

Transgenic Discourse, Interest Structure and Gene Competition

Zhou Li

School of Agricultural Economics and Rural Development, Renmin University of China

Abstract: Since the rapid development of the biotechnology in recent years, the countries in the world have already started a new kind of competition—genetic competition, which is similar to nuclear arms race but far more secret and serious. We need to recognize the nature of the transgenic contest and genetic war, getting out from the subjectivity-absent technical discussion on transgenic technology. In the process of transgenic research and development(R&D), seven forces have already jointed and formed a “community of interests”, pushing the transgenic trends overwhelming: the international food dealers gain profits, foreign government wins strategy, local government achieves performance, Chinese-funded companies get benefits, research institutions get funds, national sectors have rent, peasants enjoy leisure time. We need to know that the logic of survival and life is submitted to the logic of commerce and politics which lie in the transgenic interests’ structure. We also should recognize that the systemic risk of transgenic technology may lead to human survival crisis, and thus we should strongly oppose the transgenic breeding and industrialization extension. Say the least, even if we decide to start the transgenic technology development, we should adopt the national-centralization system in order to prevent the uncontrollable behaviors in gene technology and stop the colonial plunder in seeds. At the same time, we need to focus on the conventional breeding and the farmland infrastructure, adopting more safe and feasible measures to prevent the suicide competition in the genes field.

That is the key to history. Terrific energy is expended-civilizations are built up-excellent institutions devised; but each time something goes wrong. Some fatal flaw always brings the selfish and cruel people to the top and it all slides back into misery and ruin.

——C. S. Lewis. *Mere Christianity*

The king of Wei decided to invade Hantan, the capital of the state of Chao. Although Chi Liang was on a journey when he heard this, he turned back at once. With the wrinkles of travel still in his clothes and the dust of the road still upon his hair, he went straight in to audience with the king of Wei. “Your majesty. As I was on my way back here, I met a man upon the road, driving his chariot northward. ‘I want to go to the state of Ch’u’, he said. I replied, ‘If you want to go to Ch’u, sir, why are you facing north-ward?’ ‘Because I have such fine steeds’, he answered. ‘Your horses may be the best, but this is not the road to Ch’u’, I said. ‘Oh, but I have all the things I need’, he continued. ‘You may have very much in-deed, but this is still not the road to Ch’u.’ ‘But my charioteer is very skilful’, he insisted. Now, the better conditions he had, the farther it pushes him away from Ch’u. Your majesty, you want to become king of the country and have the faith of

the whole people. If you presume upon the size of your state and the excellence of your troops to attack Hantan, broaden your dominion and bring honor to your name, then the more you act like this, the farther you will be driven away from your goal. 'This is called going south by driving the chariot north(Nanyuan Beizhe).'

——Chan-Kuo Ts'e

I. Transgenic Discourse

What I want to emphasize about the application of transgenic applications in the field of biological breeding is that via the large and potential influence of the transgenic technology and the politicization and militarization of transgenic discussion, some countries are stepping into the genes competition similar with the nuclear war and more serious and secretive than that. If we allow this contest and the war continues, the fate of human beings is bleak. The nest hesitation eggs will survive? Either the left or right; liberals or conservatives; nationalist or cosmopolitan need to eat and breath, which is an iron law. If we cannot grantee the safe food system and the health ecosystems, cannot recognize the critical change transgenic technology bringing to the food system and cannot cognitive the nature of genes contest which is along with the politicization discussion of the transgenic technology, we will be dragged into this secret and round loser war. If not making any effort to stop the contest, it will be more serious and the gene war will really arrival. Thus, in the foreseeable future, not only the objective of genes weapon but also all the countries and people in the world, the environment, ecosystems, and future generations will become the losers of the war. The war temporarily winner may just a few multinational corporations reaping huge profits and a small number of members of interest groups getting a little bit benefit on the interests of the chain.

