Abstract:
The paper reveals that ever since the 1950s, after the first land reform of distributing land ownership (or possession under public ownership) to small farmers, the irrational and polyopolistic land use by able-bodied part-time and absent small farmers earning higher off-farm income but unwilling to lease the under-producing land beyond their family consumption need to full-time farmers, has been a global obstacle with both public and private land ownership, traditional and modern agriculture, fragmented small and consolidatorily enlarged land, low and high income economies, food under-self-sufficiency and overproduction, and developing and developed countries, even if land property rights have been well defined and sale/lease allowed. [Polyopoly is invented by the author to denote the control of a resource by many sellers in contrast to monopoly (by one seller) and oligopoly (by a few sellers)]. This is mainly due to low rents, avoidance of misuse by tenants, jealousy in preventing neighbors from prospering, and hobby use. In those countries where this land reform has not been completed, there are also large landowners who exercise it. The full-time farmers, without right to use such under-utilized or idled land, have to subsist on their tiny farms, cut forests for more land, or quit agriculture for cities or developed countries. The land of the emigrants is ineffectively used by their old parents, wives or children, or just idled, without being leased to the remaining able-bodied full-time farmers. Numerous developing nations have to import food with scarce foreign exchanges or ask for donations to cope with food shortage (such as in Northern Africa), while many industrialized nations have provided huge subsidies to maintain farmers on agriculture which may cause overproduction. This obstacle has thus harmed agriculture, rural development, income distribution, government expenditure, competition, trade, environment, etc. It has become the most fundamental microeconomic root of the three persisting global macroeconomic problems: food under-self-sufficiency, overproduction and agricultural protectionism. It has turned to be the most fundamental root (though not the unique one) when the rural facilities are backward (such as in numerous developing countries currently), and the unique root when the rural facilities are advanced (such as in many developed countries presently). The global food shortage crises since 2005 have exposed and confirmed this obstacle.

Evidences in Northern and Southern Africa; Asia; Latin America; Central-Eastern Europe and Central Asia; Western Europe; North America and Oceania are presented.

Many governments and international organizations have exercised measures to promote agricultural and rural development (early retirement, young farmers, training, infrastructure, irrigation, land consolidation, fine seeds, better quality, higher yields, localized production, small and large machinery, organic farming, anti-pollution, credits, contract farming, information, market access, off-farm activities, etc.), but overlooked that the rational and competitive land use is the basis without which other measures would not function well (if at all).
Accordingly, the paper challenges Schultz’s assertions: (1) small farmers are rational; (2) low income countries saddled with traditional agriculture do not have the problem of many farmers leaving agriculture for nonfarm jobs; (3) part-time farming can be efficient; (4) economies of scale do not exist in agriculture; and (5) investment in human capital counts much more than institutional changes and is the key to agricultural growth. It indicates that Hirschman has ignored that this obstacle has hampered the linkage effects.

The paper has dug out internationally neglected laws for efficient and competitive land use in the USA and Western Europe. In the USA, covering all the states, (1) there is a time effect on turning occupied private property into ownership - adverse possession, which means that if a private person has occupied a private property (e.g., farmland) without agreement of the owner, while the owner has not sued the occupier during a limited period, then this property will belong to the occupier. (2) There is ‘squatters’ rights’ law for turning occupied public land into private ownership, which denotes that if a person (squatter) has occupied a public land for over 25 years and paid taxes, the Secretary of the Interior may issue a patent for 160 acres of such land upon the payment of not less than 1.25 dollars per acre. These laws are still exercised. Their main significance is to encourage the efficient use of the idled private and public land resources. Their main imperfections are that (1) If the private landowner has found that his idled land is being used by another farmer without his agreement within the limitations period, he may sue to get the land back, while still idling it. (2) Even if an adverse possessor or squatter has successfully gained ownership of a private or public land, he may idle or under-utilize it later on, without leasing it to those farmers who wish to produce sufficiently on it. (3) People in general may not wish to lose private property including farmland even if they do not use it.

In Western Europe, (1) there has been a law to give right to other farmers to produce sufficiently on any under-producing land (i.e., less than 40% of the normal output): in the EU Council Regulations 1963/262, 1967/531 and 1963/261; Italy 4 August 1978 (still valid but not applied); and Switzerland from the Middle Ages that any farmer can bring his cattle to graze in the private pastures of the Alps (still valid but not applied). Its main shortcoming is that it obliges landowners to lease out all their inefficiently used land, so that part-time and absent landowners would not be able to produce for family consumption and keep farming skills; and once lost off-farm jobs, would either have no access to their land rented out, or have to withdraw it within the contractual period, affecting the lessees. (2) There has also been a law to oblige landowners to either use their land or lease it out for sufficient production: in Germany 31 March 1915 (until 1961); UK 6 August 1947; Norway 18 March 1955, 25 June 1965, and 31 May 1974 (still applied due to continuing under-self-sufficiency with the cold weather), and Denmark 17 July 1989. Its main shortcomings are that it may cause overproduction, plus the above-mentioned one. Both laws have been suspended at the overproduction stage.

Revising these legislations, the paper provides effective and appropriate Proposals (I) giving full-time farmers access to the under-producing land beyond family consumption need of part-time and absent farmers, by creating a Dual Land System, and (II) converting the environmentally sensitive farmland back to the nature obligatorily once a country has encountered constant overproduction. They would, without affecting private land ownership, simultaneously reach eight aims: (1) minimize/abolish/prevent protectionism, while (2) avoiding overproduction and (3) irrational production abandonment; (4) boost competitive full-time large farmers as entrepreneurs, whereas (5) not crowding part-time and absent small farmers out of agriculture; (6) reach/maintain basic self-sufficiency in cereals, meanwhile (7) promoting multifunctionality of other agricultural and rural sectors and (8) improving the environment. They would be useful also for public land ownership. Hence launching a second land reform – land use reform.

