

History of land issues and land use change economics essay

[Economics](#)



**ASSIGN
BUSTER**

Introduction

Land reform is a legislative way to redistribute ownership of land or rights to current farmland and thus to benefit the poor by raising their status, power and income. In Chinese history, there are three land reforms after the foundation of People's Republic of China. The first is a self-subsistence oriented land reform, which intends redistribute the lands which are mostly owned by landowners. Secondly there is a plan oriented reform, which creates large scale collective farms, the products of agriculture mainly as input in other sectors of economy and local self-sufficiency, in this phase, the land belongs to the state. The last land reform is a market oriented reform, which is characterized by a fluid agricultural land market including buying and renting lands, the competition between smallholders will result in most efficient sizes and crop choices, constant change and increasing labour productivity. Land reforms do increase the production and propel industrialization, while on the other hand, there arises various economic, ecological and political problems, soil erosion, soil degradation, deforestation and conflicts between peasants and landowners. This paper will not only look at all the issues related to land reforms in a critical way, but also identify the economic, political and ecological impacts of land reforms. The link will be made between land issues, solutions and further development in order to depict a complete picture on Chinese land reforms and further development.

History of land issues and land use change

Private Distribution (1949 -1952)

Before 1840, the cultivation skills have achieved its highest level, so the only way to increase the crop productivity was to expand the agricultural area instead of increasing production per hectare. From 1840 to 1990, the contradiction between the increasing population and limited lands are becoming more and fiercer. From 1949 to 1990, landowners (10% of total population) have 70%-80% of the land; by contrast, peasants (90% of total population) just have 20%-30% lands. Besides, landowners charged more and more taxes on farmers in order to gain more profits and collect social wealth, which has put much more pressure on the relationship between landowners and farmers. In the long term, this situation will definitely lead to social uncertainty and conflicts (Jun, 2002). Furthermore, the above situation largely limited the development of economy, as a large part of peasants are still facing starvation, they repeat the simple agricultural activities everyday and cannot enlarge the production, as they do not have access to means of existence and means of production. Furthermore the landowners collect their money from charging more taxes from the farmers but they never consider improving the production of agriculture, both of them contribute to the lagging agricultural economy and cannot support industrial development (Ruiyuan, 1994). In order to mitigate the population pressure on territory and remove the limits on economy development, land reform is a must. The People's Republic of China will redistribute all the lands that are occupied by large landowners and also parts of lands which are owned by rich peasants to the public. On 6th June 1950, the seventh third plenary of China has

published four policies on rich peasants (Ruiyuan, 1994): The farmers will be treated as rich farmers if the ratio of their exploited income accounts for total income are above 25%. Protecting the property and lands which are self-cultivated and rent to others. The government can occupy some small area of lands of rich peasants in specific regions. For those who rent a large amount of lands and re-rent it to others, if their living condition is above the middle peasants, their lands will be redistributed to the public farmers. During this land form process, farmers are in favour of the land reform policies, as they can get more lands and more benefits from it, while the landowners are against it, since the landowners will lost their wealth and livelihood. Land reform raises numerous problems. For example the farmers that use this opportunity to get revenge on the landowners: they robbed the property of the landowners, killed some of them and in this regard more and more farmers became landowners. Undoubtedly, this situation on one hand led to social disorder. On the other hand it destroyed the social wealth. In order to solve this dilemma, a lot of national and regional laws were adopted by the president Mao, these laws tried to solve the above problems (Ruiyuan, 1994). Despite some existing drawbacks in the process of the latter described land reform, the crop production in 1951 outweighed 28% of total crop production in 1949, Moreover, the agricultural production in 1952 was 40% more than that in 1949. The production of industrial raw materials (e. g cotton) increased significantly (Ruiyuan, 1994).

