

**How to Improve the Chinese Plant Variety Protection (PVP) Legislation System During the  
Transition Period Towards the UPOV 1991 Act?**

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**Abstract**

This research focuses on how to improve the Chinese PVP legislation system during the transition period towards the UPOV 1991 Act. Stand at the point of the Chinese government, the paper discusses the topic from two perspectives. On the one hand, the Chinese government needs to further upgrade the content of the new Chinese Seed Law and puts focus on the problems occurring during the implementation. The UPOV 1991 Act is a guideline for the PVP legislators in China. It is necessary for the government to specify related legislation content based on the UPOV 1991 Act in order to make the new Chinese Seed Law to be easily implemented by different stakeholders. On the other hand, the Chinese government should notice the limitations of the UPOV 1991 Act and its negative effects towards developing countries. In order to promote the comprehensive development of agricultural production chain in China, during the transition periods, another improvement direction of PVP legislation system for the government is to make the PVP legislation system better suit the national condition in China.

**Key words:** UPOV 1991, PVP legislation, farmers' privilege

## **Summary**

### **1. Problem context**

Recently, there is a hot debate about when China will join the UPOV 1991 Act. Actually adopting the 1991 system can further strengthen the protection level towards breeders and promote the international cooperation in seed sector. It follows the development plan of the Chinese government and will promote the seed industry marketization at some extent. The head of the Bureau of Seed Management in China, Lv Bo mentioned that joining the UPOV 1991 system was inevitable in China. But he also indicated that the current agricultural condition did not suit the implementation UPOV 1991 Act. China now is during the transition period<sup>1</sup> towards the UPOV 1991 Act. Thus there will be a problem for the Chinese government about how to improve the Plant Variety Protection (PVP) legislation system towards the UPOV 1991 Act. On the one hand, the government needs to upgrade related law according to the requirements of the UPOV 1991 Act and specify the content in order to improve its implementing effectiveness. On the other hand, China is still a big agricultural country. If the government ignores the limitation of the UPOV-type system and fails to consider the national conditions, adopting the UPOV 1991 Act will bring damages to the comprehensive development of the seed industry. Finally, China may fail to upgrade the PVP legislation system.

### **2. Research objective**

The objective of this research is to investigate the ways on how improve the Chinese Plant Variety Protection (PVP) legislation system during the transition period towards the UPOV 1991 Act. China is a member state of the UPOV Convention. Thus during the transition period, the upgrading process of the PVP legislation system in China should follow the requirements of the UPOV 1991 Act. The new Chinese Seed Law published in 2015 was widely considered as a big improvement in the plant variety protection (PVP) sector. Chapter 2 focuses on its farmers' privilege legislation which was regulated close to the content of the UPOV 1991 Act. But during its implementation, the stakeholders in the seed sector still complain about the content which is too general to implement. It reflects one improvement direction of PVP legislation in China during the transition period. The government needs to specify related legislation content based on the UPOV 1991 Act in order to make the new Seed Law easily to be implemented by different stakeholders. Stand at the point of the Chinese government, some improvement suggestions are put forward by comparing the corresponding parts in the new Chinese Seed Law with the Regulation on Community Plant Variety Rights (CPVR) of European Union.

But it is necessary to point out that the UPOV 1991 Act tends to favor the interests of commercial breeders. In order to draw attention to its limitations, especially for the developing countries, the Chile case is chosen to be discussed in chapter 3. The Chilean government tried to adopt the UPOV 1991 system for the purpose of signing free trade agreements with USA and Japan. But during the legislation process, the government failed to notice the importance of farmers in the agricultural production sector and further limited their rights of saving, exchanging and selling seeds of protected varieties. This made the improved varieties inaccessible to the farmers, especially these smallholder farmers in Chile. Concerns raised about the negative impact of the bill towards these smallholders in Chile and finally, the PVP system upgrading process failed in Chile.

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<sup>1</sup> Problems of China joins the UPOV 1991 Act (吕波处长谈中国加 UPOV199 文本问题). Li Jinhan.

Thus during the transition period towards the UPOV 1991 Act, another improvement direction for the Chinese government is to fully consider the limitations of UPOV 1991 Act and make the PVP legislation system suits the Chinese agricultural condition. For the Chinese government, it is not a wise decision to simply copy the PVP legislation pattern provided developed countries. Because the UPOV-type system ignores the importance of farmers in agricultural production at some extent and may brings negative economic impacts towards farmers in developing countries like China. China is a big agricultural country. If farmers cannot have access to the improved commercial-bred varieties under the UPOV 1991 Act, the legislation upgrading process may fail like what happened in Chile. Thus in chapter 4, some suggestions are provided on how to regulate the PVP legislation system in China towards UPOV 1991 Act and make it indeed fosters the development of agricultural production chain in China.