Especially, the full-time farmers could increase farm size, achieve economies of scale, reduce costs, become viable or more competitive, hence fully playing their entrepreneurship to produce for the national and global markets, without seeking protectionist subsidies or foreign aid.
The analyses and Proposals have been presented at 15 conferences in Asia, Europe and Latin America; nine seminars in four European countries; a press conference for WTO in Geneva; nine publications by EU Commission; and received 211 responses as appreciation/attention from Nobel economics laureates, governments, farmer organizations and international organizations of the EU, EU accession countries, Japan, Switzerland, Canada, USA; CABI, OECD, WTO; UN, CSD, FAO, IMF, UNCTAD, UNEP and World Bank during 18 February 2002 – 4 November 2008 [see the author’s fifth FAO publication (http://www.icarrd.org/en/proposals/Zhou.pdf) pp. 7-57].

**Hypothetical Discovery:**

Since the 1950s, after the first land reform of distributing land ownership (or possession under public ownership) to small farmers, the irrational and polyopolistic land use by able-bodied part-time and absent small farmers earning higher off-farm income but unwilling to lease the under-producing land beyond their family consumption need to full-time farmers, has been a global obstacle with both public and private land ownership, traditional and modern agriculture, fragmented small and consolidatorily enlarged land, low and high income economies, food under-self-sufficiency and overproduction, and developing and developed countries, even if land property rights have been well defined and sale/lease allowed. Polyopoly is invented by the author to denote the control of a resource by many sellers in contrast to monopoly (by one seller) and oligopoly (by a few sellers).

This is mainly due to low rents, avoidance of misuse by tenants, jealousy in preventing neighbors from prospering, and hobby use. In those countries where this land reform has not been completed, there are also large landowners who exercise it. The full-time farmers, without right to use such under-utilized or idled land, have to subsist on their tiny farms, cut forests for more land, or quit agriculture for cities or developed countries. The land of the emigrants is ineffectively used by their old parents, wives or children, or just idled, without being leased to the remaining able-bodied full-time farmers. Numerous developing nations have to import food with scarce foreign exchanges or ask for donations to cope with food shortage (such as in Northern Africa), while many industrialized nations have provided huge subsidies to maintain farmers on agriculture which may cause overproduction.

This obstacle has thus harmed agriculture, rural development, income distribution, government expenditure, competition, trade, environment, etc. It has become the most fundamental microeconomic root of the three persisting global macroeconomic problems: food under-self-sufficiency, overproduction and agricultural protectionism. It has turned to be the most fundamental root (though not the unique one) when the rural facilities are backward (such as in numerous developing countries currently), and the unique root when the rural facilities are advanced (such as in many developed countries presently). The global food shortage crises since 2005 have exposed and confirmed this obstacle.

- In Asia, under private land ownership, in Japan, since 1960, many part-time and absent small farmers earning higher off-farm income, without leasing land to the remaining full-time farmers. The government has had to give huge subsidies, otherwise, even full-time farmers would abandon agriculture. The Japanese model was just repeated by Taiwan Province of China in the 1970s and South Korea in the 1980s. Malaysia, Thailand, Indonesia and the Philippines; Bangladesh, India, Pakistan, and Sri Lanka; and Bhutan and Nepal are generally at the earlier phases of the Japanese model.
- Under public ownership, China distributed land to households for individual operation during 1978-83. Then many part-time and absent small farmers earning higher off-farm income, also refused to lease land to the remaining full-time farmers. Although the local officials have had the power to allocate such land to the full-time farmers, corruption has increased and they sold or rented farmland to industry and service developers, while many farmers have lost land. The government has to raise subsidies since 2001.
Cambodia, Laos and Vietnam have transformed the former public land ownership under the centrally planned economy into a nominal state - but de facto private - land ownership, i.e., the state-owned land has been possessed by households permanently and the possession could be sold. This has resulted in both newly landless and irrationally polyopolistic land use. At the same time, full-time farmers who love farming, and still existent or appearing landless farmers who need land have had to cut trees and grasses to get land, hence damaging the environment.

In Africa, there is population explosion. More rural people have swarmed into urban slums, or developed countries. The land of the emigrants is ineffectively used by their old parents, wives or children, or just idled, without being leased to the remaining able-bodied full-time farmers. The remaining farmers increasingly hunt animals and cut forests for logs and farmland. Africa has become a net importer of agricultural products. Urgent food aid has been desperately wanted by over 30 million people in 24 countries of Sub-Sahara, with Southern Africa as the most food-deficient area. In East Africa, the food supply crisis was most serious in the Darfur region and south of Sudan, and south of Somalia. The agricultural output in Africa would be sharply reduced to half of the level of 2007 by 2020. But large amount of cultivable land is not used for production. There are 184 million ha of cultivable land, but only 14% is used for production, and 21 million ha of them are in accelerated degradation. In certain countries, the governments do not allow land leasing, in fear that if it were allowed then the private landowners could go to cities to earn higher off-farm income while idling land.

In Latin America, land reform has been made only to a low extent, large landowners still dominate while most peasants have no or little land. There are even large landowners who idle land without leasing it to small or landless farmers for survival because they are too rich and do not care about the low rent the poor tenants could afford to pay. They desire to produce more for export when the external prices increased. When the external prices decreased, they tend to supply less so as to keep domestic prices high even though the internal poor cannot afford. Numerous small and landless peasants have been forced to migrate to cities, where many of them could find no regular jobs or no jobs at all, but just live in slums, with rising crimes. But even in places where the land reform has been made, of the new small landowners, while some have survived on the land, others sold land ownership or use rights and re-became landless, and further others just idled land and migrated to cities. Many Mexicans have emigrated to the USA, their land is idled, but the state has to raise subsidies and import food. Brazil has started biofuel production, but cut large Amazon forests, rather than using the idled land.

