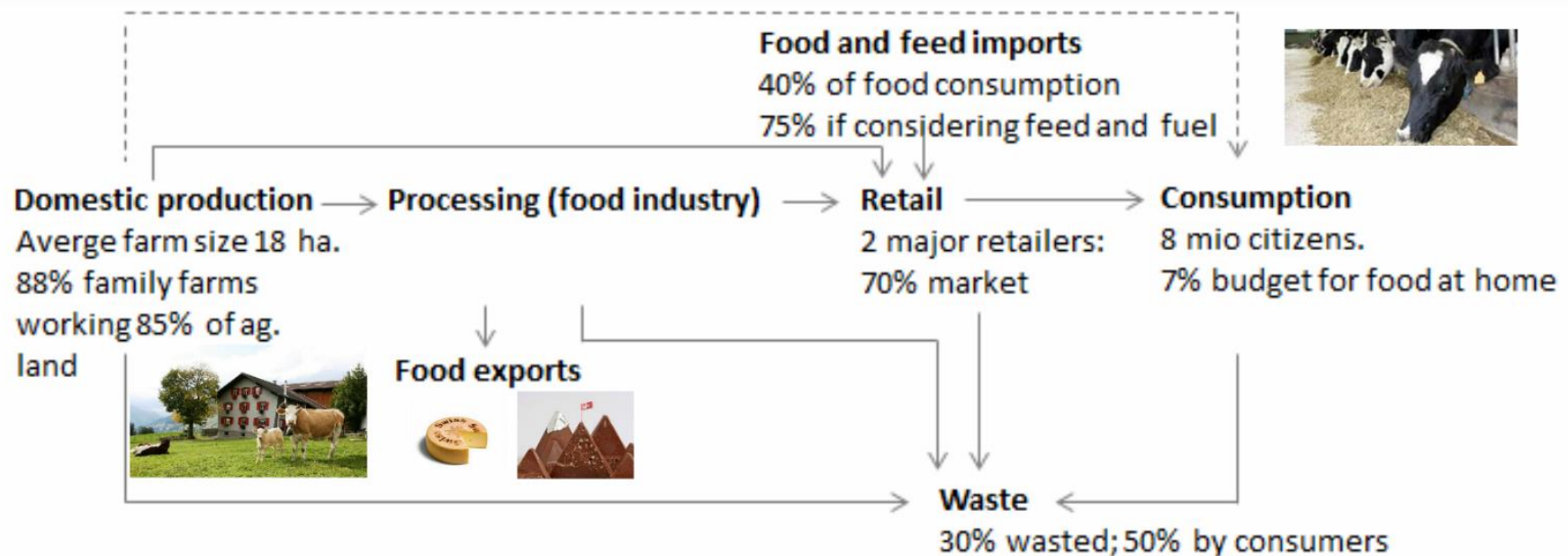
1 Die Gesamtfläche der Schweiz beträgt 4 128 500 ha

Quelle: Bundesamt für Statistik

© BFS

Activities

ACTIVITIES



Mostly food secure

FOOD, NUTRITION AND FOOD SECURITY

Switzerland: Per capita food supply

	Quantity [kcal/capita/day]			
	1996	2001	2006	2011
Food Supply	3341	3381	3433	3487

Source: FAOSTAT, FAO of the UN, Accessed on May 26, 2014.
<http://faostat.fao.org/site/368/default.aspx#ancor>

Switzerland: Food Aid shipments

	Quantity [1000 t]			

Cereals	n.a.	n.a.	n.a.	n.a.

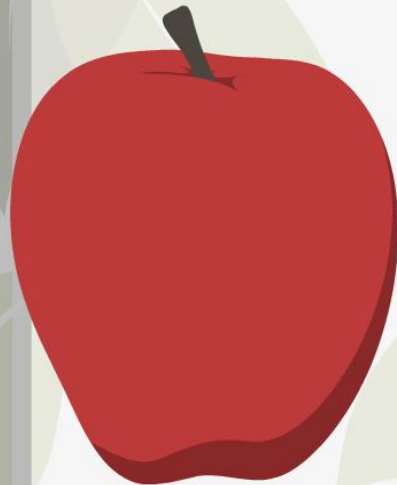
Source: FAOSTAT, FAO of the UN, Accessed on July 31, 2014.
<http://faostat.fao.org/site/485/default.aspx#ancor>

Switzerland: Prevalence of undernutrition

	Prevalence [%]			

Undernutrition	n.a.	n.a.	n.a.	n.a.

