

The BREXIT highlighted the current labile status of the European Union and generally of the European policy¹. We face the real possibility of an irrational US-President (including an anti-Chinese² ant militarist agenda) and there are at least one dozen Mini- or Midi-Trumps in European countries with realistic chances to be in governments soon. On the other hand the **climate issue, the “most important policy issue”³, is not in the focus although “all other things are comparably irrelevant”⁴** and tackling it could simultaneously solve the grave economic employment problems - as Nobel prize winner Krugman recently stated.

Europeans face a multiple crisis, but still on a high level. The general background is the economic and financial crisis and the follow-up specifically in the field of employment. The fast increasing number of refugees coming to Europe confronted European people harshly with long existing realities of huge global disparities in a globalizing world.

There is a big discussion and there are a lot of studies on the economic effects of the increasing numbers of refugees in Europe. Some position stress the costs and other negative effects; yet some also outline economic gains by preventing aging and negative demographic trends. Much depend on temporal term and on a comprehensive view. But primarily not the economic considerations are decisive but political.

From an existential view climate issues clearly should have priority in policy - and so indeed in Europe there were some rudimentary positive approaches at least until the outbreak of the crisis 2008 and still around the (failed) Copenhagen climate conference in 2009. At that time climate policy actually was still more important than today. A grave but little-noticed aspect of the rise of the far right in Europe is that a lot of most valuable time will pass unfruitfully in terms of climate policy measures; either indirectly because political energy and necessary efforts are directed to a prevention of a far-right governance, or when this does not succeed, worse directly by years of relapses, because the far right usually denies climate change. And the denial and non-acting would still be exceeded by provoking additional complications and destroying constellations for implementations of national and global climate policy.

Some are calling the new right “right populism”. The thing is that there are blurred transitions from right to far right and even fascist forces. Alarming is the ongoing significant radicalization and the influencing of old conservative forces and sometimes also social democratic parties by a right agenda. The common denominators of the new right and far right forces are xenophobia and nationalism, promoting irrationalism, they pretend to be “anti-elite” and “anti-establishment” (although supported from strong parts of the establishment) and promising something completely new whereas the only concrete proposal is: (poor) foreigners and migrants down and out.

In this sense the next target for the left is a certain stabilization which only could be achieved by wider new alliances of different left, liberal and also conservative forces. Comprehensive socio-ecological offensive campaigns probably will be possible after some stabilization; important would be for example the improvement of the labour market and employment by a

focus on investments in socio-ecological relevant fields like sustainable transport, renewable energy or better isolation of buildings. When the right doubts that Europe can and should go ahead there is much evidence that the contrary is true. Somehow a “green new deal” which is not only a field of capital accumulation and has to be defined clearly is the solution for Europe³.

When we see the threat we also can see hope: The challenge of the fast increasing number of refugees also has revealed an almost unbelievable potential of humanism and solidarity, at least in a lot of countries, and the challenge of the far right evokes and inspires unexpected new forces and new coalitions to go another way. Politically along some polarisation we can see a significant rise of left forces Greece, Portugal, Spain and a new policy of Labour in Great Britain with Corbyn. Also note “Our revolution”, the movement initiated by Berny Sanders in the USA, which wants to “reclaim democracy for the working people“⁴.

The right turn in Europe also puts the question for foundations for global solidarity drastically

The dramatic development to the far right in many European countries raises many issues, regardless of the actual future of the EU. Probably the most fundamental is the question for the material political and ethical foundations for global solidarity. More precisely the safeguarding of the "welfare state" (already reduced by neoliberal policies) is contentious under the conditions of globalization; the refugee issue is a trigger for destruction of the welfare state using divisions between poorer people and migrants; but the more basic aspect is globalization. European countries as a whole has been winners of globalisation, but who exactly? The yields obviously are distributed asymmetrically.

The very fundamental question is: Can a process of convergence and solidarity be defined, implemented and secured under 1. the well-known conditions of enormous differences especially on a global scale (prosperity, wealth, income, environmental conditions, quality of life) and 2. the increasing of "globalization" or the increasing of the (global) societal character of production and reproduction, as well as the deepening of informatization and communication-, and how?