The EU in 1992 started to phase out agricultural protectionism, especially the coupling of subsidy with production whereby farmers produce more for receiving more subsidy, causing overproduction. The 2003 CAP reform decided, from 2005 on, to reduce coupled subsidy, and increase decoupled subsidy, which is to the real operator (owner or tenant) but permits the recipient to produce zero as long as he keeps land on a good environmental condition without erosion (which could be easily fulfilled by planting trees and grasses), so that many able-bodied landowners may spend most time on earning higher off-farm income without leasing land out to avoid the decoupled subsidy from going to the tenant. Indeed, before 2005, the agriculture production grew. But during 2005-07, it declined whereas prices soared, while full-time farmers could not use the under-producing land of the part-time and absent farmers for sufficient production. The EU turned from a net exporter of agricultural products in 2006 to net importer in 2007.

The EU proposed in Oct. 2005 to cut its trade distorting farm subsidies by 70%. The WTO in Apr. 2007 proposed the EU to cut them by 75%, equivalent to a 50% cut of its budget on agriculture (excluding rural development). But the EU in Sep. 2007 announced to cut this budget by only 2-4% during 2007-13. The EU Council of Agricultural Ministers decided in Nov. 2008 to further, reduce subsidy to large farmers, decrease coupled subsidy and widen decoupled subsidy. But many farmers have protested, because it has not provided any solution to avoid losing food basic self-sufficiency.
In the USA, Canada, Australia, and New Zealand, the irrational and polyopolistic land use by able-bodied part-time and absent small farmers and irrational production abandonment have also happened, and the governments want to help full-time small farmers to get more land, but they do not have the worry of losing basic self-sufficiency in cereals because the earlier immigrants had formed the largest farms with very low costs which could easily feed their small populations. Thus protectionism is generally not implemented in New Zealand and Australia: its root in the USA is political as farmers want more income and politicians need more votes, so that it would be relatively easier to solve; Canada is similar to the USA. Thus they could abolish agricultural protectionism more easily.

However, once protectionism has been abolished, many farmers might abandon production to the extent of threatening food basic self-sufficiency (at least in cereals), especially as the US population has been growing, demanding more food and crops for fuel. Under such circumstances, it would also be necessary to solve this problem.

Thus this paper challenges Nobel economics laureate Schultz’s assertions: (1) small farmers are rational; (2) low income countries saddled with traditional agriculture do not have the problem of many farmers leaving agriculture for nonfarm jobs; (3) part-time farming can be efficient; (4) economies of scale do not exist in agriculture; and (5) investment in human capital counts much more than institutional changes and is the key to agricultural growth. It indicates that Nobel economics nominee Hirschman has ignored that this obstacle has hampered the linkage effects.

Internationally neglected laws for efficient and competitive land use in the USA and Western Europe. In the USA, covering all the states, (1) there is a time effect on turning occupied private property into ownership - adverse possession, which means that if a private person has occupied a private property (e.g., farmland) without agreement of the owner, while the owner has not sued the occupier during a limited period, then this property will belong to the occupier. (2) There is ‘squatters’ rights’ law for turning occupied public land into private ownership, which denotes that if a person (squatter) has occupied a public land for over 25 years and paid taxes, the Secretary of the Interior may issue a patent for 160 acres of such land upon the payment of not less than 1.25 dollars per acre. These laws are still exercised. Their main significance is to encourage the efficient use of the idled private and public land resources. Their main imperfections are that (1) If the private landowner has found that his idled land is being used by another farmer without his agreement within the limitations period, he may sue to get the land back, while still idling it. (2) Even if an adverse possessor or squatter has successfully gained ownership of a private or public land, he may idle or under-utilize it later on, without leasing it to those farmers who wish to produce sufficiently on it. (3) People in general may not wish to lose private property including farmland even if they do not use it.

In Western Europe, (1) there has been a law to give right to other farmers to produce sufficiently on any under-producing land (i.e., less than 40% of the normal output): in the EU Council Regulations 1963/262, 1967/531 and 1963/261; Italy 4 August 1978 (still valid but not applied); and Switzerland from the Middle Ages that any farmer can bring his cattle to graze in the private pastures of the Alps (still valid but not applied). Its main shortcoming is that it obliges landowners to lease out all their inefficiently used land, so that part-time and absent landowners would not be able to produce for family consumption and keep farming skills; and once lost off-farm jobs, would either have no access to their land rented out, or have to withdraw it within the contractual period, affecting the lessees. (2) There has also been a law to oblige landowners to either use their land or lease it out for sufficient production: in Germany 31 March 1915 (until 1961); UK 6 August 1947; Norway 18 March 1955, 25 June 1965, and 31 May 1974 (still applied due to continuing under-self-sufficiency with the cold weather), and Denmark 17 July 1989. Its main shortcomings are that it may cause overproduction, plus the above-mentioned one. Both laws have been suspended at the overproduction stage.
Effective and Appropriate Proposals:

Proposal (I) Give full-time farmers access to the under-producing land beyond family consumption need of the part-time and absent farmers, by creating a Dual Land System (where the farm is larger than for family consumption). A landowner may keep a part of his land as land for family consumption (as an economic buffer without relying on buying foods in the market, also for practicing farming skills as a technological buffer and returning to agriculture once lost off-farm jobs as a social buffer) even if he does not produce sufficiently on it (the criterion for sufficient production may be determined and adjusted according to each country’s conditions, and differ from 40% of the normal output as set up in the Italian law of 4 August 1978, e.g., it could be 70%). The rest of the land is land for market. If nobody would like to lease it in, the landowner may keep it even without sufficient production, so that overproduction could be prevented. But if other farmers, without being forced by any one, merely out of their own economic considerations, would like to lease it in so as to achieve economies of scale, reduce costs and become viable or more competitive, the owner could not refuse even at low rents, so that the irrational production abandonment could also be avoided. The minimum lease term should be determined according to the local conditions and the nature of the crops. Having rented in contiguous parcels of different owners, the tenant would have the right to remove the boundaries and join parcels together so as to eliminate fragmentation (which is also a difficult and unsolved task under private land ownership), with the original boundaries recorded in the cadastre and a map and shown by field signs. Once the leasing contract is over, the owner has the right to withdraw the land. But if he does not produce sufficiently on it for maximally one year, while other farmers wish to lease it in for so doing, he could not decline. If afforded, the state may provide a minimum living standard welfare to every rural (and urban) resident who would have to compete in the market to earn more; and a decoupled direct subsidy to the real land operator (owner or tenant). The state should set up a ceiling of chemical fertilizer, pesticide and herbicide per ha and inspect its application so as to protect the interests of the landowners and promote green products.