In fact, there remains disputes on the ecological safety, food safety and human health since the use of the transgenic technology in agriculture. The pros and cons have cited a plenty of arguments to prove their own views, however unable to convince the other party. What needs to be pointed out is that the ecological environment and the majority of people, the core of this continuing debate, have no chances to say. On one hand, the ecological environment has no subjectivity in front of human beings, and thus it's impossible to speak for itself; on the another hand, the widely dispersed agricultural producer and food consumers, who ought to be the spokesman of food safety and human health, are unable to express themselves because of the barriers of knowledge, language and technology. Therefore, it's ironic that the controversy goes on, even though the subjects are absent in the debate of transgenic technology.

It would be much understandable and clear if we just leave behind the most controversial fields, such as the ecological safety and food safety, and then focus on

other field. The global food supply has been exceeding demand in the recent decades. For example, even in China, for more than 10 years, the food market has gained a general balance and sometimes with some surplus. Under such background, is it really necessary to apply transgenic technology in the breeding and industrialization of major grains? As an international strategic tool, transgenic technology needs to be recognized by people, and we should make clear that whether it will be continuously escalated and confronted like the nuclear race. Promoting the industrial application of the genetically modified organism(GMO) may be too hasty, considering that the stability, controllability and reversibility of transgenic technology are uncertified and the ecological, social and political safety hasn't been estimated.

Actually, the application of transgenic technology in food crops is not only dispensable, it also brings about systemic risk (such as derivative disaster like a threat to food security and food safety), the loss of biological diversity (which cannot ensure species safety), the technology tie-in and out of control (the loss of food sovereignty, social stability and national strategy) and so on. Even if we set a goal to solve food security problem and improve farmer income, it will be farther away from a good target and the situation is getting more dangerous if we use the wrong ways of implementation. This is the true meaning of the story of the "going south by driving the chariot north " in the " Chan-Kuo Ts'e".

It's claimed that genetically modified technology (GM) will solve the issues of food insecurity, food safety, risk-reducing, cost-reducing and poverty-alleviation. However, these are all not the technical problems. The reason why they appear with the cloak of technology is to convince people that those problems above could be solved by GM. More directly, it's an abuse of technology by making use of people's expectation of technology neutrality. Therefore, if we regard GM just as technical problem, it in no doubt will bring about a lot of trouble. Moreover, it's naïve. If we only listen to a small number of technical experts, without any consultancy of non-technical people, especially some producers and consumers closely relative to GM production and consumption, it will results in significant deviation on national policy, even could fall into gene war, conspiracy and other political discussion, which plunges China into a "gene of war" and "gene Contest", as in the 1950s, "nuclear war" and "nuclear arms race". The consequence is enhance the capacity of the extinction of humankind and the destroy of the earth for dozens and hundreds of times at the expense of the enormous wealth and energy of the people around the world.

As we know, food problem is never simple. Only from the historical and multidisciplinary perspective and the pattern of global competition, could we get rid of talking food simply depend on technology, crops, agriculture, the equilibrium of supply and demand and the domestic and overseas trade, and thus we can detect food problem further and get a better understanding of the logic behind a range of associated issues.

II. The Transgenic Interest Structure: Killing Seven Birds with One Stone

Compared to the very clear theoretical judgment, it is much more complicated to weigh the tradeoffs of GMO practice.

Because of the benefits chain of transgenic technology, all kinds of interest groups collude with each other and form a short-term interest community, which causes the long-term interests, including the interests of the public and the future generations, to face huge challenges.

Based on the non-neutral views of technology R&D, use and promotion, we can recognize the profit-driven factors behind the GM. In this Capital Age, capital not only captures the elites (elite capturing) and government (government capturing), but also captures the public (people capturing). In terms of transgenic technology, at least seven forces have jointed and formed an interest community, which forms a strong power to push the harmful transgenic technology to become an overwhelming trend.

1. the International Grain Dealers Gain Profits

Obviously, the international grain dealers are the threatening factors of the food sovereignty of many countries. They have already formed an oligopoly on international food trade and also the development and application of transgenic technology. At present, the operating pattern of the international grain dealers have achieved global management, whole profit link, and total market coverage. The documentary *“the future of food”* has the following statements, *“While biotech companies take over on an intellectual level and genetic engineering takes over on a cellular level, multinational corporations are taking over worldwide by consolidating our food supply.”* This market coverage mode forms a world system.