In fact the stark disparities at the global level, and also at continental and national (and regionally and socially along classes and layers) are not new; there is a complex picture (Milanovic): With regard to the distance between countries, international differences have become even smaller, mainly due to the development in emerging economies especially in China, ie for the last few decades there are global convergence processes at the comparative level between countries (Maddison) and also within European countries until 2008. However, the differences remain on a high level, and the intra-national distributions have become also more unequal almost everywhere. For the global (personal) distribution we see a complex

convergence tendency, with contrary developments on the upper and lower edges (ISW 2015).

Special stage of "post-colonial" development

Cleavages and segmentations among the wage-dependents are an old phenomenon, but the extent of the current challenges is new. In general, the roll-back of politics of social division and injustice or even socialist aims can be declared; a comprehensive European "Marshall Plan" for Africa can be called for. But the concrete implementation is difficult not only in view of the rise of the right. We are experiencing a special stage of "post-colonial" development (as Angela Davis stated): by "globalization" and background technical development now long-term retained and cumulated global distribution questions has come massively to the surface and are on the agenda although usually seen under other frames (e. g. xenophobia). And these issues are further strengthened by the accumulated global environmental problems which finally are also matters of distribution.

From the point of view of capital, stabilization basically would not be difficult because its simple regulation mechanism is the (regional) balancing of the profit rates. Because of capital flows to higher profit regions in the international arena profit rates always balance themselves out, more or less – this is a discussion among economists. Thus for the capital side some equality may exist. But it has always been different for the non-capital side. Now the world has grown together, the huge disparities have become more tangible, and the urgent **big question is whether there can be win-win solutions** for the non-capital side in a balance, convergence and equalization process, and how this process can be implemented deliberately. More specifically: can the income and wealth level of the wage-earners in the industrialized countries be increased at all together with a global catch-up of the less well-off on the non-capital side in the (former) developing countries? And if yes, under which conditions? Or even more roughly: are parts of the "wage-dependents" in Europe in a global perspective a "workers' aristocracy"(Lenin) without a clear perspective for securing the current status?

The current paradigm of the stagnation of average wages for many years in many "industrialized countries" combined with high fluctuations and therefore with high proportions of persons with real income losses, has apparently accumulated wealth on the other side, on the (financial) capital level; and may have generated some global convergence on the whole - statistically by mass effects; but on the other side it undermined prerequisites for realizing global solidarity, because it distorted the consciousness of broad strata feeling only that they are underdogs and losers.

It is clear that convergence can occur by differentiated increments (higher for "poorer" ones), whereby concrete rates are very sensitive to specific time periods to achieve convergence and thus "justice".

Compared to foreseeable later phases which are likely to be without sweeping measures, climate change just now reveals only relatively minor impacts -. But climate change already is likely to have been a factor also for the Syrian conflict-. In this case, first uprisings after droughts occurred and migration to cities happened increasing urban poverty. So interconnections between the refugee issue and the environmental question have already emerged, and they are likely to become much more important.

Productive forces are pushing for new solutions

The development of the "productive forces" is pushing for new societal solutions in an almost classical way. This is a result of the further deepening of the division of labor and of the social character of production and reproduction: the globalization wave from the late 1970s onwards was still less drastic because many regulatory systems were still intact, and the left was even stronger. The intensification of the wave of globalization since the 1990s under the conditions of the offensive of neoliberalism, the decline in the influence of the left, and not least the end of the Soviet bloc led to new realities. New international value chains have strengthened the connections and dependencies. Technical progress has clearly revolutionized communication, especially via mobile phones and the internet. Increasingly we have a (common) global production, and increasingly we have a (common) global working class. But are working people the masters of production or the captains on the value chains? Do prices and profit integrate and reflect caused emissions and damages?

Anyway by the new (online) technologies disparities have become more aware; and by much more available information (mobiles and internet) migratory activities are supported

There has been a neo-liberal restructuring process in Europe for about three decades, with a concentration of wealth in few hands, while a broader layer has increasingly relatively or even absolutely impoverished. The social divide deepened, the oligopolisation of economic and financial power increased, „crowding-out“ and (social) isolation increased, solidarity has been diminished, erosion occurred in the social-economic base of the middle classes, especially the lower middle class. Large population strata feel as losers. Under the given circumstances of power and the domination of right wing media helplessness and anger upwards becomes a resentment towards “scapegoat” even weaker – developing up to racist exclusion (when in past decades Jews and others were in the focus of this process, now migrants and Muslims have this status). The refugees may have been the drops that brought the barrel overflowing. It is a paradox that xenophobic and racist attitudes regionally are the greater the fewer migrants are present.