Proposal (II) Convert the environmentally sensitive farmland back to the nature obligatorily forever once a country has encountered constant overproduction. The EU (and some other developed countries) regards the highly productive land as the cause for overproduction and has set aside a part of it from cereal production on a quasi-compulsory basis, while setting aside the lowly productive land only on a voluntary basis. But the author finds that the true cause is protectionism without which farmers would have no incentive to overproduce even if much highly productive land is available for farming. Thus the EU should phase out protectionism, and make the non-environmentally sensitive cultivable land (no matter whether highly or lowly productive) available for full-time farmers to achieve economies of scale, while converting the environmentally sensitive farmland (both highly and lowly productive) permanently back to the nature (forests, lake land, grass land and wet land) beyond set-aside which is only temporary. Its landowners should not produce cereals, but could still pursue production of fruits, vegetables, livestock, fishery, afforestation, processing of agricultural products, transportation, rural tourism and other off-farm activities. Hence full-time large farmers could be further strengthened, overproduction of cereals reduced, multi-functionality of other agricultural and rural sectors promoted, and the environment improved. Especially, the full-time farmers could increase farm size, achieve economies of scale, reduce costs, become viable or more competitive, hence fully playing their entrepreneurship to produce for the national and global markets, without seeking protectionist subsidies or foreign aid.

They would, without affecting private land ownership, simultaneously reach eight aims: (1) minimize/abolish/prevent protectionism, while (2) avoiding overproduction and (3) irrational production abandonment; (4) boost competitive full-time large farmers as entrepreneurs, whereas (5) not crowding part-time and absent small farmers out of agriculture; (6) reach/maintain basic self-sufficiency in cereals, meanwhile (7) promoting multi-functionality of other agricultural and rural sectors and (8) improving the environment. They would be useful also for public land ownership.
Hence launching a second land reform – land use reform. (For detailed explanations of these Proposals, see Zhou, Jian-Ming 2008: 133-44)

**Potential Global Relevance**

The implementation of the author’s Proposals would promote fraternity and fair competition among nations of the world.

I- **These Proposals would be crucial for the EU** (and most other economies under private land ownership such as Japan, South Korea, Taiwan Province of China, Switzerland) to avoid protectionism without losing agriculture. For decades, developing countries have had two main types of problems - their own and agricultural protectionism from the developed nations. The author’s Proposals are relevant to them. But even if they have resolved this microeconomic root, the protectionism of the developed nations would still make their agriculture less or un-profitable, hence continuing the inequality between the developed and developing countries. Moreover, protectionism in agriculture of the developed nations and that in industry and services of the developing countries are interrelated - if the developed nations could not abolish their protectionism in agriculture then the developing countries would not do their part in industry and services in the WTO negotiations. But in order to abolish agricultural protectionism, the developed nations would have to prevent irrational production abandonment, otherwise protectionism would never be ended. The author’s Proposals could just resolve this microeconomic root also in the developed nations, so that the abolition of their agricultural protectionism would be possible, hence also the industrial and service protectionism of the developing countries.

(I) In particular, due to no official solution to avoid the irrational production abandonment, the EU-27 has no plan on when to adopt a full decoupling, and has announced to cut the budget on agriculture by only 2-4% during 2007-13, rather than 50% as itself proposed in 2005 and requested by the WTO, as mentioned above. It is thus imperative for the EU to present these Proposals to the whole EU for a democratic discussion and eventual adoption.

(II) The EU has requested the CEE countries to postpone free movement of their cheap laborers into the Western EU areas up to seven years after the accession, worrying that they may easily take jobs away from the Western EU workers. Most of the CEE countries have agreed on a reciprocal basis vis-a-vis the Western EU Member States (Enlargement 14 June 2002), hence dividing the enlarged EU. The Western EU farmers have been actually allowed to lease in land in CEE freely, but not vice versa at the same extent. The author, however, has discovered that in the agricultural sector, the reality and trend in the world as well as in the EU is that able-bodied farmers are more interested in earning higher off-farm income, so that allowing the full-time farmers from CEE to lease in the irrationally and polyopolistically used land of the able-bodied part-time and absent farmers of the Western EU would not crowd them out of agriculture. In fact, there has already been an agricultural labor shortage in some parts of the Western EU, e.g., the Italian agricultural trade unions have demanded the Labor Ministry and Parliament to adopt a law to permit hiring workers for its agriculture from outside the EU-15 with possible priority to the accession countries (Bani 8-11 April 2002). The competition among the Western and CEE full-time farmers in the leasing markets in both the Western and CEE EU areas would be mutually constructive. Therefore, at least in this sector, there should be no harm for the Western EU to allow free labor movement from CEE immediately (or through a much shorter transition period) after or even before the accession, hence increasing fraternity and fair competition between the Western and CEE parts of the EU. The author has raised this proposal in (Zhou, Jian-Ming 5-7 June 2002: 20) and later publications, and emailed it to the policy-makers in the Commission and Member States of the EU.