As seed market is the key link of the food chain on the most upstream, the opening of seed market needs to be more cautious. Even in U.S., though its market opening and liberalization are the highest level in the world, the seed industry had always been under the control of the state-owned seed companies in the first 70 years. Until the 1970s, under the conditions of a handful of domestic high-tech seed companies controlled more than 60% of the national market, privatization and joint-stock reform were gradually advanced; the neighbors of China, India and Pakistan, until now, are still taking strict market access rules on its domestic field crop seeds. India requires the shares of foreign companies in the joint venture to be not more than 40%, and seeds must be produced in India domestically after two years of the joint venture. It is predicted that, if the Chinese government does not take drastic measures and leave the foreign giants of seed expand in China, definitely, the fate of the field crops seeds will not be better than the fate of the vegetable seeds.

2. The Foreign Governments Wins the Strategy

The food problem has never been simple. The grain is a kind of strategic commodity and it has always played an important role in campaigns.

Take food as an example, there are at least five strategic means to make the food become a weapon. As we know, the coordination of the arable land conditions, the structure of employment and the capital and energy conditions in the United States make it reserves lots of food productive capacity and excess products, which need to release. In the past, agriculturally advanced countries like the United States mainly used national strategy of food aid, food trade liberalization and food subsidies, these three means of food weapons to strengthen the control of the food system and digest the excess capacity. Nowadays, developed countries have mastered bio-energy weapon (the fourth means), which is easy to forward and retreat, so that they can control the food prices more at ease now. In the process of more than 10 years of development, transgenic technology has been the fifth strategic means, so that very few countries who have the capacity to implement offensive food strategy, master the more deadly means, and even biological weapons. By means of monopoly like Microsoft Windows platform and bundling, they not only achieve the huge economic interests, but also master the initiative of strategy and dictate the rules of the game, which the latecomer countries of transgenic technology cannot achieve. The reason is similar to the implementation of the nuclear program and the nuclear threat.

The global food strategy in the United States dates back to the late 1930s. It is a combination of commercial capital, financial capital and political capital, which consists one part of America's seeking world domination plan. That strategic plan is called a "full spectrum dominance" (FSD) by the Pentagon. They believe that both food and oil are important strategic resources of the United States to seek world hegemony. Food has become a sign of hard power in international politics because of the politicization of food. Since the 1950s, the United States has begun to reshape its food policy and the world food structure. From the "abolishment of world grain reserve system" to the "commercialization of agriculture", from the "green revolution" to the "second green revolution - transgenic revolution" and "bio-fuel program", the United States continues to use new technology and gradually controls the world's food production and trade. With the interaction of food commercialization and food politicization, many countries have been on the irreversible process of imitating America and then becoming dependent on it due to the introduction of modern American agricultural technology, genetically modified seeds and chemical fertilizers.

3. Local Governments Achieves Performance

The third force to promote the development of the GM in China is the local government.

The use of transgenic technology in the biological breeding field involves the

national food security, food safety, food sovereignty, and the country's long-term strategy, but this is beyond the interests of local governments. So why does the local government have the obligation to provide national public goods and the national strategic commodities? The main driving force for the local government officials is to make achievements in a short term. Thus they get promotion. Investment attraction is the best way of gaining political success. If the local government brings in large capital and the world's top 500, the local officials will be able to rapidly improve their achievements in short-term.

In the field of bio-breeding, transgenic research is the main object of the investment attraction of the local governments. A high-tech bio-industry base may form where the national projects of transgenic research was carried on. Undoubtedly, it's a trouble-asking action of seeking short-term interests that the local government attracts investment without considering the national security.

4. Chinese-Funded Companies Get Benefits

The fourth force to promote transgenic research is Chinese-funded companies.

For the lack of international companies' advantages in the global management, whole link-profit and the full market coverage, Chinese-funded breeding companies find it difficult to develop rapidly in the domestic situation of fragmented seed market, small-scale farmers management without integration of industrial chain. Therefore, when the multinational companies give a "hand of friendship", the Chinese-funded company's management layer and employees will actively seek the joint venture opportunities, cooperation, and even choose to become a merger. Thus they can get high revenue and intensive market-oriented, industrial platform in a short time. Chinese-funded companies will therefore become a comprador of foreign companies.