Source: ESS, FAO of the UN, Accessed on October 9, 2012.
<http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/>

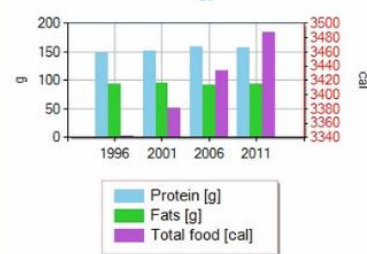


Switzerland Top Ten commodities Availability for consumption 2011

Commodity	Quantity [kcal/capita/day]
1 Wheat and products	652
2 Sugar (Raw Equivalent)	522
3 Milk - Excluding Butter	374
4 Pigmeat	334
5 Sunflowerseed Oil	148
6 Butter, Ghee	112
7 Rape and Mustard Oil	102
8 Fats, Animals, Raw	78
9 Beer	77
9 Potatoes and products	77

Source: FAOSTAT, FAO of the UN, Accessed on May 26, 2014.
<http://faostat.fao.org/site/368/default.aspx#ancor>

Switzerland Per capita supply of substances providing energy

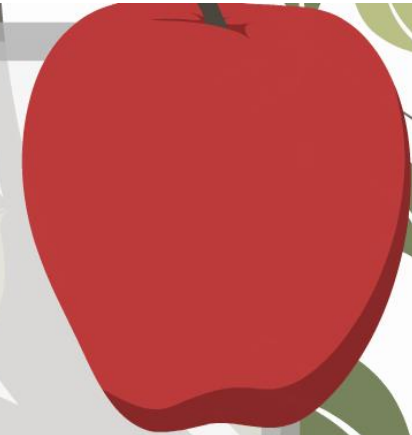


Source: FAOSTAT, FAO of the UN, Accessed on May 26, 2014.
<http://faostat.fao.org/site/368/default.aspx#ancor>