Collectivization (1952 -1978)

The above discussed individual, dispersed and lagging agricultural economy based on the smallholder agriculture couldn't handle with the disasters, and

<https://assignbuster.com/history-of-land-issues-and-land-use-change-economics-essay/>

expand reproduction, not to mention supporting industrial development and couldn't meet the demands due to the population increase. Especially most part of low income farmers didn't have access to sufficient money, advanced means of production and facilities to improve productivity and feed themselves. A majority of them is still struggling with starvation and unable to expand reproduction. Besides, the most important reason for the second land reform is that this smallholder agriculture pattern wasn't accordance with typical socialism strategies which are planned by the Communist Party. The Communist Party focussed on planned economy instead of market economy, and also pay more attention to heavy industry development. In order to solve this problem, Mao suggested collectivization of agricultural lands and activities and this finally developed into a social collectivization system (Jun, 2002). This collectivization system appeared in the form of organizations of People's Commune, which are defined by large scale, high socialization, equally distribution and flexible allocation, trying to combine agriculture and industrialization production together. During the expanding process of the communes more and more farmers participated in the people's commune. At the end of 1956, 1.1 million farmers attended in the people's commune, which account for 96.3% of total population of farmers. In 1958, the president Mao suggested to merge smaller people's commune into larger people's commune. All of the tools, animals and lands are owned by the people's commune (Ailing, 2003). From 1966 to 1967, China suffered a lot from the Cultural Revolution. Land policies in this phase stagnated and even lagged behind compared with the former production level. From 1967 to 1987, the administration recognized their mistakes and drawbacks and

made some small adjustments. Still, no new land policies were enacted, the production stayed in the same level as before. It was a period for recovery from cultural revolution.

De-collectivization

Rural Land Reform

Third Plenum of the 11th CCP Central Committee defined a new page in Chinese history, as it stated the beginning of new reforms. The rural reform in China, which started in 1979, can be divided in two stages. The first stage (1979-1984) is characterized by the institutional changes, evolution of responsibility systems. The main goal of the reform was to increase agricultural production (Ash, 1988). It started with the documents introduced in 1979, which stated the need to fight "egalitarianism" using principle "from each according to his ability; to each according to his work". At this stage it was prohibited to owe land to individual households; however the supplementary role of labor contracts with groups was allowed. This period is characterized by spontaneous development of responsibility systems, which were legalized by "Document 75" in 1980, but it was more a reaction on already existing responsibility systems than establishment of them.

Household contracts were allowed on official level for the first time, however with multiple limitations depending on the economic development level of the region. There were two types of contracts presented: Baochan daohu (fixed amount of land, target level output) Baogan daohu (similar in land allocation to former, but different in distinguishing draught animals and equipment). The teams were supposed to pay the state certain amount of outcome and the rest was their personal possession (Ash, 1988). By making <https://assignbuster.com/history-of-land-issues-and-land-use-change-economics-essay/>

peasants interested in gaining higher outcomes the state managed to raise productivity of their work. Documents introduced in 1983 and 1984 were crucial at this stage: they established "contracted responsibilities, with payment linked to output" (lianchau chengbao zerenzhi). In 1984 the duration of these contracts was increased to 15 years and more, to avoid loss of soil fertility (due to very intensive use) when the contracts were short-termed and to encourage investments (Ding, 2007). In the early 1980s, special economic development zones were created along the east-coast of China in order to attract foreign investments, where functioned special taxing and land-use rights systems, creating good conditions for foreign investors (Ding, 2003). Also at this stage, townships replaced communes as a rural administrative basic unit (xiang). Due to price adjustments (increase of purchase prices for grain, cotton, oil crops etc.), the incomes of farmers increased as well as their purchasing power. Also by assigning higher prices for crops, preferred by the state, the cropping system was supposed to be rationalized and diversified. However, this also led to overexpansion of the cotton and tobacco at the expense of high-yielding grain land as farmers seen them as more profitable. The new conditions of production demanded policy changes to solve the "hard to sell" and "hard to buy" situation, which occurred. Greater reliance on rules of market was necessary, and at this point the second stage of rural reform started (1985), the main feature of which was an attempt to transfer from centralized to market system of purchase (Ash, 1988). With the Document #1 (1985) the monopoly of the state on buying agricultural products was partially replaced by an increasing role of the market, however, the state still played an important role through

contracts for grain and cotton and purchases on markets. Hence, existed a dual system, where sometimes the market and sometimes the state played the main role. To solve the problem of the insufficient grain production, state encouraged peasants to cultivate grain by giving them chemical fertilizers and priorities in obtaining loans (Ash, 1988). Further steps to develop land-use market in China resulted in the Land Administration Law (1986), which allowed private organizations and individuals to access land, which belonged to the state (Ding, 2003). Land use taxation introduced in 1979 first by very low fees, was adjusted in 1989. The Act aimed to rationalize urban land use, improve land-use efficiency etc (Lichtenberg, 2008).