5. Research Centers Obtain Fund

The loss of academic diversity occurs simultaneously with the loss of genetic diversity and bio-diversity. Many reports in the U.S. show that the neutrality simply does not exist in the science, technology and value of the transgenic research. It is the very biotechnology companies who claim that genetically modified crops are as safe as traditional crops, are accused of obstructing agricultural scientists to study the effectiveness and environmental impact of the genetically modified crops. The New York Times reported in February 2009, dozens of U.S. Department of Agriculture scientists said anonymously in a statement submitted to the U.S. Environmental Protection Agency: Although the potential risks of the GMO need to be under further research, but a lot of researches on the key issue of the GMO can not be done under legitimate circumstances. This is because that the companies with patented genetically modified seeds refuse or restrict scientists to use the GMO for scientific planting researches. Some seed companies allow this kind of planting for scientific purposes, but they ask scientists to sign agreement at first to ensure that any scientific

discoveries must be checked and approved by the seed companies before made public. Through these methods, the seed companies which own transgenic technology patent can almost avoid the publication of those research results that may be detrimental to their products.¹

Universities have the same advantage in transgenic research with research institutes. Obtaining funding for research, publishing results, application of technology patents, expanding the social impact and to meet other needs of scientific curiosity, making the universities and research institutes, in many areas of molecular biology, are gradually captured by the capital and interests. The best talent and the most advanced equipment are turning to a single transgenic research in support of the capital. Some universities and research institutes even take the initiative to seek cooperation to strive for all kinds of funds with transgenic technology companies. Since July 2008, there have more than 300 universities and research institutes split over 200 billion transgenic Research Fund allocated by the Chinese government for major transgenic special funds.

Fragmented universities and research institutes will not only do a large number of invalid, duplicated research work ,they are also very easy Lured by publishing papers, abroad exchanges, patent applications an commercial redemption to release or sell out the initial results and state secrets easily. At the same time, the dispersed disorderly transgenic research and development process is also very prone to gene elegant technology leakage problem. This sort of thing has happened before. Transgenic Researches did by universities and research institutes for the purpose of obtaining research fund and publishing papers have no motivation to consistent with national security, the public interest and the sustainable development of future generations. "Milk makes a mother"-oriented education and scientific research system followed the industrialization step, implied by a lot of the problems of the system and operational mechanism. Many multinational grain merchants and seed companies, has controlled a large number of researchers in a number of key universities and research institutes in the name funding research, granting of scholarships, organizing meetings and collaborative research. Research fund, publishing papers (especially Nature, Science, and various SCI) and the temptation of biological tests and commercial promotion, also prompted researchers turn to genetic research and technology promotion.

6. National Sectors Have Rent

The national management departments of biological breeding have great power and many functions. However, in the process of exerting power, there are only a few officials are in charge of this great power. Due to the objective existence of

¹ Andrew Pollack, "Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research" , The New York Times. February 19, 2009 Accessed on March 28, 2010, http://www.nytimes.com/2009/02/20/business/20crop.html?_r=2

institutional rent, the phenomenon of rent-making and rent-seeking also exists in the field of biological breeding.

Unfortunately, the trend of transgenic research make it easy for the lobby group of multinationals to exchange bits of interests for the trust of handling personnel, causing the public interest, national security and long-term strategy to be betrayed gradually and easily due to the lack of appropriate expression of interests. Thus making transgenic research, development and application gradually become a reality. In the Elite Meeting of Seed Industry organized by the China Agricultural University in early 2009, a multinational seed company's responsible person threatened, sooner or later, the transgenic research and extension will be open in China; the recognition and opening of transgenic breeding market are just around the corner. Unfortunately, his prediction came into reality in less than a year.

Therefore, with such a clear expectation, transnational corporations keep arraying. They exchange direct and indirect interests for the trust of the national departments and handling personnel. With the openness of the food field and transgenic research in recent years, China is falling into the trap step by step.