The Italian government lifted all employment restrictions to the immigrants from the new EU Member States in 2007 (Bo, Yuan 23 November 2007), France partially opened its job markets
in May 2006 to eight Eastern European countries, i.e., the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia which joined the EU on 1 May 2004. It announced on 28 May 2008 to fully open its job markets on 1 July 2008 to them (Bulgaria and Romania which joined the EU in 2007 are in the waiting list). (Yao, Li 30 May 2008)

Of the EU-15, Austria, Belgium, Denmark, and Germany still have not fully opened their job markets to the Eastern European countries (Yao, Li 30 May 2008). The author hereby appeals to them to adopt his proposal II- These Proposals would be useful to the USA which has been mainly blamed for the failure on 24 July 2006 to reach an agreement in the WTO Doha negotiations due to its shortage in willingness to significantly reduce farm subsidies.

Scenario 1. Currently the USA may not have the worry of losing food basic self-sufficiency (at least in cereals), and it wishes to help the poor countries, as President George W. Bush (14 March 2002) recognizes that 'persistent poverty and oppression can lead to hopelessness and despair. And when governments fail to meet the most basic needs of their people, these failed states can become havens for terror'. Hence it will be in the interests of both the developing countries and its own safety against terrorism, to exercise a complete decoupling, while phasing out other protectionist measures, with an earliest deadline. In so doing, production abandonment would happen, but it may not lead to the loss of national food basic self-sufficiency (at least in cereals). The basic income of all farmers would not be affected, as those who receive the decoupled subsidy but choose to neither produce by themselves nor lease the land out could keep it, and earn off-farm income, plus the unemployment social welfare; while those small and large farmers who prefer to produce could do so, and large farmers could enjoy economies of scale and low costs, to keep national food basic self-sufficiency (at least in cereals). But even under the scenario that the national food basic self-sufficiency (at least in cereals) would not be lost as a result of the production abandonment following the abolition of protectionism, the USA may still choose to adopt the author’s Proposal (I) Give full-time farmers access to the under-producing land beyond family consumption need of part-time and absent farmers, by creating a Dual Land System, so that the full-time farmers could increase farm size, achieve economies of scale, reduce costs, become viable or more competitive to produce for the global markets (of course, the protectionist subsidies should be abolished).

Scenario 2. Following phasing out protectionism, many farmers might abandon production to the extent of threatening food basic self-sufficiency (at least in cereals), especially as the US population has reached 0.3 billion on 17 October 2006 and is still growing, demanding more food and crops for fuel. Under such circumstances, it would be necessary to adopt the author’s Proposal (I). Thus sufficiently producing small farms could keep land use, full-time small farmers have more chances to become large, and large farmers be strengthened, while a basic living standard guaranteed for poor farmers. Under either scenario, there would be no need to worry that the USA would lose food basic self-sufficiency (at least in cereals), or farmers would lose a basic living standard. Therefore protectionism could be phased out, and harmonization in the domestic and international societies reached.

For improving the environment, the USA has a conservation reserve program (CRP), which gives farmers annual rental payments to voluntarily retire environmentally sensitive cropland and plant permanent vegetation for 10-15 years (FSA-USDA 19 October 2006). The author regards it as positive, but not enough, hence his above-mentioned Proposal (II) Convert the environmentally sensitive farmland back to the nature obligatorily forever once a country has encountered constant overproduction under either scenario (plus joining the Kyoto Protocol as many have demanded). Its landowners should not produce cereals, but could be given a basic income support until they could earn a living through production of fruits, vegetables, livestock, fishery, planned cutting of woods.
with reforestation, agro-industry for processing agricultural products, transportation, rural tourism, and other off-farm activities. The non-environmentally sensitive cultivable land should be available for full-time small and large farmers to increase farm size and achieve economies of scale. Hence overproduction of cereals could be reduced, multi-functionality of other agricultural and rural sectors promoted, and the environment improved.

The situation of Canada is similar to that of the USA, hence the relevance of the Proposals.

After sending these Proposals to the US and Canadian policy-makers during December 2006 - April 2007, the author has received 39 responses reflecting their appreciation or attention during 18 December 2006 - 3 December 2007. Michael W. Yost of 13 February 2007 wrote ‘Thank you for your email of January 9, 2007, to Secretary Johanns regarding the Doha Round negotiations of the World Trade Organization. As the Administrator of the Foreign Agricultural Service (FAS), I have been asked to respond on behalf of the Secretary. We appreciate your input. As you know we are in the midst of negotiations and we are trying to reach an agreement on agriculture that will benefit the entire world by eliminating export subsidies and significantly reducing tariffs and trade-distorting domestic subsidies.’ Consequently, on 19 September 2007, the USA has agreed to accept the proposal by the Chairman of the Agriculture Committee of the WTO Falconer to reduce its agricultural subsidies to between 12.8-16.2 billion dollars (9.2-11.6 billion euros), which it had refused previously, as mentioned above. Canada has followed the suit in 2007.

III- These Proposals would be essential for China (and other countries) under public land ownership to avoid protectionism while creating a competitive agriculture.

I- The state has been worried about many farmers’ leaving agriculture and losing food basic self-sufficiency. Since the early 2000s, the state first replaced various fees on farmers by agricultural taxes, then waved the taxes in many provinces, increased other financial and material supports (Chen & Qi 14 January 2005), and gave subsidies to farmers (ZGXWW 10 February 2005), so as to avoid many farmers’ leaving agriculture and attract part-time and absent small farmers back to farming. The state has decided to abolish agricultural taxes in the whole country and strengthen inputs to the rural areas in 2006 (ZGXWW 19 December 2005). In 2006, the state direct subsidies to farmers are 26.7 billion yuan, 102% more than in 2005, including two parts. 1. Direct subsidies for food production, 14.2 billion yuan, including an additional 1 billion yuan as direct payments in the 13 main food producing provinces (autonomous regions) as over 50% of their food risk foundation. 2. Direct subsidies for the inflation of the industrial materials for agricultural use (due to the price rises of the imported petroleum and domestic products), 12.5 billion yuan (XHW 11 April 2006. ZGXWW 19 December 2005). In 2007, the direct subsidies for food production has increased by over 6%, as 15.1 billion yuan. The direct subsidies for the inflation of the industrial materials for agricultural use have grown by nearly 130%, as 27.6 billion yuan. The total sum has augmented by almost 60%, as 42.7 billion yuan. The increased direct subsidies in 2007 were directly coupled with the output, commercial quantity (i.e., output not for self-consumption but for sale), and quality of food. That is say, those who have produced more output, more commercial quantity and higher quality of food will get more direct subsidies. (An, Bei 21 May 2007). They brought about positive results as China has kept food basic self-sufficiency. But there are also decoupled subsidies which are given to farmers according to the area of their contracted land, even though they produce nothing, which has actually encouraged land idling (Guang, Zhou-Wan 6 July 2008).