### **3. Research questions**

The main question of my thesis is how to improve the Chinese PVP legislation system during the transition period towards the UPOV 1991 Act? And the main question is divided into three sub-questions. The sub questions are firstly, what is the problem of the new Chinese Seed Law? Secondly, what are the negative effects of the UPOV 1991 Act towards developing countries? And the last one is how to empower Chinese farmers during the transition period from a legal perspective?

### **4. Methods**

The first research method applied is literature reviewing. Related laws, regulations, journals and publications of international organizations provide the data and information used in this paper. The second method is case study. Here in this research, the case of ‘Monsanto Law’ bill in Chile is analyzed in Chapter 3.2 as a negative example in implementing the UPOV 1991 system without fully consideration its national condition. The third method used in this research is comparison. Corresponding parts of farmers’ privilege content in China and European Union are compared in Chapter 3.1 to address the drawbacks of legislation in the new Chinese Seed Law. Except those methods above, previous experiences including interviews and visiting provide some practical information in this research. I interviewed some operators of flower seed companies to discuss about their opinions towards the the new Chinese Seed Law.

### **5. Conclusions and recommendations**

The new Chinese Seed Law published in 2015 was widely considered as a big improvement in the PVP legislation sector in China. It released the high possibilities that China would join the UPOV 1991 Act in the future. During the transition period towards UPOV 1991 Act, the Chinese government should consider carefully on how to improve the PVP legislation system towards the UPOV 1991 Act and make the PVP legislation system indeed promote the development agricultural industry in China. On the one hand, the Chinese government needs to further upgrade the content of the new Chinese Seed Law. But it is worthy to point out that the UPOV 1991 Act is just a guideline for the legislators of the UPOV member states. If the Chinese government simply focuses on upgrading PVP legislation but fails to notice the problems occurred during its implementation, the law would be too vague to be used by different stakeholders when they are trying to protect their interests. In Chapter 2, farmers’ privilege content in the new Chinese Seed Law is chosen to be discussed in order to put forward some suggestions on how to improve the PVP legislation in China towards the UPOV 1991 Act. The farmers’

privilege content is written close to the requirements of the UPOV 1991 Act. But during its implementation, the general content received some complains from the stakeholders. Some suggestions are put forwards in Chapter 2 on how to better specify the farmers' privilege content in the new Chinese Seed Law and solve the practical problems during its implementation.

Another improvement direction is to make the PVP legislation system suit the Chinese agricultural condition and ensure the development of agricultural production in China. The Chinese government can take some warnings from the 'Monsanto Law' bill case in Chile. The case is discussed in Chapter 3 which reflects some limitations of the UPOV 1991 Act towards developing countries. The Chilean government failed to recognize the individuals who were in need of improved modern varieties, but tended to favor several big seed companies when they were drawing the plant IP policies. Concerns raised towards the possible results after the implementation of the "Monsanto Law". Because farmers under the 'Monsanto Law' would lose access to these improved modern varieties and clearly this PVP law did not benefit all the stakeholders in the seed sector. It resulted in the failure of PVP system upgrading in Chile. Thus during the legislation process towards UPOV 1991 Act, the Chinese government should consider carefully whose values ought to be prioritized when designing national PVP law. China is big agricultural country. Farmers play an important role in agricultural production sector. In Chapter 4, the current situation of farmers in China is analyzed firstly. Then some suggestions are provided in order to better empower farmers in China under a strict IP environment. On the one hand, there should be some legal space for farmers which will better safeguard farmers' access to the varieties protected by a plant breeder's right. On the other hand, the government needs to notice farmers' contribution to the breeding sector and rewards their contribution from a legal perspective.