7. Farmers Enjoy Leisure Time

Transgenic seeds will be generally welcomed by farmers too. On one hand, it is because that the specific drug-resistance and insect-resistance of the transgenic crop can reduce the investment of field management, pesticides and fertilizers in a short term. Farmers also feel at ease to go out for work and make up for the insufficiency of the agricultural revenue. On the other hand, transgenic technology will improve the seed sprouting rate lodging resistance, seed rate to some extent, which will bring the increase in short-term yields. In addition, the low price or free seed strategy in short-term, as well as harvest recovery processing strategy, all enables farmers to obtain more reliable revenue. The majority of farmers in the developing countries cannot meet the interests flaccid, or say the instant gratification utilitarianism of farmers' interests. Taking the immediate benefits into account, farmers generally will not have the behavior of conscious resist.

In fact, the farmers do not understand the genetically modified seeds. Even after the use, they do not know the technical details of the seed and its ecological impact. It's certainly that when the grain yield is so low, we can not expect the farmers have a clear perception on the risk and detailed considerations on food security and food safety. Actually, the majority of farmers will take the initiative to use the genetically modified seeds under the influence of the seed marketing strategy and short-term interests. Finally, there will be a phenomenon of bad money driving out good money in plant breeding and seed, just like that China's soybean inferior beans drives out good beans after 2004.

Some people may explain the use of genetically modified seeds from the rational point of view of market rationality and farmers. In fact, there simply do not have the existence of market rational and farmers rational in the field of genetically modified staple food market. Huge asymmetry of information, technology inequality, extreme imbalance of the organization, long cycle of the farming and farmers' income, as well as the irreversibility of land use and seed use, making the so-called rational market and farmers' assumption are seriously inconsistent with the actual situation. For example, in terms of farmers' income effect, it has been confirmed that it is a lie. It has been reported that: "After the commercialization of genetically modified cotton, we found the original reasons that enables farmers to get economic benefit is untenable over a long period to prove, and farmers need to continue to vote the money to go to overcome those endless stream of new pests and diseases." Sino-US scientists did a follow-up survey of 481 farmers found that lasted for 7 years and found that in the third year these farmers benefit the most in the cultivation of genetically modified cotton, but in the seventh year, growers have retreated back the money earned a few years ago in full.

Of course, in the vast interests of the chain, there are other stakeholders exist, such as consumers. But consumers hope to get the so-called "cheap and good" food, which fell into the trap of transgenic technology development. Food consumption only pays attention to surface experience product attributes, making transgenic food, meet the superficiality of "excellent quality and reasonable price" requirements. Another important feature, trust attribute of food consumption, is often induced by the industrial food system, making the consumer in a blinded state for long period of time.

We can see that the seven interest groups referred above have been consciously or unconsciously collaborate with each other and form an interests' chain of developing transgenic agriculture. Moreover, in the seven interest groups, only two are external enemies and the other five are internal enemies for a nation. The internal enemies are far more than the external enemies. Driven by interests, many organizations and individuals are willing to be comprador to obtain short-term interests. The short-term interests occupied the leading position under the circumstances of local government and farmers have no long-term expected interest.

In fact, the commercial interests could far from covering the seed problem. The seeds problem involves multiple areas, such as the ecological environment, national security, national culture, the future generations and social stability, almost covering the whole natural and social systems, involving generations' work of systematic engineering. Even in the European and American countries, which are in absolute leading positions of transgenic technology, no body will simply achieve its industrialization and marketization. In the field of the national strategy and national economy, no country will believe that only the market can do these things. We hope developing countries like China will not fall in GMO traps.

III. Three suggestions Dealing with GMO

1. Strongly Against GM Breeding and Industrial Extension

It is reasonable that in a country like USA with few people, more land and enriched resources, to capitalize its agriculture, explore genetically modified seed and apply for a patent. Genetically modified (GM) seed has reasonable background and clear profit-driven goal. It's an understandable phenomenon for the commercialization of the transgenic seed in America. However, China neither has the same resource conditions as America, nor has the powerful profit-driven company goal. The real reasons for China to promote GM breeding and industrial extension are Gene War threat behind political discussion and national system for participating in Gene Competition.