II- However, as many part-time and absent small farmers returned to farming, the labor shortage in the industrial and service sectors has been strengthened (Guo, Li 24 April 2005), which has resulted in rising wages and forced many Taiwanese and foreign firms to move from the Pearl River Delta to Yangtze River Delta, further to Northern (Hua Bei) and Northeasternmost (Dong Bei) parts of China, and then to Southeastern Asian countries due to their lower labor costs (TTNN 10 January 2006).
III- Some part-time and absent small farmers did not want to return to farming. They boiled the free seeds from the government and sowed them, then showed the non-growing result to the officials so as to convince them that they could not farm. (Rui, Er 12 May 2005)

IV- Moreover, increasing direct subsidies is not a fundamental solution to promote agriculture. During the reform period, after the growth of farmers’ income, the prices of the industrial materials for agricultural use would also rise, offsetting farmers’ income growth. Furthermore, China has raised its % PSE from 2% in 2000 to 10% in 2003 (the Amber box de minimis by the WTO for China being 8.5%), 7% in 2004 and 8% in 2005; and its Producer NPC from 1.01 in 1995-97, to 1.08 in 2003, 1.03 in 2004, and 1.04 in 2005 (see Table 1). Nevertheless, ‘For the first time since the late 1970s, China’s agro-food balance changed from a net export to net import position in 2004’ (OECD 2007a: 11). In November 2006, food prices began to rise. The market purchasing prices of rice, wheat and corn on 14 August 2007 were higher than one year ago by 7.6%, 6.2% and 14.6% respectively, on average 8.4%. In April 2007, the prices of edible oil started to grow. Rapeseed, soybean, and peanut oil were more expensive on 14 August 2007 than one year ago by 44.4%, 42.6% and 35.2% respectively. Since May 2007, the price of pork increased sharply twice. On 14 August 2007, in 36 large and medium cities, it was 79.4% higher than one year ago. Accordingly, the products made of them also became more expensive. (Wang, Yang 20 August 2007). Coal, electricity, gas, water, housing, medical, education, etc., all became more costly (Dong, Fang 19 August 2007). In July 2007, the CPI (Consumer Price Index) soared by 5.6%, the highest in 10 years ever since February 1997 (OMP 14 August 2007). China has declared itself as a responsible country and not to follow the developed nations to apply protectionism. Once the subsidies have reached the WTO threshold, but many farmers still did not want to farm, then further raising subsidies would become protectionism.

V- It was estimated that in 2006, there were still 14 million surplus laborers; and in 2006 the state wanted to achieve employment for 45 million laborers from the urban areas and the same amount from the rural areas (Zheng-Ming-Ming 15 April 2006). But the education levels and skills of the surplus farmers could not yet match the higher industrial and service requirements. Thus, in the author’s view, the fundamental solution would be to encourage (though not forcing) those small farmers who prefer to earn off-farm income to do so (which could relieve the industrial and service labor shortage), and to invest in training them to be adapted to the higher industrial and service requirements, rather than attracting them back to farming, while transferring a part or even all of their inefficiently used land to the fewer full-time farmers who love farming, so that the latter could increase farm size, achieve economies of scale, reduce costs, become viable and more competitive. Evolutionarily, more and more peasants would move to the industry and services with higher off-farm income, while the fewer remaining full-time farmers would also gain from economies of scale and strengthen agriculture.

In order to do so, a pre-condition is to solve corruption, which has become increasingly serious in all fields including land use during the reform era since 1978. 

Relating to the author’s Proposal (I), in many areas where off-farm activities could not yet absorb enough peasants, quite a few local officials, without the majority agreement of villagers, forcibly reduced the land for family consumption and enlarged the land for market so as to obtain more fees from contracting farmers of the latter. Those peasants who could neither win the land for market nor find off-farm jobs had to subsist on the tiny land for family consumption. Some local officials also allocated more and better land to relatives or friends with favorable conditions; took farmland back before the expiration of the contract; sold or rented farmland to industry and service developers with lower than normal compensation to villagers without their prior agreement or even knowledge. In fact, there have appeared many farmers who have lost land but could not find off-farm jobs (Yu, Lan 27 May 2006). According to the Ministry of Labor and Social Security, there were over 40 million land-lost farmers in 2006. There may appear over 2 million newly land-lost farmers every year in the long run. (Liu, Xin-Wei 5 December 2006). Those who could not find off-farm jobs would have to live with the minimum living
standard welfare from the government. There have been local governments, industrial and service developers who took farmland but then idled it without making construction. According to Xian-Ping Lang, the food inflation since November 2006 was mainly because many local governmental officials took money from agriculture for operations in stock exchange and land estate (Dong, Fang 19 August 2007). There have also been giants in the inputs (backward) and outputs (forward) linkages around agriculture. They forced farmers to sell them vegetables and pork at lower prices, and sold these products to consumers at higher prices, or hoarded them to sell until prices became much higher, which the corrupt local governments did not want to control. (An, Qing-Ren 22 September 2007). Thus in 1999 the then Premier Rong-Ji Zhu called not to implement the Dual Land System anymore. (Yang, Xiao-Kai 21 December 2002)

Premier Jia-Bao Wen (14 March 2006) stated that the household contracted land valid for 30 years is actually permanent, so as to prevent the illegal occupation of farmland due to corruption. However, this rigid approach, on one hand, has not effectively controlled corruption, since the local corrupt officials could still find ways to violate the land use contract without being punished. On the other hand, it has hampered the transfer of the irrationally and polyopolistically used land by the part-time and absent small farmers to the full-time farmers for more rational and competitive use, which has made it difficult for the full-time farmers to survive, that in turn has forced the state to provide more direct subsidies near or as agricultural protectionism.