Farmland transfer

By " The Provisional Regulation of the Granting and Transferring of the Land Rights over State-Owned Land in Cities and Towns" (1991) land-use rights were allowed to let, transfer, mortgage (Valletta, 2001). However, the state had a tool to control land markets - monopolization of land supply (Ding, 2003). Intensive development of urban areas resulted in shortening of productive agricultural areas. Between 1986 and 1995, farmland lost more than 1 973 999 ha (China Statistic Bureau, 1990-1996) and according to some expert this number is significantly underrated (Ding, 2003). To cope with this, in 1994 " Farmland Protection Regulations" restricted the conversion of basic agricultural lands into non-agricultural. In each village there were supposed to be defined basic farmland protection zones. The " no net loss policy" intended to keep the stable amount of agricultural land in the country. In case if they were taken for other types of use in one area, new lands were supposed to be used for agriculture in another area. However,

<https://assignbuster.com/history-of-land-issues-and-land-use-change-economics-essay/>

the losses occurred among the most productive agricultural lands (the coastal and central provinces), but they were replaced by less productive western and border provinces. Net losses of cropland in latter provinces were about 2 mln ha between 1985 and 1995 (Lichtenberg, 2008). The New Land Administration Law (1999) required any conversion of basic farmland, which was a special category of the most fertile lands, defined by the state, more than 35 ha and other farmland more than 70 ha to be approved by the State Council (Lichtenberg, 2008). All these measures were caused by the necessity to guarantee food security for the country. While its population is growing, but the cultivated area remains the same.

Social, environmental, and agricultural effects of land policies

China supports more than 21% of the world's population on less than 10% of the available land on earth (Sun et al., 2006). However, land degradation such as soil erosion, salinization, fertility loss, and desertification has affected 40% of China's land (Chen, 2007; Wang et al., 2013; Sun et al., 2006). The growing population and food demand is putting pressure on natural systems, while abandoned agricultural land is decreasing China's food security (Wang et al., 2013). Sudden and "contradictory" social transformations have prevented China's leaders from identifying the reason for their massive environmental problems and have therefore not been well addressed. Social and political change are major contributors to environmental and soil fertility problems. The less vulnerable farmers and people are to natural variability, the more capacity they have to take environmental precautions (Muldavin, 2000). Furthermore, land

consolidation practices do not respect multigenerational occupation and result in a combination of property loss and a switch to collective utilization that discourage farmers to act in a sustainable way (Wei et al., 2009). Thus, during the redistribution period (1949) when every farmer had equal claim to the land, more soil protection measures could be taken, leaving less risk of crop failure and environmental degradation and efforts were made for the purpose of supporting future generations (Boyce et al., 2005; Wei et al., 2009). In the following period of collectivization (1952-1978) where the aim of the communist party was to increase agricultural productivity and use the surplus for industrial production, farming practices and environment degradation intensified, especially concerning soil properties (Boyce et al., 2005; EoE, 2012). The Great Leap Forward by Mao Zedong from 1958 to 1961 caused some of the earliest major ecological destruction in modern China through the widespread conversion of non-cultivated lands to cultivated ones (EoE, 2012). The number of spring dust storms during the campaign has been linked to the large-scale human migration and activity in Northwest China during the same period, rather than to changes in weather patterns. The removal of fertile land from overgrazing, intense cultivation, and cultivation at inadequate plots or removal of forest for fuel production resulted in an increased the risk of erosion (Ta et al., 2006). Big famine?? After the collectivization period, peasants began to lose their entitlement to common property along with the 1979 policy change from a planned to a (hybrid) market-oriented economy. The first step in the transition from Maoist land administration to today's administration involving the re-generation of land markets, taxes and fees, and separation of land usage