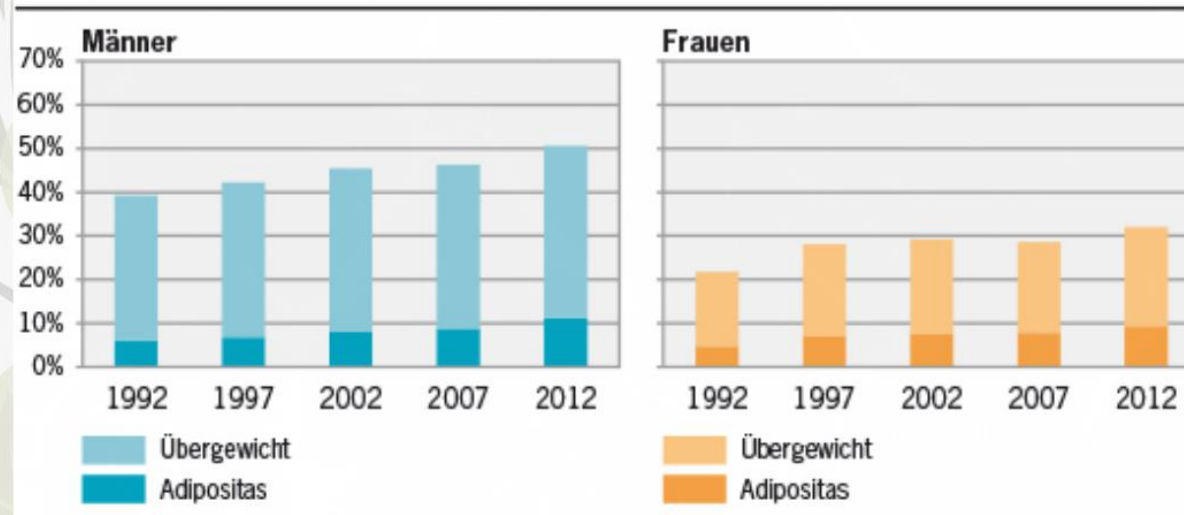
Switzerland



Health



Übergewicht und Adipositas, 1992–2012



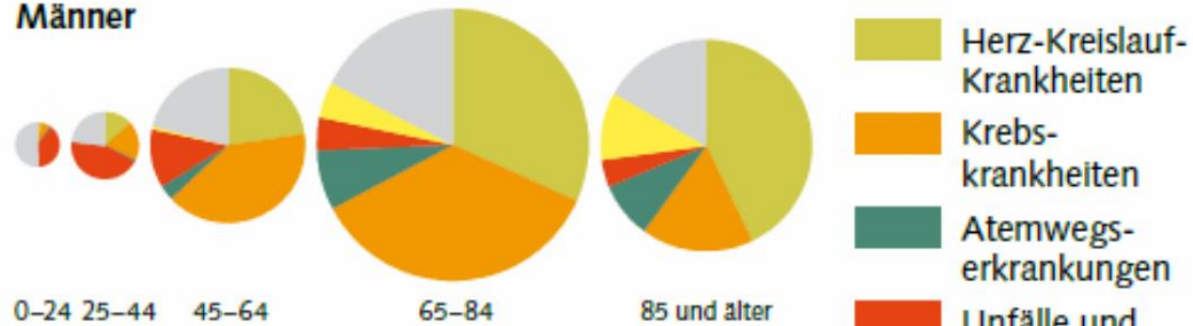
Quelle: SGB

© Bundesamt für Statistik (BFS)