In fact, in 2008, the phenomenon of idling farmland has become more serious all over the country (Guang, Zhou-Wan 6 July 2008). According to the Ministry of Land and Resources, during 1996-2004, the area of farmland reduced by over 100 million mu (6700,000 ha), on average over 10 million mu (6,700,000 ha) annually. It decreased by on average about 4 million mu (268,000 ha) annually during 2005-06. In the same period, the per capita cultivable land was below 1.5 mu (0.1 ha), only 40% of the average world level. In 2010, it may decline to about 1.4 mu (0.0938 ha). The per capita cultivable land of farm household diminished from 2.8 mu (0.1876 ha) in the Ninth Five-Year Plan period (1996-2000) to 1.96 mu - 2 mu (0.13132 ha – 0.134 ha) in the Tenth Five-Year Plan period 2001-05). (Chinese Ministry of Agriculture 26 October 2007)

In relation to the author’s Proposal (II), during 1949-99, the investment by the state to forestry was totally 24.3 billion yuan, on average 0.5 billion yuan annually. In order to strengthen the improvement of the environment, it jumped to 33.9 billion yuan in 2002, 42.9 billion yuan in 2003, 51.029 billion yuan in 2004, and 55.376 billion yuan in 2005. But due to the lack of an effective control mechanism, corruption has become serious also in the forestry management. In 2001, the then Director-General of the State Forestry Administration Sheng-Xian Zhou listed a series of corrupt cases of the local officials. For example, false report of afforestation area by the Forestry Bureau of Heilongjiang Province and a county under it. Many cases of seriously destroying natural forests in the Xinjiang Uygur Autonomous Region. Embezzling and phishing funds in the projects of converting the environmentally sensitive farmland back to the nature in Sichuan Province, Shanxi Province, etc. (ZGQNZK 1 November 2006)

Since then, however, corruption has widened and deteriorated in the amount of involved money, areas, and personnel. For instance, concerning the amount of involved money, Wulatueqian Banner (County) of the Inner Mongolia Autonomous Region was a poor county. But Bao-Wei Yuan, its then Director of the Forestry Bureau embezzled nearly 1 million yuan of the special funds for planting trees and grasses in just over one year. Regarding the involved areas, as converting the environmentally sensitive farmland back to the nature and other environmental improvement projects progressed across the whole country, corrupt cases increased in many places. As for the involved personnel, in the forestry field of Zhangping City of Fujian Province, job-related crimes such as graft and bribery happened in each of the passed years, and totally 41 cases including 43 persons were investigated and prosecuted, accounting for 30% of the accepted cases of the Procuratorate of the City. In the recent years, the cases of malfeasance, graft and bribery investigated and prosecuted
by the Procuratorate of Lushi County of Henan Province reached 15, including 14 forestry officials being sentenced by the courts. (ZGQNZK 1 November 2006)

Cheating to get the funds for converting the environmentally sensitive farmland back to forestry, and similar funds, and grafting them into personal pockets; taking bribes to issue contracts for planting forests, and to provide licenses for cutting trees, are the main forms of corruption. They have increasingly and seriously harmed the project of converting the environmentally sensitive farmland back to the nature and other environmental improvement projects. (ZGQNZK 1 November 2006)

Therefore, to effectively control corruption is the top priority in China for the success of the economic reform under market economy in all fields.

IV- These Proposals have given an ideal direction in solving the fundamental global problems under private land ownership (also relevant to the countries under public land ownership such as China for avoiding protectionism). If all countries of the world could adopt these Proposals and allow not only nationals but also foreigners to lease in the irrationally and polyopolistically used land of their part-time and absent farmers, then resources would be more efficiently used, poverty and inequality reduced, the environment improved, sustainable rural development achieved, fair competition boosted, and fraternity among nations advanced. There has already been a successful example: China has allowed external and foreign farmers to lease in its land for agriculture, and farmers from its external regions (Hong Kong and Taiwan Province) and foreign countries (Australia, Brazil, Canada, Germany, Israel, Japan, Singapore, Thailand, the USA, etc.) have indeed done so there (see Zhou, Jian-Ming 2001: 258-9), while Chinese farmers have rented land in other countries, e.g., Hungary and Russia, for agriculture.

The author’s analyses and Proposals have received 211 responses as appreciation or attention from the governments, farmer organizations, international organizations, and Nobel economics laureates of the EU, EU accession countries, Japan, Switzerland, Canada, USA; CABI, OECD, WTO; UN, CSD, FAO, IMF, UNCTAD, UNEP and World Bank during 18 February 2002 – 4 November 2008 (for the earlier 100 see Zhou, Jian-Ming 2005-06: Appendix IV-V), such as ‘Unique way for a breakthrough in WTO Doha negotiations, Paramount, Core, Crucial issues; Great concern to all, Fully shares your concerns; Good analysis, Highly deserving, Great interest, Extremely interesting, Intriguing, Very valuable contribution, Very serious, Completely relevant, Thoughtful, Worthwhile, Well-written, Indeed important, Helpful, Useful, Constructive, Impressive, Admirable; Innovative, Non-conventional, Transcend the usual schemes, Novel, Inspirational; No alternatives; Appreciation, Compliments; Mandate to welcome, Warmly thank, Commend you; Make your topic to the international development agenda; Has taken full account of your theory, Encourage you to continue, We will continue to examine your ideas further, Bear them in mind when framing future policy proposals; You are a very valuable researcher; You may well be a NOBEL PRIZE winner’.