rights was the Household Responsibility System that was introduced in 1978 under Deng Xiaoping. This set up production quotas for each household so that families could eventually sell their surplus, improving the incomes of peasant households. A period of rural village expansion continued through the 1980s as families profited from surplus crops and adopted alternative horticultural activities to the cotton and grain that was previously intended for meeting state production quotas. From this point on an increasing amount of people began to live in cities (Ding 2003). In addition to the production unit shifting from the collective unit to the household unit, agro-intensification, urban sprawl and industrialization further fragmented the rural landscape (EoE, 2012; Lin & Ho, 2003). Furthermore, land reclamation of ecologically sensitive zones lead to land degradation and abandonment; having a negative impact on soil fertility, this can also indirectly affect food security and encourage natural hazards such as flash floods or desertification (Lin & Ho, 2003). Before the de-collectivization the state provided certain services (" food, clothing, shelter, education, and decent burial") for citizens, which were now abandoned, encouraging vulnerability and poverty for the " losers" on the market. Additionally land was granted to the male family head, which caused a loss of land-rights for women (Muldavin, 2000). The difference between this phase and the redistribution phase is that there was competition. The redistribution stage gave all people land ownership rights, leaving them on an equal playing field. On one hand, a market-oriented economy strengthens individual rights while on the other hand it increases risks or vulnerability for citizens and consequently, the pressure on natural resources (Muldavin 2000). After 1978 China not only opened the market for

investors from abroad but also started regulating the land market by introducing land taxation, land use rights regulations and land use fees. The system became a hybrid between a planned land market and a land market driven by economic growth. Market growth fostered the rapid urban sprawl that resulted in high losses of agricultural land. These new changes positively affect the rationalization of land use and the improvement of infrastructure, while at the same time causing negative socio-economic consequences due to rights, goods and land being unequally distributed (Ding 2003). In the 1990s, while most families did still participate in agriculture, a peripheral expansion of villages was driven by improved rural quality of life as residents pursued more pleasing aesthetics and more living space (EoE, 2012). Although a 5% increase in national agricultural productivity was seen in the 1990s, the increase in cultivated lands in northern China was accompanied by a loss to urban sprawl in southern China (Yan et al., 2009). To increase food security and compensate for agriculture losses from urban development, the Chinese government issued two farmland preservation laws. The Basic Farmland Protection Regulation of 1994 represents the first "zero net loss of farmland" policy, and "requires the designation of basic farmland protection districts at the township level and prohibits any conversion of land in those districts to other uses (Ding & Chengri, 2004)." The second law is also articulated by Ding and Chengri (2004): "The 1999 New Land Administration Law is intended to protect environmentally sensitive and agricultural lands, promote market development, encourage citizen involvement in the legislative process, and coordinate the planning and development of urban land. The law has two

important clauses. Article 33 extends the application of the zero net loss farmland policy in the Basic Farmland Protection Regulation to all farmland. It stipulates that " People's governments . . . should strictly implement the overall plans and annual plans for land utilization and take measures to ensure that the total amount of cultivated land within their administrative areas remains unreduced." Article 34 requires that basic farmland shall not be less than 80 percent of the total cultivated land in provinces, autonomous regions and municipalities directly under the central government." Both regulations forbid a conversion of high quality farmland, unless unavoidable and promoting efficient land use in urban areas. A proportional amount to farmland converted was required to be developed in another area, most of which accumulated in the western and border provinces (Lichtenberg et al., 2008; Chen, 2007). Attempts by the government has not been seen as successful due to the lower productivity of the newly cultivated areas (Tao et al., 2005). Although the law required the quality to be the same as the converted farmland, the new farmland actually had a far lower soil quality than that of the original (Lichtenberg et al., 2008, Chen, 2007). Since the arable land taken over by urban development was 80% more productive than the newly cultivated areas, it was an unsustainable expansion of poor quality cropland, and in many regions the negative effects of the reduction of arable land were concealed by the crop productivity increases mentioned above (Yan et al., 2009). Even before these policies, the conversion of less suitable land into farmland due to market pressures had already degraded vast amounts of soil (Lichtenberg et al 2008, Chen 2007). This type of development has the potential to affect food security and agro-ecosystems

negatively (Yan et al., 2009). A study by Tan in 2008 applied the Costanza et al. (1997) concept of ecosystem service value to estimate the net changes in cultivated land in China from 1988-1999. After accounting for land both taken into and out of cultivation during this time period, the total ecosystem value loss by land conversion amounted to US \$4.22 billion. Although a higher proportion of grassland was converted, the study found that the conversion of forest to farmland was the major factor leading to ecosystem value loss (Tan, 2008).