Actually, the influence of GM breeding and its industrial extension reach beyond a government to the whole agricultural producers and consumers. Everyone is one part of the stakeholders, so they have the right to speak and choose. We need to fight against transgenic breeding and its promotion as we did in the R&D and application of the nuclear bomb. In fact, transgenic technology is more harmful than the nuclear bomb in the invisibility, wideness and seriousness of its damage. Therefore, we should strongly oppose it. It is known to all that in the human history, any new progress in technology and science discovery, especially the most advanced ones, will be first applied in the military field. It's easy to find evidence in history. At first, human beings use stones and sticks, and then iron, fire and machine; at last, computer, internet, space technology, bacterium and unclear technology. The transgenic tech will be no exception. With the rapid development of biotechnology in recent years, countries in the world have already started a new kind of competition—genetic competition, which is similar to the nuclear race, however more secret and serious. We need to recognize the nature of the transgenic competition and genetic war and deploy relevant strategies.

Revolution in technology will bring security issues. Just like nuclear tech vs. nuclear security, and internet tech vs. internet security, gene tech will be related to gene security. Nuclear security and internet tech security can be under control by and large, not directly putting human beings' lives in danger; however, crops with genetic tech will go directly into our bodies. Genetically modified breeding and promotion neither can solve the quantity issue (food security), nor can solve the quality issue (food safety) and threatened the right issue (food sovereignty). Consider the food security, which transgenic technology is put into large and free use in food deficit countries? In reality, most transgenic technologies are used in and popularized from food surplus countries. This fact brings falsehood to collapse of itself. Food in China

has already been balance between supply and demand for years. It's not so reasonable and urgent for China to promote transgenic tech irrationally just for food security. It's a false step to self-colonialism in the field of seed-breeding. Some people may say that the transgenic tech is to solve the food quality issue and improve the drug and insect resistance of agricultural products. To some extent, this lays the gene bomb, because the resistance can transfer from the nature and agricultural products to human bodies. The act of subjecting survival and life to business and politics will lead humans fall into the crisis of survival.

2. GMO R&D under National-Centralization System

Taking a step back, even though the discussion about GMO has already been politicized and nations decide to participate in this gene competition and gene war, we must use the national-centralization system which we did in the technology study of the nuclear and spaceship. Blind use of the domestic and international transgenic breeding is forbidden. Applying transgenic technology for national patent is strictly prohibit, because it's human shared resources granted by Lord.

America shares the ideas of decentralization of authority, free market and democracy. However, in the basic research of GMO, America adopts the national-centralization system. In May 1997, America founded the Plant Gene Inter-department Working Group (IWG) , directly leaded by the president. The Office of Science and Technology Policy affiliated with the National Science and Technology Council (NSTC) is responsible for the National Plant Genome Initiative (NPGI) plan. This plan involves almost every department, such as the National Science Foundation (NSF), the United States Department of Agriculture (USDA), the Department of Energy (DOE), the National Institutes of Health (NIH), the Agency for International Development (AID), the United States Forest Service (USFS), the Office of Management and Budget (OMB), the Office of Science and Technology Policy (OSTP). Because of the national-centralization system, America achieved many fundamental and significant research achievements. ²

China is expert of using the national-centralization system. China also did some efficient cooperative researches in the fields of atomic weapon, space technology and hydraulic engineering, or most known National-centralized Olympic Games. Therefore, even if we decide to begin transgenic breeding research, we need to establish a system like that in the China Aerospace Science and Technology Corporation (CASC), the China National Nuclear Corporation (CNNC) and the China Three Gorges Corporation (CTGC). Because the gene research of seed is far more fundamental, time-consuming and important than the nuclear weapons and aerospace technology, the social influence and potential threats of GMO's industrial extension are more severe than the nuclear industry and aerospace industry. Furthermore, the

² Details in "Achievements of the National Plant Genome Initiative and New Horizons in Plant Biology", National Academy of Sciences, January 2009,P2、 15-16.

capital in seed industry is not so important as in the nuclear industry and aerospace industry. It can have achievements important for national economy, the people's livelihood, eco-environment and our offspring with not too much money. Therefore, the extremely urgent thing is to adjust the research system of national transgenic project under the background of transgenic breeding research. Thus we can avoid the disadvantages of technical, capital and personnel decentralization.