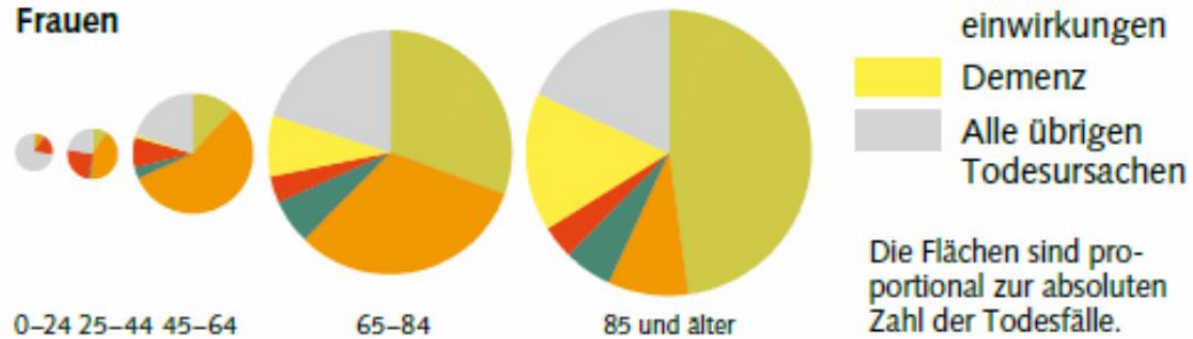


Häufigste Todesursachen nach Altersklassen 2010 G 2

Männer



Frauen



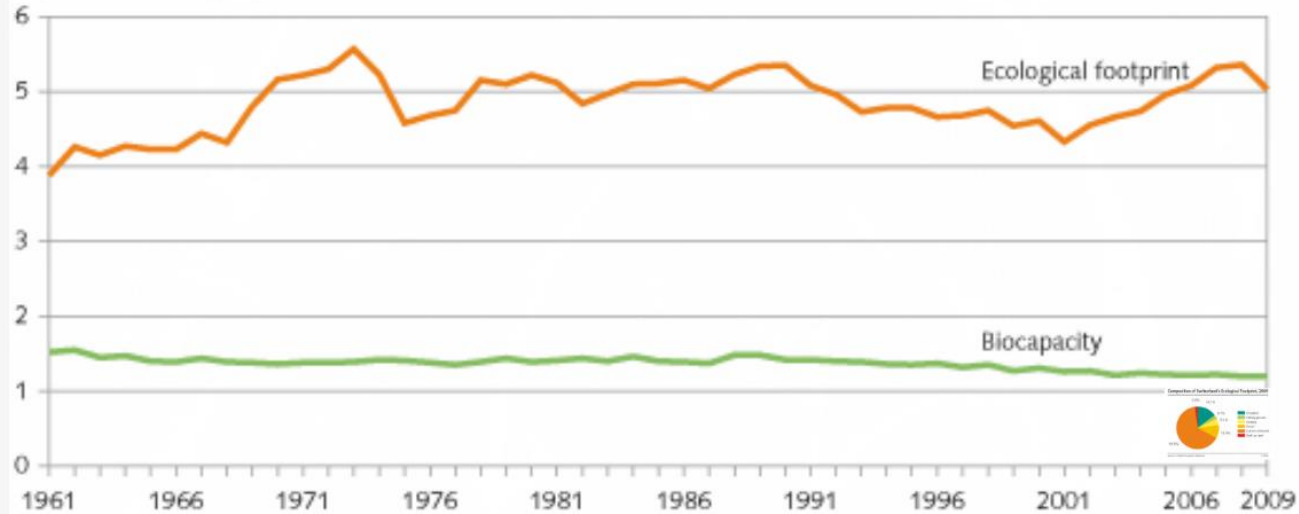
Quelle: BFS, Todesursachenstatistik

© BFS

Environmental health

Switzerland's Ecological Footprint and Biocapacity

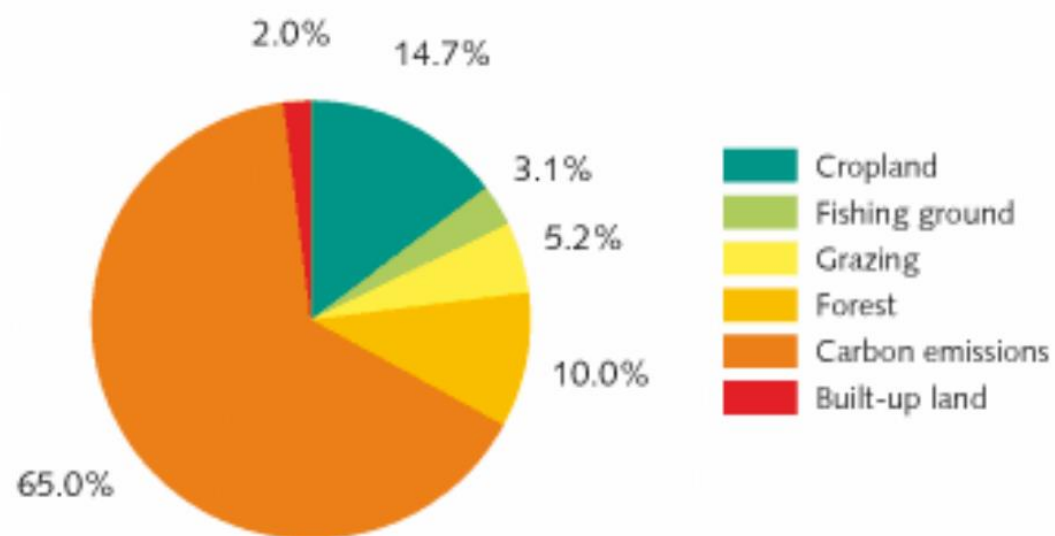
In global hectares per person



Source: Global Footprint Network

© FSO

Composition of Switzerland's Ecological Footprint, 2009



Source: Global Footprint Network

© FSO

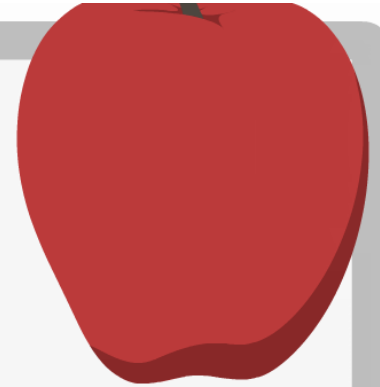
Social Well-being



Jobs of the food system: 12% CH

Agriculture: workload 60h/week, income 15 CHF/h
(Student assistant at ETH: ca. 28 CHF/h)

Economic



- Crop production value per ha of land in use: -0.86% from 2007 - 2012
- Food & Agricultural production per capita: decreasing since 1997

60% of
agricultural
income from
subsidies

Key question:

How to make food systems more sustainable under multiple, unpredictable drivers of change?