Imperialist interventions and wars have been a strong trigger for the fact that these long-standing disparities in Europe have become more obvious and highly visible. The immediately visible suffering on the one hand has revealed and reveals tremendous solidarity potentials. On the other hand under the domination of right wing media massive attacks are directed exactly on this solidarity, together with promoting and pushing the right wing forces resulting in a shift of mainstream policy significantly to the right in most European countries.

The development of the EU between national concerns and transnational cohesion

No less than the realization of "homeland earth" (Edgar Morin) is on the agenda, and thus a new embedding of the "national question". As a matter of fact we have to state that so far the social question and the national question have been closely linked in all more or less successful socialist upheavals (transformations) in history – note well beginning with the seminal Parisian Commune - from Russia to Yugoslavia, China, Vietnam and Cuba. It would be fatal to ignore "national questions", and so ignoring concrete experiences and needs, and "leaving" this issue to the right nationalist. An agenda of participation and democratization of all spheres of life could be useful: from the workplace to the village, from universities to a city budget, and a re-strengthening of the "commons". This can give some re-appropriation of the surrounding conditions of life, although under the current political trend there is a threat for benefitting the right; but there is no alternative to fight for hegemony and majority.

The European Union is a complex structure of supranational organization and sovereign countries. The far right and nationalist openly want to destroy the European Union; and there are many basic defaults, and the main problem is that the Neoliberal policy has stressed self-interest and greed, devaluated solidarity has eroded integration and cohesion. There exist groups on the left saying the EU is not reformable; but what would be the alternative for a destruction of the EU? Under the current circumstances this would be an aggregation of more or less nationalistic countries, not realizing scale advantages and provoking the end of a long period of (internal) peace. But this option probably will realize when the EU will not develop to more solidarity, participation and democratization (as it is the agenda of the left) and starting again effective cohesion processes (as provided in the EU constitutional documents)

The European integration hangs in the balance and is near a profound abyss. This is the biggest crisis of the EU since its existence. On the other hand the EU always advanced in crises.

Defending the achievements of the European Welfare State- and going beyond

Concrete history and responsibility cannot be excluded. It is important to tie in also with the successes and achievements achieved by hard battles and endeavors of progressive forces of decades and centuries.

The attackers of the welfare state in EU argue simply: We are 7 % of global population, but afford 50 % of global social benefits and globalisation. There are a lot of definition problems, but it is not quite false. The welfare state has been already partly reduced, and e. g. in Greece

it hardly exists any more. But in relation to other parts of the world Europe still has yet a welfare state.

It is also true that the global share of GDP for the EU is wide above average, and that the EU still is the biggest economic entity (again: GDP is not a good measure and differences between countries are exaggerated) although the global relative shares have been decreased tremendously:

Shares of global GDP 2004-2014

EUROSTAT http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_world_GDP_2004_and_2014.png

The shares will probably decrease further to attain global justice, - or distributions before industrial revolution and colonialism.

This course of diminishing weight is reinforced by well-known strong demographic trends: 6,9 % is the EU share of global population (2015; 1960: 13,5%; projection 2060: 5,1 %) (compare China: 2015:18,7 %; 1960: 21,7 % 13,5%; projection 2060: 12,5 %):

The welfare state was realized in times of the “cold war” in a situation when the capital side was ready to accept it to prevent further social transformations. And it was a compromise but also a success after many battles, and in the view of 2016 a very important success to set benchmarks. A core idea was solidarity within a nation; but transforming it to the EU level is still in first stages, let alone the global level. The far right want on the contrary want a regression; (reduced) welfare only to “true people” of a nation. They usually do not support to fix the welfare state.