Meanwhile, we should prohibit any commercial action or purpose of applying transgenic technology for national patent, because it's human shared resources granted by God, no one should declare patent but God. The resources in the nature, just like the sunshine, the air and the plants, all are human shared resources granted by God. They are no creation, and any labor and effort in it. To say that a patent is needed, however that should belong to God and the patent fee also should be paid for God (this is the real meaning of thanksgiving). Actually, even the atheists also know that all the necessities for survival we enjoyed for free are not created by anyone, so that they belong to nobody. But this common sense is overthrown in the transgenic breeding field. The transgenic research company and its staff cut out one part of gene in the gene strand, re-joint it, mark it and apply it for patent protection. It is a way of kidnap; they kidnapped God and require ransom from all food consumers. It's irony that this action is blatant banditry while it is protected by the patent law. If this condition continues to be like this, it seems like that we allow colonial predations in seed field. On the surface, the object of the plundering is agricultural producers and food consumers. However, towards deep point, the object is the future generations and the future of human beings. The deeper meaning is that the overconfident human declared war on the nature, on the Lord.

Therefore, even if we decide to begin the genetic breeding technology research and development, we will use it only for the purpose of the national strategy. It's a game among Giants, most developing countries needn't to join the Gene competition and war. Just like China has the nuclear deterrent, we must first ensure the controllability of transgenic technology. In the future, when the gene technology is mature, we can use it in a very limited field with achieving both the technical controllability and safety use, which we did in the use of nuclear technology in energy field.

3. Prioritizing Conventional Breeding Development and Promotion, and Strengthening Farmland Water Conservancy Construction

The development of agriculture and the rural area first must depend on the basic laws of nature, and then laws of society. There is no easy way to success. The laws of economy and politics are forever subjected to the laws of nature. It's just like that human beings can't breathe without the air.

Natural agriculture can maintain biological diversity. The farming patterns of

regional agriculture and small-scale family farms have been proved to be safe for thousands of years in the human history. These patterns play a variety of functions, but its yield far is below its potential for lack of investment. For human beings, the food consumption patterns isn't the more meat, eggs and milk we taken in, the better nutritional condition we are. Considering the nutrition, most countries have been exceeded in that of the food. Therefore, the pursuit of high-yield is not a road of no U-turn, and just the moderate yield is acceptable. In the seed field, we need to promote conventional breeding. The potential remains enormous in the conventional breeding, irrigation and water conservancy infrastructure construction. The most important measures to ensure food security and food safety lie in the development of conventional breeding, irrigation and water conservancy, the promotion of water-saving technologies and agricultural infrastructure construction, not in the genetically modified technology. For example, the Northeast China Region has been the most important areas to ensure food security in China. China's output of commodity grain mainly relies on the northeast. "If the Northeast enjoys harvest, the food for the whole nation is enough". This newly-created proverb shows that the Northeast part has already replaced the place of Huguang Region(Hubei, Hunan, Guangdong) and Jiangnan Region (Yangtze Delta). However, in most parts of the Northeast, the irrigation and water conservancy infrastructures haven't been established yet. Water conservancy is the lifeline of agriculture. As long as we plan for and ensure the basic water conservancy facilities, the yield potential can be reached and the stability of yielding will be maintained under the current technical conditions.

No matter for a rational country, or a rational consumer, or a rational citizen, we shouldn't carry out the construction of "suicide" food system. We can't participate in the suicide contest of transgenic breeding industrialization, which is "for creating wealth for the rich and manufacturing resources for the multinational companies". Nor should we start the machine "for poor countries to continually create poverty and for the poor to starve". Moreover, we should not politicize the discussion about GMO, or by the name of the gene war, provoke or participate in such gene contest.