## Contents

<b><u>1. INTRODUCTION AND OUTLINE.....</u></b>	<b><u>6</u></b>
1.1 BACKGROUND .....	6
1.2 PROBLEM FORMULATION.....	6
1.3 OBJECTIVE .....	7
1.4 MAIN QUESTIONS AND SUB-QUESTIONS.....	7
1.5 RESEARCH METHODS TO BE APPLIED .....	7
<b><u>2. THE PROBLEMS OF FARMERS' PRIVILEGE LEGISLATION IN CHINA .....</u></b>	<b><u>8</u></b>
2.1 THE SCOPE OF AGRICULTURAL PLANT VARIETIES .....	8
2.2 CLASSIFICATION OF FARMERS .....	9
<b><u>3. THE NEGATIVE EFFECTS OF THE UPOV 1991 ACT TOWARDS DEVELOPING COUNTRIES .....</u></b>	<b><u>10</u></b>
<b><u>4. THE OPPORTUNITIES OF EMPOWERING FARMERS TO ADAPT TO A STRICTER IP ENVIRONMENT IN CHINA.....</u></b>	<b><u>12</u></b>
4.1 LEGAL SPACE FOR FARMERS .....	13
4.2 FARMER'S VARIETY .....	14
<b><u>5. CONCLUSION.....</u></b>	<b><u>15</u></b>
<b><u>6. REFERENCE LIST .....</u></b>	<b><u>16</u></b>

## 1. Introduction and outline

### 1.1 Background

The International Convention for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization in the field of new plant variety protection. The mission of the UPOV is to respond to the challenges of a changing world and provide a legal system of implementation which encourages plant breeding sector and protects breeders' right<sup>2</sup>. According to the definition given by the UPOV, plant variety protection (PVP) is "a form of intellectual property right granted to the breeder of a new plant variety in relation to certain acts concerning the exploitation of the protected variety which require the prior authorization of the breeder."

China joined the UPOV Convention in 1999 after gaining of approval from Fourth Meeting of the Standing Committee of the Ninth National People's Congress. The accession to the UPOV Convention revealed the determination of the Chinese government to construct a mature plant variety protection system<sup>3</sup>. According to the statistical data provided by a UPOV report (C/48/7), until the 31 December, 2013, China successfully applied and got 3487 plant varieties registered. The total amount of registered varieties listed is at the eighth place after the USA, the Europe, Japan, Russia, Netherlands, South Korea and Ukraine.

The PVP legislation in China started when the Regulations of the People's Republic of China on Protection of New Varieties of Plant was published in 1997. It was made mainly for joining the WTO and the UPOV1978<sup>4</sup>. Thus, the Regulations of the People's Republic of China on Protection of New Varieties of Plant<sup>5</sup> could not meet the actual demands from the seed industry at that time. The relatively weak PVP legislation system in China could not provide enough protection to the rights of breeders. It seriously combated the breeders' motivation and hindered the agricultural biotechnology progress. In order to promote the developments of seed industry in China, after years of practice and exploration, the new Chinese Seed Law<sup>6</sup> was published on 1 January, 2016. It was widely considered as a big improvement in the plant variety protection sector. Some content of the new Chinese Seed was regulated according to the requirements of the UPOV 1991 Act. The new Chinese Seed Law is used as basic the legal reference in this research.

### 1.2 Problem formulation

Recently, there is a hot debate about when China will join the UPOV 1991 Act. Actually adopting the 1991 system can further strengthen the protection level towards breeders and promote the international cooperation in seed sector. It follows the development plan of the Chinese government and will promote the seed industry marketization at some extent. The head of the Bureau of Seed Management in China, Lv Bo mentioned that joining the UPOV 1991 system was inevitable in China. But he also indicated that the current national condition did not the suit the implementation UPOV 1991 Act and China now was during the transition period<sup>7</sup>. Thus there is a problem for the Chinese government about how to improve the Plant Variety Protection (PVP) legislation system towards the UPOV 1991 Act during the transition period. On the one hand, the government needs to upgrade related law according to the requirements of the UPOV

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<sup>2</sup> Rolf Jordens. Benefits of plant variety protection. Food and Agriculture Organization of the United Nations.

<sup>3</sup> See Lester Ross, op. cit.

<sup>4</sup> Judan LI. 2015. The study on the impact of the UPOV1991 on Chinese protection system of the plant varieties and its strategy. Law 2015(12) p. 1-16

<sup>5</sup> Regulation of the People's Republic of China on Protection of New Varieties of Plants promulgated by Order Np. 213 of March 20, 1997, of the State Council of People's Republic of China and amended on March 1, 2013.

<sup>6</sup> The Seed Law of the People's Republic of China as revised and adopted at the 17th Session of the Standing Committee of the Twelfth National People's Congress of the People's Republic of China on November 4, 2015, is hereby issued and shall come into force on January 1, 2016.

<sup>7</sup> Problems of China joins the UPOV 1991 Act (吕波处长谈中国加UPOV199 文本问题). Li Jinhan.

1991 Act and specify the content in order to improve its implementing effectiveness. On the other hand, China is still a big agricultural country. If the government ignores the limitation of the UPOV-type system and fails to consider the national conditions, adopting the UPOV 1991 Act will bring damages to the comprehensive development of the seed industry. Finally, China may fail to upgrade the PVP legislation system.