It should be stated that the existing welfare states not at all are perfect. Fundamental ecological elements are missing; and more democratic elements should overcome paternalism. Anyway, neoliberal perforation shall be fixed. The new big wealth anyway should be tapped for financing. And: The welfare state is not the end of the story in the view of a socio-ecological transformation but a stage.

There is a lot of reasoning and literature on the effects of social security on productivity and innovation. The social Darwinists claim that social security decreases incentives for working, productivity and innovation. E.g. the profound work of Richard G. Wilkinson (and Kate Pickett)⁸ underpins the contrary. In pure economic terms welfare states might not be better off,

but they are also not worse off. And there is some dynamics with the structural changes from Fordist to post-Fordist production mode: is fear of fall an appropriate driver in a developing “knowledge-society” to create synergies and innovation?

“Capitalism vs climate - This changes everything”

As stated the global economic distribution issues are aggravated massively by the ecological issues, which essentially reflect also distributional relations.

At any rate, the climate issue can only be tackled by considerable efforts, at least in essential countries. The principle of "common but differentiated responsibility" (CBDR) was adopted by the world community in the Rio Conference in 1992, but was never specified and not implemented, because options for solutions at country levels are very far apart from the current existing distribution and would implicate big redistributions. And especially Western countries actually ignore the historic responsibility in causing climate change. While almost-US-president Al Gore once said the solution could be that industrialized countries can and should go ahead and advance firstly, and so bring the matter into motion, a right turn in European policy would be the exact opposite.

In addition to the already difficult economic global distribution questions, the socio-ecological issues are complicating solutions and, indeed, twofold: First, principles of "ecological justice" require relatively greater efforts from industrialized countries, according to the polluter pays principle. Second, from the physical consequences for emissions the question of growth arises; more precisely: of the structure of growth, of another growth. What is supposed to grow and what should shrink better?

On all these issues, the basis for effective solutions should be developed through global solidarity on a common interest, implementation options should be presented and then be mediated and promoted them, and finally be implemented in favorable constellations. There are many arguments that a broad convergence under capitalist conditions is not possible, at all events it requires enormous efforts. However, this also applies to non-capitalist conditions, and also to their realization.

New realities anyway require the connection of the different levels and the combining of global, social, national and regional issues requires at least awareness-raising, and a new type of organization to cope with powerful actors and their lobbies. Naomi Klein did not understate in the title of her important book 2014: "This changes everything. Capitalism vs. climate".

China and Europe exhibit some different physical preconditions for agriculture. E. g. the necessity of provision of water in (north) China has required/requires much more irrigation and so **regulation of the “commons”** of the water systems.

There are considerable differences between China and Europe in the the *socio-ecological* characteristics^s of **density** of population and **different scales of arable land** p. c. Implications have been different structures of ownership, **“internal colonialism”** to use and to sustain almost every bit of soil resulting in a more labour intensive agriculture which has been partly more **“horticulture”** (in European terms). In this sense in historical Chinese agriculture a **“circular economy”** with optimal cycling of nutrients (and energy) is very pronounced. The unique **Chinese history of continuous civilisation** on a big territory basically was **based essentially (also) on solutions for soil and** water (and so also on energy) which had been optimized within many centuries (see ELVIN). Food and employment are central categories within an socioecological framework. High labour intensity and cheap labour generally somehow did not enforce the development of capital.

Although within China and within Europe there are big structural differences some comparative between China and Europe view can be useful:

In economic-technical views Chinese and European agriculture feature different scales of production, stages of mechanisation, and chemisation, quota of organic production.

Political economy matters: Scale and structure of (capitalist) ownership (relevance of capitalist mechanisms). In China and Europe there has been different ownership systems in agriculture. A special issue are the manifold experiences with cooperatives. Currently there is also different relevance of market and/or capitalist mechanisms.

A big current difference is the share of employment in agriculture. Whereas in Europe this number is about 3 %, in China actually it is about 40 %; but the delimitations are blurred. Probably this share will increase further but despite ongoing mechanisation because of the characteristics of Chinese agriculture European share numbers are unlikely in the next decades, especially when organic agriculture –with higher labour intensity - would be pushed - This still high share also indicates an existing huge labour potential which will pour further to non-agricultural employment.