The Interaction between Environmental Policies and Land Issues

Land degradation and the subsequent decreasing agricultural yields pose a threat to China's ecosystems, food security, and livelihoods (Sun et al., 2006). In response, farmland from the west has been being transformed into ecological land uses during the period since 1999. The loess plateau stretching from the north to the centre of China has a highly degradable loess soil type. Due to the long history of poverty and agricultural exploitation, the region had become highly infertile and faced issues such as muddy flash floods and erosion, encouraging poverty (Chen, 2007, film, <http://www.open.edu/openlearn/whats-on/ou-on-the-bbc-hope-changing-climate>). The Chinese government started a project here to recover land degraded by inappropriate use; reforestation, replanting, restructuring and terracing of the landscape have led to fertile soils and an overall ecological balance. In turn, the reduction poverty and increased productivity has therefore reduced environmental exploitation due to the positive effects on livelihoods (see Muldavin 2000). This project can be seen as a trigger for

other projects enhancing the ecological state of the soil in other parts of China such as "Returning Grazing Land to Grassland Project (2003-present)" (Wang et al., 2013). Conversely, food production needs have led to a large amount of marginal lands being cultivated, especially with slopes greater than 15 degrees, which has led to soil erosion, desertification, flooding, and salinization. The Grain-for-Green Policy (1999-2010) was developed for its potential to improve environmental problems, eliminate flooding along major rivers, optimize the agricultural industry, and increase farmer income due to the improvement of land quality. A study by Sun et al. (2006) found that land use change overall during the period of 1999-2006 contributed to ecological protection, the greatest part of this attributed to the policy implementation and the "green conversion" of cultivated slopes of more than 25 degrees. A study by Zhou et al. (2009) on the GfG Policy in the northern Shaanxi province shows that it has been successful in increasing biomass production on arable land by approximately 1.2% per year since 1999. Further monitoring should continue to find whether biomass will continue increasing due to the further growth of existing trees, and whether soil erosion and sediment delivery to large rivers will decrease due to the non-linear relationship between land cover change and soil erosion (Zhou et al., 2009). China has recently focused on policy development for biofuels, namely ethanol, for climate change mitigation and energy independence. The 2001 "Special Development Plan for Denatured Fuel Ethanol and Bio-ethanol Gasoline for Automobiles in the Tenth Five-Year" selected nine provinces to pilot the use of ten percent ethanol gasoline. The Renewable Energy Law led to the "Middle and Long Term Development Plan of Renewable Energy,"

which was released in 2007, calling for an additional 10 million tons of ethanol biomass by 2020 (EoE, 2012; Qiu et al., 2008). To encourage biofuel, there have also been tax reductions, subsidies and other incentive policies (Qiu et al., 2008).

Present State

In recent times, many farmers are giving up agriculture at a time when rising urban lifestyles are fueling a higher demand for agricultural production. The changing diet of an urbanized population means the need for expanding meat production, which has a huge negative impact on natural resources and pollution. China's land and water resources per capita are actually below the world average, which is a potential problem considering this expansion and increasingly affluent population (EoE, 2012). Despite the positive environmental policy developments, China's economy is still characterized by an intervening and planning state that tries to restrict urban growth, in order to improve land-use efficiency and redevelop an environment that sustains livelihoods. Those efforts are expressed in the conflicting land policy reforms and environmental effects. Possible solutions, recommendations, and links to other non-environmental topics will be addressed in the discussion section.

Economic influences of land policies

Economy can be considered as one of the critical processes in the shift from agricultural production to urban and industrial development. Urban land expansion in China is driven by land finance. The local government tries to attract investment by leasing land. This policy is one of the most important

driving factors for the expansion of cities since the 1990's. The result of this transformation is a stimulation of economic growth, certainly in urban areas (He et al, 2012). The changes in land use are affected by land supply policies, these get often adjusted to meet the demands of economic development. When the local government doesn't follow the central government and do not supply land as the plan prescribes, there is illegal land supply. This is a main factor for uncontrolled investments (He et al, 2012).

The effect of land reforms on crop choice and regional agricultural economy

China has a total area of 932 748 000 hectares. In 2000 14% of the land was arable land, 18% permanent meadows and 22% forest (Xuefeng, 2010). Land degradation of arable land is a major problem in the last decades due to desertification, salinisation and the conversion of these productive lands to land with non-agricultural use (Xuefeng, 2010). China needs to feed 22% of the global population with less than 9% of the world's cultivated land, yet China has succeeded in feeding its population. In 1996, 53% of china's territory was owned by the Chinese state. The rest was owned collectively. In China there are three types of land classification. Agricultural land, construction land & unused land. Within agriculture, there is a subdivision of cultivated land, Yuandi (vineyards & plantations), forest & pasture (Ho & Lin, 2003a). The regional agricultural system depends on decisions that are very complex and dependent on the area of decision. In the next part we will elaborate a little bit further on the effects of the land reforms on land use change.