### **1.3 Objective**

The objective of this research is to investigate the ways on how improve the Chinese Plant Variety Protection (PVP) legislation system during the transition period towards the UPOV 1991 Act. China is a member state of the UPOV Convention. Thus, during the transition period, the upgrading process of the PVP legislation system in China should follow the requirements of the UPOV 1991 Act. The new Chinese Seed Law published in 2015 was widely considered as a big improvement in the plant variety protection (PVP) sector. Chapter 2 focuses on its farmers' privilege legislation which was regulated close to the content of the UPOV 1991 Act. But during its implementation, the stakeholders in the seed sector still complain about the content which is too general to implement. It reflects one improvement direction of PVP legislation in China during the transition period. The government needs to specify related legislation content based on the UPOV 1991 Act in order to make the new Seed Law easily to be implemented by different stakeholders. Stand at the point of the Chinese government, some improvement suggestions are put forward by comparing the corresponding parts in the new Chinese Seed Law with the Regulation on Community Plant Variety Rights (CPVR) of European Union.

But it is necessary to point out that the UPOV 1991 Act tends to favor the interests of commercial breeders. In order to draw attention to its limitations, especially for the developing countries, the Chile case is chosen to be discussed in chapter 3. The Chilean government tried to adopt the UPOV 1991 system for the purpose of signing free trade agreements with USA and Japan. But during the legislation process, the government failed to notice the importance of farmers in the agricultural production sector and further limited their rights of saving, exchanging and selling seeds of protected varieties. This made the improved varieties inaccessible to the farmers, especially these smallholder farmers in Chile. Concerns raised about the negative impact of the bill towards these smallholders in Chile and finally, the PVP system upgrading process failed in Chile.

Thus during the transition period towards the UPOV 1991 Act, another improvement direction for the Chinese government is to fully consider the limitations of UPOV 1991 Act and make the PVP legislation system suits the Chinese agricultural condition. For the Chinese government, it is not a wise decision to simply copy the PVP legislation pattern provided developed countries. Because the UPOV-type system ignores the importance of farmers in agricultural production at some extent and may brings negative economic impacts towards farmers in developing countries like China. China is a big agricultural country. If farmers cannot have access to the improved commercial-bred varieties under the UPOV 1991 Act, the legislation upgrading process may fail like what happened in Chile. Thus in chapter 4, some suggestions are provided on how to regulate the PVP legislation system in China towards UPOV 1991 Act and make it indeed fosters the development of agricultural production chain in China.

### **1.4 Main questions and sub-questions**

The main question of my thesis is how to improve the Chinese PVP legislation system during the transition period towards the UPOV 1991 Act? And the main question is divided into three sub-questions. The sub questions are firstly, what is the problem of the new Chinese Seed Law? Secondly, what are the negative effects of the UPOV 1991 Act towards developing countries? And the last one is how to empower Chinese farmers during the transition period from a legal perspective?

### **1.5 Research methods to be applied**

The first research method applied is literature reviewing. Related laws, regulations, journals and publications of international organizations provide the data and information used in this paper. The second method is case study. Here in this research, the case of 'Monsanto Law' bill in Chile is analyzed in Chapter 3 as a negative example in implementing UPOV 1991 system without fully consideration its national



condition. The third method used in this research is comparison. Corresponding parts of farmers' privilege content in China and European Union are compared in Chapter 2 to address the drawbacks of legislation in the new Chinese Seed Law. Except those methods above, previous experiences including interviews and visiting provide some practical information in this research. I interviewed some operators of flower seed companies to talk about their opinions towards the the new Chinese Seed Law.

## **2. The problems of farmers' privilege legislation in China**

The new Chinese Seed Law published in 2015 was widely considered as a big improvement in the plant variety protection (PVP) sector. Some content in the new Chinese Seed Law has already upgraded towards the requirements of the UPOV 1991 Act. This chapter analyses its farmers' privilege legislation content. In interviews with stakeholders in the Chinese seed sector about this new content, they are critical about the farmers' privilege content and believe the content is too general to be implemented.

The UPOV 1991 Act clearly regulates farmers' privilege content. It indicates that farmers' privilege under the UPOV 1991 Act only refers to farmers' right to save seeds, but excludes seed selling and exchanging practices out of the privilege scope compared with the UPOV 1978 Act.

Notwithstanding Article 14 of the UPOV 1991 Act indicates that each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or Article 14(5)(a)(ii).

The new Seed Law of the People's Republic of China<sup>8</sup> points out that Chinese farmers enjoy the privilege to save and use farm-saved seeds for non-commercial purpose.