Last time we stated that the land use is connected with urbanisation; and the patterns of urbanisation are crucial for mankind and ecological civilization; and: Urbanisation always is connected with parallel rural development

And so we have to have an ecological, social and economic attitude towards this asset. It is common sense in China that soil per capita in China is only about a third of the global average.

This implicates also: the losses of soil by infrastructure and industry weigh three times more than in the average world. (Unfortunately) e. g. the USA have a lot of space to squander, but China does not have so much space for experiments to be on track of obviously inadequately trajectories.

The forest area per inhabitant in China is about a quarter of the world average, the annual growth of wood is about one sixth of the world's average. There have been similar processes in Europe like the mentioned "internal colonization" in China with the result of very intensive use of soil and also at (dry, steep) "marginal yield areas", and using terraces, canals and irrigation, and generally also with the effect of a broad deforestation and a transformation of landscapes in China; but in Europe more partly and not so comprehensively. In Europe – in economic terms then colonialism by “outsourcing” has been decreasing the pressure on the land and landscape.

Soil most important for climate change

In the age of globalisation and climate change one fundamental issue to achieve an Ecological Civilisation is to minimize CO₂-emissions and alternatively to **store carbon in the soil**, so not to degrade soil but to **improve the most important resource**. Let us remind of the very basic **function of soil**^u: soil is the basis of life and mankind. And **soil is life**, the biggest part of global life.

Most important also in the context of climate change is the storage of carbon in the soil and so the retention of CO₂:

“**Terra preta**” can be a role model: While deforested arable soils in the Amazon currently are productive for just a short period of time “Terra preta” (“black soil” in Portuguese) is man-made fertile soil developed in pre-Columbian ages in the amazon (Brazil) by indigenous people. By long term accumulating nutrients, microbial life, and organic matter, minerals, and microorganisms also by using charcoal this special soil can reach 2 meters. In the current view this is not “merely” soil improvement, but globally significant carbon sequestration, helping to mitigate global warming

Food production and climate change are interlinked issues: Climate change and land degradation can drive or intensify one another through both positive and negative feedbacks^u. Many forms of land degradation (like deforestation) release CO₂ into the atmosphere, exacerbating climate change. Around **a quarter of all anthropogenic greenhouse gas (GHG) emissions come from land use activities**. In IPCC-Language this included in **LULUCF** (Land Use, Land-Use Change and Forestry) – It incorporates GHG emissions/removals resulting from managed land and land-use changes (involving changes in land-use, such as grassland converted to forest land or forest land converted to cropland). Sources of and sinks

for GHG are aggregated). But there can be also positive changes like forestation or stocking of carbon in soils.

In afforestation China has gained a lot of experiences. E. g. the establishment of strengthening “Green Walls” in Africa against desertification would be important to secure livelihood, to mitigate and to adapt to climate change and to decrease causes for migration.

Adaptation measures are unavoidable because no matter how successfully we mitigate climate change, climate will change further. By reinforcing circular economy in agriculture, and improving the soil by storing carbon agri-culture will deserve the original Latin meaning of “caring for the land”, overcome the capital function of land, and so re-accomplish “culture”.

Land losses – an often neglected issue

According to the United Nations Environment Program (UNEP), 24 billion tonnes of fertile soil and 15 billion trees are lost every year. About 33 percent of the soils are already affected by moderate to severe damage. Causes include erosion by water and wind, overuse and depletion, acidification and salinisation of soils, chemisation and improper use of chemical fertilizer.

Remarkably in Austria insurance companies that are engaged in agricultural issues are warning intensively about the rapid losses of arable land¹⁴. The “sealing” of land e. g. by preventing seepage is causing more intensive flooding, and so more harms, and furthermore more insurance benefits are necessary.

Every day in Austria 20 ha of fertile land is lost for other use. Per year 0,5 % of soil so is lost; in Germany and Switzerland only 0,25%. Switzerland has a better law of land regulation; and a better implementation. Hardly regulated oligopolist competition resulted in Austria highest shares of shopping malls pc; and also at the meters of road construction pc (15pc) Austria is top in Europe.

In China soil on several fronts is in distress: Losses through settlements and economic activities, degradation due to chemisation, immissions and groundwater reduction by irrigation. Last but not least climate change is raising risks for droughts in the north and floods in the south.