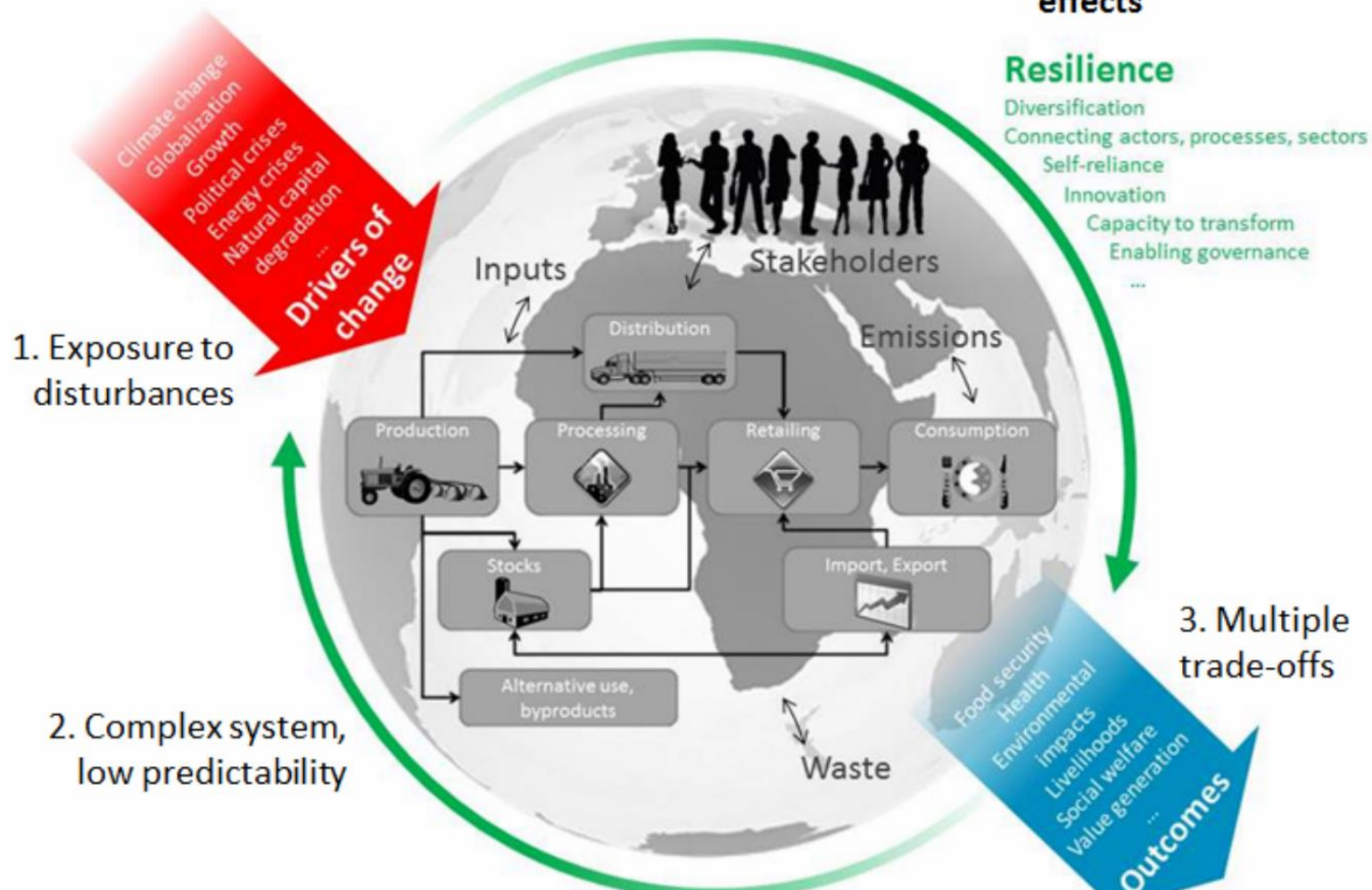
Potential Solutions

Using a resilience lens



Why resilience?

Resilient systems:
built-in capacity to cope with highly uncertain disturbances, actions and effects



Participants:

- **Gain insight into resilience concept and its use in food system decision-making**
- **Experience resilience building process «live»**
- **Provide feedback on food system resilience assessment approach currently in development at ETH Zürich**