The wording of Article 29 indicates that use of an authorized variety under any of the following circumstances is allowed without the permission of or payment of royalty to the owner of the right to new varieties of plants. However, other rights enjoyed by the owner of the right to new varieties of plants in accordance with this Law and the relevant laws and administrative regulations shall not be infringed upon.

- (1) Use of the authorized variety for breeding and other scientific research activities.
- (2) Self-propagation or self-use by farmers of propagation materials of the authorized variety.

Actually, the farmers' privilege content in the new Chinese Seed Law is quite close to the requirements of the UPOV 1991 Act. During its implementation, the complaints from the stakeholders in the seed sector concentrate on the farmers' privilege chapter. They think the content of farmers' privilege in the new Chinese Seed Law is too general to implement. If there is a dispute over the use, the farmers' privilege content of the new Chinese Seed Law cannot provide enough legal supports towards different stakeholders because the content is too general to be implemented. It points to one possibility for improving the PVP legislation in China during the transition period. Except upgrading legislation content, the government needs to specify related legislation content based on the UPOV 1991 Act in order to make the new Seed Law easily to be implemented by different stakeholders. Here in this research, the PVP legislation system in the European Union<sup>9</sup> is used as an example to discuss the improvement possibilities of farmers' privilege content in new Chinese Seed Law. EU is a member state of the UPOV 1991 system. This research selected the Regulation on Community Plant Variety Rights (CPVR) which was published in 1994. It was established as the uniform effects with the territory of Community which provided effective industrial property rights for new plant varieties. In the CPVR, farmers' privilege is clearly regulated.

### **2.1 The scope of agricultural plant varieties**

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<sup>8</sup> See Article 29 of Seed Law of the People's Republic of China 2015.

<sup>9</sup> Farmers' privilege in the European Union was clearly regulated in the Regulation on Community Plant Variety Rights, 1994 and Directive 98/44/EC on the legal protection of biotechnological inventions.

The farmers' privilege under the European PVP system applies to the 4 types of agricultural plant species including fodder plants, potatoes, cereals, oil and fiber plants<sup>10</sup>. There is a privilege catalogue including the variety and specie name. Farmers will have a clearly view of their privilege scope and the varieties that they can save seeds on their own holdings.

In the new Chinese Seed Law, there is no such a catalogue. Stand at the perspective of famers, the privilege legislation can be interpreted as all the registered varieties can be freely used for propagating purpose. But there is no such an article or explanation in the new Seed Law which can prove the legality that they actually have the privilege to use all the registered varieties. It makes the Chinese farmers quite confused when they try to use their privilege during their farming practice. If there is a privilege catalogue like that in the CPVR which clearly lists the variety name, it will be earlier for the farmers to understand their privilege scope. The general content of farmers' privilege legislation may also lead to serious potential dangers for the breeders when they are trying to control the distribution of a new plant variety. Especially for those which have a relatively shorter circulation time and easier to be propagated. Thus adding such a privilege catalogue in to the new Chinese Seed Law will not only standardize farmers' practice, but also protect breeders' interests during its future implementation.

## 2.2 Classification of farmers

Under the Community Plant Variety Rights (CPVR), farmers in the EU are classified into two groups, small farmers and other farmers. The small farmers who grow certain types of plant varieties within certain amount are not required to pay remuneration to the breeders, whereas others need to pay remuneration to the breeders.

Wording of Article 14 (3) states that small farmers shall not be required to pay any remuneration to the holder; small farmers shall be considered to be: (1) in the case of those of the plant species referred to in paragraph 2 of this Article to which Council Regulation (EEC) No 1765/92 of 30 June 1992 establishing a support system for producers of certain arable crops ('') applies, farmers who do not grow plants on an area bigger than the area which would be needed to produce 92 tones of cereals; for the calculation of the area, Article 8 (2) of the aforesaid Regulation shall apply; (2) In the case of other plant species referred to in paragraph 2 of this Article, farmers who meet comparable appropriate criteria.

In the Chinese Seed Law 2015, firstly, there is no extra explanation about the concept 'farmer'. For example, anyone holds an agricultural registered permanent residence in China can claim himself has the right to enjoy the privilege in propagating registered plant varieties. There is no specific metrics to define an individual as a farmer who has the right to enjoy farmers' privilege. Stand at the perspective of farmers, it is difficult for them to prove their identity as a farmer. Thus, adding such a metrics in the law can help the farmers to provide evidence and information to prove the legality when they use their privilege during the farming practice.