Also a rapid increasing meat production has consequences:

In comparison to a plant-oriented diet meat production requires a multiplicity of land area. - The average Chinese person now eats 63kg of meat a year, this amount has been increased sharply, but the Chinese government aims at considerable decrease again. (in Austria meat consumption is about 100 kg with slowly decreasing tendency, in Germany 90 kg)

The relation of input and output of energy in agriculture

An important indicator is the relation of **input and output of energy** in agriculture. Some agriculture systems based massively on fossil energy with input higher than outputs are absolutely not sustainable.

Despite increasing flows of materials into agriculture (chemical fertilizer, pesticides, water) the effect of energy production is decreasing also for Chinese agriculture: The calories of crop output per calorie of fossil fuel input has been falling over time, but remains greater than one (i.e., more energy is harvested from fields than is put into fields):

Energy efficiency of modern agriculture generally has been declining compared to traditional agriculture. Some agricultural systems consume even more energy than they produce.

The useful measurement of energy efficiency by EROEI-types (EROEI: energy return on energy investment) of measurement (this is: energy output/energy input).

Change of energy efficiency of China's agriculture from 1978 to 2004

Source: CCICED – WWF: Report on Ecological Footprint in China, p. 29

Land orientated comprehensive measurement: Ecological Footprint

The Ecological Footprint reflects the magnitude of using land in an extended form. It is expressed in units of “global hectares”. A global hectare is a hectare that is normalized to have the world average productivity of all biologically productive land and water in a given year. Because of international trade and the dispersion of wastes, hectares demanded can be physically located anywhere in the world.

In the EU the Ecological Footprint has doubled since 1960 and reaches about 5 (global) hectares per person:

EU-27's Ecological Footprint, biocapacity and GDP, 1961-2003

Source: CCICED – WWF: Report on Ecological Footprint in China, p. 23

In China the Ecological Footprint also more than doubled since about 1970, but from a low level, so now the Ecological Footprint still is somehow more than a half of the European. In China beginning on a lower scale the changes especially in the last decade seem to be very high. The special problem is the relatively low quantity of biocapacity per capita because of the density of population.

China's Ecological Footprint, biocapacity and GDP, 1961-2003

Source: CCICED – WWF: Report on Ecological Footprint in China, p. 22

(Structural) land grabbing

Currently an Austrian needs 3000 m² arable land to maintain lifestyle habits. But within Austria only 1600 m² are available. This implicates that somewhere else in the world an average Austrian requires further 1400 m² soil. Usually this is not enforced by direct pressure but by market systems, and can be called structural land grabbing.

Furthermore Austrian big farmers and corporations are performing land grabbing in Eastern European countries, let alone the participation in the direct global land grabbing.

Water

The connections of water, energy and soil were mentioned. Many European countries especially Austria are blessed with water. Except for the southern European countries the problems with water have minor dimensions. In China in many regions the supply of water is much more touchy. On the other side more irrigation enhances soil productivity (for instance by more than one crop per year) and also the complexity and sensitivity of eco-systems.

In China also the water resources per capita – even more tapered than in the case of soil - account for about a quarter of the world average. 18 Chinese provinces are directly affected by the threat of desertification.

- A Chinese scholar modified a key-DMI (direct material input) **indicator** and remarkably refined the calculation formula for measuring general sustainability: He analysed existing sets of relevant indicators used in Japan and the EU. Then in overcoming disadvantages of these from the view of China a modified measurement includes distinctively e. g. water, and excludes mass materials like sand being not very harmful Altogether concentrating on 15 core resources, altogether concentrating on 15 core resources.¹³ So in contrast to Europe where overall integration of material is dominating the measurement of socio-ecological metabolism special Chinese characteristics were stressed like the integration of the resource, and thus an also more globally useful generalized comprehensive system of indicators was presented.¹⁴

- Besides: The European Court of Justice (ECJ) recently strengthened regulations on water quality in landmark ruling. The European Court of Justice has settled a long going dispute in the legal community on the interpretation of “deterioration of water quality” under the Water Framework Directive (2000/60/EG). After a lawsuit by the German “BUND für Umwelt und Naturschutz” following the proceedings on building measures in the river “Weser”, the ECJ was asked by the German court how to interpret the directive. In the decision C-461/13 the ECJ reminds of the goal of the directive of having a good quality in all surface waters in the EU until 2015 and that the directive does not allow deterioration even within the same quality class. The effects of this ruling are expected to be huge, especially regarding smaller water power projects¹⁵.