In face-to-face talks in 2004-05 in Brussels, Halle and Geneva, the Deputy Director-General for Agriculture and Rural Development of the EU Commission, Deputy Director of the Cabinet of the EU Commissioner for Agriculture and Rural Development, many representatives of the EU Member States and farmer organizations to the EU and WTO widely understood and agreed with the author’s analysis and Proposals, and confirmed that to resolve the irrational production abandonment while phasing out protectionism, the EU could not resume the protectionism, but would intervene with these Proposals, as no alternative has been seen. Only afterwards, did the EU agree to advance the review of significantly reducing farm subsidies from 2013-14 to 2007-08 on 17 December 2005, end export aids by 2013 on 18 December 2005, and cut farm import tariffs by 54% on 23 July 2006 as requested by the developing countries, which it dared not promise for decades in fear of the irrational production abandonment.

Having not heard any alternative to his remedy to the irrational and polyopolistic land use by the able-bodied part-time and absent farmers mentioned in this book in the various international
occasions, the author is extremely happy that Commentators EA1 & EA2 (30 May 2005) so confidently conclude that ‘Certainly there are inefficient land uses across the world, but not only one cause, and certainly not only one simple remedy’. The author has provided his explanation to ‘Certainly there are inefficient land uses across the world, but not only one cause’ in the above text - after the development of off-farm activities, the irrational and polyopolistic land use by the able-bodied part-time and absent (including large but particularly small) farmers has become the most fundamental cause (although not the unique cause) of the inefficient land use when the rural facilities are backward (such as in numerous developing countries currently) and the unique cause when the rural facilities are advanced (such as in many developed countries presently). Because unfortunately they have not presented any other remedy, the author is eager to know it.

Therefore the valuable comments of all distinguished readers, no matter whether specialized in land tenure or not, are gratefully solicited, especially on: (1) Whether there is another work which has provided global evidence that the irrational and polyopolistic land use by the able-bodied part-time and absent (including large but particularly small) farmers has become the most fundamental microeconomic root of the three persisting global macroeconomic problems - food under-self sufficiency, overproduction, and agricultural protectionism. (2) Any reason why these Proposals could not be adoptable by any country. (3) Any suggestions for improvement. (4) Any alternative to these Proposals. (5) How the EU, Japan, South Korea, Switzerland, Taiwan Province of China, etc., could, without adopting these Proposals, break the swing between protectionism (and subsequent overproduction) and irrational production abandonment (and consequent loss of basic self-sufficiency at least in cereals). (6) How Canada and the USA could, without adopting these Proposals, effectively help full-time small farmers to increase access to land, achieve rational and competitive land use, and abolish protectionism. (7) How numerous developing countries (including those on public land ownership such as China) could, without adopting these Proposals, reach/maintain basic self-sufficiency or food sovereignty (at least in cereals) and reduce poverty without seeking protectionism. (8) In your or other country or region, whether there are able-bodied part-time and absent farmers who are not willing to lease their under-producing land beyond family consumption need to the full-time farmers.

Bibliography:
4- Ahmed, Hedyaoui; Boufaroua, Mohamed; Kherreddine, Cheikh and Mansouri, Frida (28 February - 17 March 2005): Introduction of the Land Use Situation in Tunisia, Ministry of Agriculture and Water Resources of Tunisia.
6- An, Bei (21 May 2007): 'The Overall Financial Direct Subsidies of the State on Industrial Materials for Agricultural Use of this Year increased by 130% over the Last Year’, XHW (Xin Hua Wang - www.xinhuanet.com), in (http://news.sohu.com/20070521/n250144986.shtml).
9- Bani, Marco Alessandro (8-11 April 2002): Introduction of the Land Use Situation in Italy, Fifth IFSA European Symposium on Farming and Rural Systems ‘Research and Extension, Local Identities and Globalization’, the International Farming Systems Association - European Group, in Faculty of Agriculture, University of Florence, Italy.
13- Bonde, Jens-Peter (13 October 2007): Email, European Parliament.
16- Carisio, Maria and Helmold Macieira, Luciano (27 October 2004): Introduction of the Land Use Situation in Brazil, Agriculture Section, Permanent Mission of Brazil to the European Union, Brussels.
18- Chakrabarti, Milindo (22-23 November 2001): Introduction of the Land Use Situation in India, Seminar ‘Poverty and Sustainable Development’, Organized by the UNESCO Chair, in University of Montesquieu-Bordeaux IV, France.
24- Choplin, Gerard (6 October 2004): Introduction of the Land Use Situation in the European Union, CPE - Coordination Paysanne Européenne (European Farmers Coordination), Brussels.


60- Francis, Norval E., Jr. (21 October 2004): Introduction of the Land Use Situation in the USA, Agriculture Section, Permanent Mission of the United States to the European Union, Brussels.


76- Lerman, Zvi (3 February 2003): Email, Department of Agricultural Economics and Management, Hebrew University, Israel.  
89- Mandelson, Peter (2 December 2005): Email, EU Commissioner on Trade.


115- Pyne, Dominic (19 October 2004): Introduction of the Land Use Situation in Australia, Agriculture Section, Permanent Mission to Australia to the European Union, Brussels.


126- Talvik, Mai (28 September 2007): Email, Ministry of Agriculture, Estonia.

127- Thangata, Paul (8-11 April 2002): Introduction of the Land Use Situation in Malawi, Fifth IFSA European Symposium on Farming and Rural Systems ‘Research and Extension, Local Identities and Globalization’, Organized by the International Farming Systems Association - European Group, in Faculty of Agriculture, University of Florence, Italy.