Secondly, farmers in China have no knowledge about what is royalty and why they need to pay royalty. But famers are one of the major consumers of seeds products. Breeders should try to receive some royalty from the group of farmers to safeguard their interests. But small farmers take a large percentage of the total population in China<sup>11</sup>. They possess small quantity of land and the crops they produced mainly consumed by the family or sold in the local market. For the commercial breeders, it takes a lone time and energy to collect the statistical data of those small farmers like what they are growing and the the amount of seeds they used.

Thus in the beginning stage, the government can classify the Chinese farmers and adding related article into

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<sup>10</sup> Article 14 (2) of Regulation on Community Plant Variety Rights, 1994 pointed 21 varieties of 4 types of species.

<sup>11</sup> According to the statistical data published by Chinese National Bureau of Statistics, there are around 740 million people participate in farming work and the cropland acreage per capita is only 0.225 ha.

the new Chinese Seed Law. According to the national situation, it is not a wise decision to just copy the classification system in the European Union. The Chinese government needs to re-design our own classification system. We can choose to categorize farmers according to the production purpose or scale. For example, for those 'big farmers', whose production activities are oriented by the market and they purchase a large amount of seeds, their privilege under the Seed Law can be appropriately limited. As long as they participate in the agricultural market competition, they should comply with the game rules.

But the government should notice that it is the first time for the Chinese farmers to pay royalty which will definitely increase their farming costs. Thus in the beginning implementing stage, the government can provide farmers some basic legal education to let the farmers understand why they need to pay royalty. Besides, the government can give them some subsidiary supports when they buy seeds from certified seed companies. Those 'Big farmers' can follow the European system, making contracts with the breeders and pay reasonable amounts of remuneration,<sup>12</sup> or get some subsidiaries from the government when they pay same amount of royalty to the breeders.

The wording of Article 14 (3) indicates that other farmers shall be required to pay an equitable remuneration to the holder, which shall be sensibly lower than the amount charged for the licensed production of propagating material of the same variety in the same area; the actual level of this equitable remuneration may be subject to variation over time, taking into account the extent to which use will be made of the derogation provided for in paragraph 1 in respect of the variety concerned.

In Europe, the remuneration amount is always discussed between breeder community and farmer community. If both parties cannot make an agreement upon the remuneration level, the remuneration should be half of the amount charged for the licensed producers<sup>13</sup>. The Chinese government can learn from the experience in the European Union and adding related articles to standardize process and the amount remuneration.

To conclude, one major purpose of improving the PVP legislation system in China is to encourage the stakeholders in the seed industry to use legal measures to protect their interests. The UPOV 1991 Act is a guideline in PVP legislation. It depicts a legislation framework for the regulators and legislators during the drafting work. The farmers' privilege content in the new Chinese Seed Law reflects that refining and improving content in the new Chinese Seed Law is one direction of improving the PVP legislation system in China which can ensure its effective implementation. Meanwhile, such process can also benefit the stakeholders in the seed industry and standardize their practice. But during the legislation process, the Chinese government needs to notice the differences of national condition. China is a developing country, whereas the UPOV Act is made by some developed countries like EU. Thus when improving PVP legislation system in China, the government must notice the its national condition and the characteristics of different stakeholders in China.

### **3. The negative effects of the UPOV 1991 Act towards developing countries**

Many Chinese seed companies and international companies who have business in China ask the government when China will join the UPOV 1991 Act? Actually, some legislation content of the new Chinese Law has already upgraded towards the UPOV 1991 Act. Though the head of the Bureau of Seed Management, Lv Bo says that the Chinese PVP system is during the transition period now<sup>14</sup>, there is no doubt that China will continually upgrade the PVP legislation system towards the trend of a stricter IP environment.

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<sup>12</sup> Chapter 3 Remuneration of The Commission Regulation (EC) No 1768/95 of 24 July 1995 implementing rules on the agricultural exemption provided for in Article 14 (3) of Council Regulation (EC) No 2100/94 Community plant variety rights.

<sup>13</sup> Bart Kiewiet. Principles, procedures and recent developments in respect of the Community Plant Variety Protection system.

<sup>14</sup> Problems of China joins the UPOV 1991 Act (吕波处长谈中国加 UPOV199 文本问题). Li Jinhan.

However, we should put forward the question whether a stricter IP environment will actually promote the comprehensive development of the seed industry. Firstly, it is necessary to be clear about how we measure 'development'. If the officials narrow the concept and concentrate on economic growth only, the introduction of the UPOV 1991 Act is very likely to be profitable for the industrialized agricultural sectors<sup>15</sup>. Clearly, individuals are in need of such 'development'. But this trend will not benefit all the stakeholders in the seed production chain. If China, as a developing country, simply follows the requirements of the UPOV 1991 Act which puts the focus on the commercial sector and legislates related content more according to their needs, it may lead to a disastrous situation for the seed industry in developing countries.