Economic structure of China

At the end of the 20th century major land reforms started to take place. We can roughly say that before the 1980s, China's economic structure was closed & centrally planned (CIA, 2013). Since the early 1980s, globalization and economic reforms in China led to a rapid economic growth, as it is shown in figure 1 (Ho & Lin, 2003b). After the 1980s, the Chinese economy turned into a market oriented system (CIA, 2013 and Ho & Lin, 2003b). The reason for this change into more market oriented organization is the failure of the planned economy (Deng, 1984). The developing process wasn't a sudden process, but more a gradual process. It started with the reduction of the collective agriculture, a gradual liberalization of the prices, the decentralization of the fiscal system, the increasing autonomy of the state enterprises, the creation of a more diverse banking system, the development of the stock markets, rapid growth of the private sector and finally the opening of the internal market to foreign trade and investments (CIA, 2013 and Ho & Lin, 2003a). This restructuring of the economy resulted in an enormous increase of the GDP (figure 1). Also the rate of urban growth had accelerated tremendously (Ho & Lin, 2003b). Some authors concluded the following concerning these developments that started in 1978: 'Rising per capita income, industrialization, migration, urbanization & changing life style altered in significant ways how China uses its land' (Ho & Lin, 2003b).

Figure 1: China GDP per capita 1960-2013 (Trading Economics, 2013)

With these economic changes, the land system had also changed. In the early 1980s there was the household responsibility system. This changed the

relationship between Chinese farmers and the land they cultivated. In 1986, there was the land management law, which was revised in 1988 and 1998. In the late 1980s there was a commercialization of urban land use rights. Due to economic changes, there was a decline in farmland. Two reasons are mentioned in the literature. First because of structural changes within agriculture. Second because of conversion of farmland to non agricultural land use (Ho & Lin, 2003a and Ho & Lin, 2003b). The post Mao economic reforms of 1978 had several effects. The frontier development of marginal land lead to an exhausted land (= ecological damaged). This triggered soil erosion, desertification and deforestation. Another effect is that farmers stopped their farming activities and started working in non farming activities. This resulted in a change of the farmland into a more profitable land use. In the mid 1980's this change was the largest due to an accelerated growth of the economy (Ho & Lin, 2003a). Figure 2 shows were the land use change took place during the period between 1949 and 1996. Important to mention about this figure is that it is a general picture and it doesn't show the differences between the period before and after 1978. A general conclusion based on this figure is that the most change of land use is in the remote areas (taking the east coast as the centre of China). This matches with the idea of frontier development.

Figure 2: Land use change 1949-1996 (Lin, 2000)

Foreign trade

Land use change happens locally, this has implications elsewhere and is affected by drivers that operate at local scale. China tries to satisfy its food needs by improving agricultural production. It is of course logic that there is

<https://assignbuster.com/history-of-land-issues-and-land-use-change-economics-essay/>

a shortfall in production and this has to be complemented. China solves this by trade with other countries and so China will have an important influence on the global agricultural markets (Xuefeng, 2010). Since 1979 there has been a gradual transformation in the trade from a central planning to one where market forces play a significant role. The whole reformation is typed by trade liberalization, exchange rate adjustments, exchange market development, less restrictions for international transactions and the creation of a capital account control framework (Lin and Schramm, 2003).

Nonetheless, when the process of liberalization is taken into account, China's exchange system still depends significantly on the government to assure the functioning of the system (Lin and Schramm, 2003). A problem is the impact of China's WTO accession in 2001, especially for the rural habitants. China has to open its financial markets to foreign investment. Studies show that the total welfare will improve but that the small farmers will suffer from the liberalization of agricultural trade. China's least developed rural areas will benefit little or suffer due to the liberalization because traditional agriculture is their main source to their livelihood (Diao, 2002).