Power relations in the value added chain of food

A special topic is the shifting of (market) power hitting agriculture in the value added chain, and so dominating the structure of food production:

AGRICULTURE-

WHOLESALE-

TRADE-

PROCESSING INDUSTRY-

RETAIL

And above all: FINANCE

In Europe the power in the value added chain of food production had been shifting originally from agriculture to wholesale trade and later processing industry (until the 80s); and in the last about 30 years then further to the big **retail** companies (like Walmart) (and finance is dominating them all). The background always was the ability to enforce market power – based also on technical advantages. Currently the big retail companies by access to scanner data from shopping. So they have precise informations on changes of consumer habits almost online, and therefore they are able to react and structure the markets. The (market) power at these stages of the values added chains is also influenced by the concentration ratios of the market (shares of **oligopolies**), agriculture performing relatively least concentration. Anyway competition law and consumer rights are relevant therefore.

Chinese historical agricultural knowledge in the age of knowledge society

In the age of the **knowledge/information society** the Chinese civilisation embraces huge assets which often are not aware: the experiences of almost 5000 years continuous experiences of agriculture and knowledge of nature, especially traditional Chinese herbal medicine: remind the case of **Tú Yōuyōu**.(屠呦呦) Nobel Prize winner in medicine 2015 who found an effective medicine against malaria: In “The Handbook of Prescriptions for Emergency Treatments”, written in the year 340, Ge Hong stated that a special herb should be steeped in COLD water (By the way Tu was as boldly as to volunteer herself to be the first human testing subject).

Invaluable assets are embedded in historical comprehensive manuals for agriculture by long-term trial and error (crop rotation, organic fertilization, etc.), especially from Tang Dynasty. In the times of rapid climate change long-term experiences based on observations can help much in various regions of the world.

Finally the Chinese civilization had optimized circular economy in agriculture– out of immediate needs. The intensive organic fertilization, including the use of harvest residues, ashes, and almost all bits of “waste” had sustained the soil for up to 5000 years, and secured the unique continuity of Chinese civilization. Let us learn lessons from this!

1 The EU is not identical with Europe, but delimitation aspects are not covered here

2 <https://www.donaldjtrump.com/policies/trade/?/positions/us-china-trade-reform>

3 Paul Krugman, NYT Feb 1, 2016. <http://www.nytimes.com/2016/02/01/opinion/wind-sun-and-fire.html>

4 Paul Krugman, Standard Oct 3, 2016 <http://wirtschaftsblatt.at/home/nachrichten/international/5095346/In-Wahrheit-geht-es-bei-TTIP-nicht-um-Freihandel>

5 See e. g. WWWforEurope <http://www.foreurope.eu/>

6 <https://ourrevolution.com/>

7 EUROSTAT [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_world_population,_1960,_2015_and_2060_\(%25\)_2.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_world_population,_1960,_2015_and_2060_(%25)_2.png)

[8](#) E.g.: Wilkinson R. G., Pickett K: The spirit level, 2009

[9](#) This was already stated at the 4th Social Ecological and Legal Forum Forum; but because of the central role it is repeated here

[10](#) This was already stated at the 4th Social Ecological and Legal Forum Forum; but because of the central role it is repeated here

[11](#) Lindsay C. Stringer(2016): Land Degradation, Desertification and Climate Change: Anticipating, Assessing and Adapting to Future Change. Routledge 2016

[12](#) Presse 12-10-2015

[13](#) Wu Zongxin; World Bank, Environment & Social Development Sector Unit (EASDES), East Asia and Pacific

Region (2006): Circular Economy Indicators Study, Part A: The Establishment of Circular Economy Indicators in China.P.15

[14](#) Baum J. et al (2011) Re-Sourcing in China: Standards for Circular Economy - Comparing China and the EU. Jubilee Fund of the Austrian Central Bank.P.89

[15](#) <http://www.oekobuero.at/english-summary-august-2015>