Here in this research, the 'Ley Monsanto' bill case of Chile will be discussed. Chile, as a developing country, tried to adopt the UPOV 1991 system for the purpose of signing free trade agreements with USA and Japan. The Chinese government can take some warnings from the example of Chile who failed in upgrading the PVP legislation system. Chile passed the Regulation of the Rights of Breeders of New Plant Varieties (Law No. 19.342) on November 3, 1994. Under the Law No. 19.342,

The wording of Law 19.342 points out that the right of breeders shall not be deemed violated by any use made by a farmer, on his own farm, of the harvest from properly acquired reproductive material. On no account, however, may such material be advertised or transferred by any legal title as seed.

It allows farmers to save and use harvested material under certain quantity (not exceed the original acquired amount) on their own holding and sell to the third parties for only final use or consumption purpose. But, the traditional grain dealer model<sup>16</sup> in Chile is not included in this exemption because grain dealers are not belonging to final use group or consumption group<sup>17</sup>.

Recently, some industrialized countries, especially those IP exporters, try to further strengthen the IP protection level. This trend normally appears in the regional trade agreement<sup>18</sup> or bilateral investment treaties which contain TRIPS-plus, TRIPS-extra or TRIPS-restrictive provisions<sup>19</sup>. In order to make FTAs with USA or EU, some developing countries, as poor IP importers, have to impose their domestic IP protections level or adapt the latest UPOV version, the 1991 Act.

For the purpose of signing free trade agreements with USA and Japan<sup>20</sup>, Chile tried to upgrade the related PVP legislation content to satisfy the requests in a short period. But the process failed before the deadline. On March 3<sup>rd</sup>, 2009, Present Michelle Bachelet of Chile tried her second time. She directly proposed to implement of the UPOV 1991 Act in the national congress<sup>21</sup> and the bill was officially named 'the Plant Breeders' Law' and later dubbed the by the people called the 'Monsanto Law' (bill No. 8570). In the 'Monsanto Law', farmers' privilege scope was further limited. Seed exchange and selling were totally forbidden in Chile. It was indicated as 'it is expressly prohibited the sale or alienation by any title of the

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<sup>15</sup> See David James Jefferson. *op. cit.*

<sup>16</sup> This model aims at supporting small poor farmers and give them seed loan which they can pay back by harvested seeds and a little additional seeds as interests.

<sup>17</sup> Understanding the farmers' privilege in 'Monsanto Law'. Viola Prifti

<sup>18</sup> In the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), all the WTO member states are asked protect plant varieties by patents or by an effective sui generis system, or by combination thereof.

<sup>19</sup> David James Jefferson. Development, farmers' right, and the Ley Monsanto: the Struggle over the ratification of the UPOV 91 in Chile. Available at: <http://www.research.gate.net/publication/271138885>. Accessed 4 February, 2017.

<sup>20</sup> The US-Chile FTA and Japan-Chile FTA required that parties ought to adhere UPOV 1991 by January 1, 2009.

<sup>21</sup> Message no. 1435-356. Available at [http://www.diputados.cl/pley/pley\\_detalle.aspx?prmID=6819](http://www.diputados.cl/pley/pley_detalle.aspx?prmID=6819). Accessed 4 February, 2017.

propagative materials' in the bill. In addition to that, there were specific limitations on the varieties and harvested materials. Hybrid<sup>22</sup> and synthetic seeds<sup>23</sup> were no longer included in the farmers' privilege scope.

Concerns raised towards the possible results after the implementation of "Monsanto Law". It would have economic impact on smallholder farmers in Chile and these trepidations were not fully addressed<sup>24</sup> in the PVP legislation. "Monsanto Law" tended to favor the interests of commercial seed sector and left out the individuals who were in great need of improved seeds in Chile. The "Monsanto Law" forbid farmers to exchange and sell seeds of a protected variety and recycled the privilege scope by setting a privilege catalogue which excluded the hybrid and synthetic seeds<sup>25</sup> outside the privilege content. It could make the commercial improved varieties inaccessible to the poor smallholder farmers in Chile. Because smallholder farmers usually have financial problems and lack accesses to formal seed sector. Clearly, such upgrading reform would not benefit all the stakeholders in the seed sector.