Production

Nowadays, China is the world leader in gross value of industrial output in these branches of the industry: mining and ore processing, iron, steel, aluminum, and other metals, coal; machine building; armaments; textiles and apparel; petroleum; cement; chemicals; fertilizers; consumer products, including footwear, toys, and electronics; food processing; transportation equipment, including automobiles, rail cars and locomotives, ships, and aircraft; telecommunications equipment, commercial space launch vehicles,

satellites. For agriculture, it is world leader in gross value of agriculture output for rice, wheat, potatoes, corn, peanuts, tea, millet, barley, apples, cotton, oilseed, pork & fish. China is losing arable land because of erosion & because of economic development (CIA, 2013). The effect on land use change is that a lot of land is now used by the industry and industry related activities.

Discussion

Before 1949 a small proportion of people in China owned nearly all the agricultural land. Generally the situation was restricted to the growth of the wealth of landlords instead of supporting the agricultural crop production and its delivery for the whole country, while many of the low income farmers did not have the means of materials to improve their yields. A reform conducted in 1949 was aimed to "eliminate" the landowners and redistribute the land amongst the ones who would carry out agriculture. On one hand, the reform created social unrest in which many landowners were robbed and killed. On the other hand, crop production increased as well as the raw materials production, which can be attributed to the fact that peasants did not have to deliver their goods to the landlord anymore but were able to work for their own wealth. In order to become world power and to increase the industrial production a new land reform was established where all land was consolidated by the state and peasants were organised in communes. The goal of the communes was to use the surpluses for the industrial production. Therefore also an expansion of cultivated land had to be realised. The agricultural expansion for the means of growth (the great leap forward) took place in less suitable areas and caused severe

environmental impacts, which culminated in severe spring dust storms. Collectivisation also discouraged the peasants to adopt good farming practices which resulted in a degradation of the soil properties and therefore the crop production stagnated. In 1979, after the end of "Maoist domination" first steps towards a market oriented economy were done. The main goal of the reforms, was to insure food security for the country, so to increase the crop production yields for a fast growing population with a limited land base. As a consequence of providing of the new responsibility systems, yields increased. Peasants got new responsibilities and were more interested in obtaining higher yields to get the surplus production above the quota (which had to be given to the state). On the other hand contracts between household and state lasted only for three years which discouraged farmers to think in a long term and to manage their fields sustainable. This finally resulted in high fertility losses. To solve this problem the contracts were elongated to 15 years. This encouraged peasants to investment in the land and to adopt more sustainable farming practices. In the course of the land reforms after 1979 (see chapter 2) a lot of the most productive cultivation areas were replaced by land in less productive areas in order to change land use into industry or residential area. The reclamation activity did therefore not only decrease yields but also caused widespread degradation, problems with natural hazards and as a consequence of this also poverty. Tan (2008) finds that the policy-making focusing on the balance between land conversion and cultivated areas since the 1990s can cause a loss in agricultural productivity. Tan suggests that rather than "reclaiming cultivated land from ecologically fragile areas," improving land productivity is

more effective to achieve grain self-sufficiency and maintain agro-ecosystem function for production. This includes limiting the conversion of high quality cultivated land to other uses, avoiding development of steep slopes, improving technologies for land, water, soil, and fertilizer conservation, and finally, "stimulating land rental markets and land consolidation programs that reduce the level of land fragmentation." As an answer to the new poverty of the farmers due to unemployment was followed by the growth of the township enterprises held the key to massive rural labour absorption. The positive effect of the reforms, public land acquisition in particular, were low land costs and additional financial resources to local governments. Special conditions, which were created for investors, such as tax policy, encouraged the development of economic and industrial development zones. On the other hand, unfair compensations for land acquisition caused social tensions between farmers and local governments (Ding, 2007). Since the start of the free trade system some people could use their economic activity to gain wealth while others did not have the chance. The market system created more risk for all citizens. The planned economy had given at some stage security in terms of infrastructure, food security, health "insurance" and work. Also the different economies started growing at different levels. As has been seen historically with intense land reforms that "solve" the problems of the preceding land reform, there seems to have been a tendency throughout time to attempt a quick solution. Some of these solutions have been partially or fully successful, while others have not. ...

Need some more examples?... For example, Mao's vision to become a world power through industry (and hence, agriculture) and the creation of

communes, as mentioned above, lead to agricultural land degradation and stagnation of production. Those that did not lead to solving the problem can be seen as hasty policy-making whose effects are not well thought out before implementation. In recent times, conflicts between China's commitments are becoming apparent. Striving for grain self-sufficiency, despite its limited natural resources per capita, naturally seems a driver of land and resource pressures. The commitments to biofuel production, being grain self-sufficient, and the GfG policy to convert degraded land to natural uses are also coming into conflict with each other. While an overall ecological improvement was seen with the GfG policy, especially concentrated in the western provinces, Sun et al. (2006) find that this was counteracted by (1) the requirements to compensate urban expansion with cultivated land and (2) conversions from cultivated land to construction uses in the east (Sun et al., 2006). In addition, Sun et al. (2006) indicate that although the GfG Policy would not threaten grain shortage or food security at the national level, the conversion of steep slopes would most likely create the need for grain supplements in some regions. To allow for grain production, a certain amount of farmland would need to be reserved, technology should be developed to increase grain yield per unit, and a certain amount of grain should be imported to decrease pressures on agriculture and national food security (Sun et al., 2006). Regarding biofuel policy, the Chinese government's food security goals have been affected due to both the rising food prices from the expansion of the ethanol market and the conversion of arable lands to urban and industrial uses. Although a target of grain self-sufficiency set in the 1990s has largely been successful,

ethanol's toll on agricultural production and threat to food security led to a decree by the National Development and Reform Commission that biofuel should not compete with grain, food consumption, livestock feed, nor harm the environment (Qiu et al., 2008). Requirements of farmland for ethanol production could contribute to existing land degradation patterns in the Ordos and Loess plateaus since they are also " subject to intensive cultivation to offset arable land conversions, and further intensification might threaten long-term sustainability of food production due to land degradation, pollution, and declining soil fertility (EoE, 2012)."

In the efforts to prohibit future increases on grain demand for biofuel production, some suggest a switch to alternative biofuel sources such as cassava or sugarcane. However, they contend, the subsidies required to maintain this market would be substantial. While farm value would be added to the grain market and farmers in this industry would likely benefit, increased feed prices would negatively impact those in the livestock industry. The already particularly impoverished Tibetan autonomous region might be especially affected in this scenario, because of its lack of suitability for grain production and heavy reliance on livestock (EoE, 2012)"

As seen in the above passage, the links between land policy, environmental policy, land uses, agricultural production, industry, and livelihoods are profound. Conflicts between different commitments are a major challenge for future development.

Conclusion

The collection phase was an answer to the unequal distribution of land and the paternalism upon the peasants. The intention of the consolidation of the Chinese state was only related to increase the production, ignoring that a

land policy will have much broader impacts on trade, environment, rural and urban migration patterns and the regional agricultural economy. However, the consequences of the collection were distortions of the association between peasants and their land. This caused a distortion of the production patterns, which caused a distortion of the economy and the environment and the soil properties which again have an effect on the way the peasants' farm and produce. Finally the food security in a country is endangered.

Furthermore, all policies which were adapted before 1979 were abrupt developments and left no space for adaption and or trial phase (as it is common in modern European policymaking). The agricultural policies and reforms in China rather evolved from one to another. After 1979 this pattern becomes different, the development is a smoother and a slower process.

Nonetheless, the change to a market oriented economy has significant impacts on economy, food production, migration and environment... On one hand, positively, after 1980 foreign trade is correlated to an increase of the GDP. On the other hand this caused huge migration patterns (of peasants) from land to city. This because farming was no longer profitable for all the farmers. The capitalistic change also severely affected the environment and the soil properties so as that the Chinese government started to be concerned about the food security of the country. The land policies in China proved to be conflicting upon each other as there is always a trade of between land uses, mainly food production, industry and urban area expansion. Especially the urban expansion has been either underestimated or overseen by the Chinese leaders. In modern times, those conflicts have even been harsher as also environmental protection has joined the

competitors. The authors see the "Green for Grain" policy as a progressive approach to tackle the land use competition by the means of an integrated approach, creating a win-win situation for both, environmental protection and food security. In this paper, we discussed 2 important land use reforms in the people's republic of China. A land reform isn't a sudden process but a gradual process that takes place during many years. The first reform started in 1952, when Mao started his collectivization (planned economy). The second reform started in 1978 when China oriented towards a more market oriented economy due to a failure of the planned economy. In this paper we found out that the main reason for this land use reforms is a policy change. But indirectly, this policy change also changes the GDP per capita, the level of industrialization, the migration patterns, the urbanization level & the life style of the people. These changes transformed the way of how the people use the land, and so indirectly change the land use.