The failure experience of upgrading PVP legislation system in Chile reflects some drawbacks of the UPOV 1991 Act. Its 'one-size-fits-all' legislation pattern ignores the importance of farmers' practice towards the seed sector, especially those in developing countries. Chile is still a developing country where farmers are important in the agriculture production sector. If the government fails to recognize their contribution, but tends to favor the interests of several big seed companies when they are drawing the plant IP policies, the development of agricultural production in Chile cannot be truly ensured. The possible damages discussed above can explain the reason why President Bachelet stopped the legislative process<sup>26</sup> of the bill herself in her second term.

The Chinese government can take some warning from the negative PVP upgrading experience in Chile. If the government simply copies the PVP legislation pattern designed by developed countries and creates an ever-stronger IP environment without considering its agricultural condition like Chile, the livings of farmers, even the national food security will be threatened. Thus during the legislation process towards the UPOV 1991 Act, another improvement direction for the Chinese government it to pay attention to the limitations of UPOV 1991 Act towards developing countries. China is a big agriculture country possessing the largest amount of farmers in the world<sup>27</sup>. The Chinese farmers contribute a lot in food production. The Chinese government should fully consider whose values ought to be prioritized when designing national PVP law. Thus in Chapter 4, some suggestions are provided on how to regulate the PVP legislation system in China towards UPOV 1991 Act and farmers in China continue their contribution towards the agricultural sector.

#### **4. The opportunities of empowering farmers to adapt to a stricter IP environment in China**

Of course, farmers can choose to buy their farmer varieties which are unprotected under the new Chinese Seed Law. They can use farm-saved seeds, exchange and trade residuals in the informal seed sector. But with the seed marketization trend in China, farmers' dependence on purchased modern seeds increases rapidly. According to the survey done by the Agricultural University of China<sup>28</sup>, except some small farmers who still save and exchange farm-saved seeds, more and more farmers in China now choose to buy the modern seeds from the seed market instead of using and purchasing farm-saved seeds. Obviously farmers need access to high-quality and high-value seeds. The commercially-bred varieties exactly satisfy their needs because these varieties are easier to be grown and perform better in crop yield.

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<sup>22</sup> In agriculture and gardening, hybrid seed is seed refers to a plant variety developed through a specific, controlled cross of two parent plants.

<sup>23</sup> Synthetic seeds here mainly refer to the GMO seeds.

<sup>24</sup> See Viola Prifti, op.cit.

<sup>25</sup> See Viola Prifti, op.cit.

<sup>26</sup> On 17 March, 2014, President Bachelet withdrew the proposal which was put forward by herself in her second term.

<sup>27</sup> According to the statistical results of the Sixth National Census report, farmers take 50.32% of the total population in China.

<sup>28</sup> The government, farmers, market and seed. Chen Yiyuan.

If farmers buy seeds of varieties protected by a plant breeder's right, they will be impacted by the PVP system in China. It is necessary to discuss the current situation of farmers in China firstly. The quantity of farmers in China is around half billion. Many of them now prefer to buy modern seeds because of their high performance. Thus it is huge task for the seed companies to deal with all farmers in China to track the seed flows and collect royalty, especially for those smallholder farmers who only purchase a small amount of seeds of a protected variety. However, under current PVP legislation system in China, if the smallholder farmers purchase the seeds of protected varieties, they need to pay royalty and the amount of payment is the same as that paid by big growers. Because in the new Chinese Seed Law, there is no difference towards the royalty payment. Beside, the new Chinese Seed Law also limit farmers' privilege under the PVP legislation system. It has been discussed in Chapter 2 that farmers' in China can only self-use and self-propagate the seeds of a protected variety. But the quantity of smallholder farmers in China is quite big and many of them are relatively poor. They have some difficulties in finding legal access to modern improved seeds<sup>29</sup>. Thus from the perspective of the Chinese government, during the legislation process towards UPOV 1991 Act, there should be some legal space for farmers, especially smallholder farmers.

#### 4.1 Legal space for farmers

In order to create some legal space for farmers, especially smallholder farmers in the formal seed sector and safeguard farmers' access to the varieties protected by a plant breeder's right, firstly, the government should classify farmer group in China and give each category of farmer a definition. Farmers in China range from very small subsistence ones to very large commercial ones. In order to make the PVP legislation better suits the agricultural condition in China, the protection level under the PVP legislation system should be different towards different farmer catalogue. Thus how to classify smallholder farmers under the PVP legislation is the first task for the Chinese government during the legislation process because they are in the greatest need. There are two widely suggested options on how to define smallholder farmers. One is to classify smallholder farmers in terms of their cropping area, and the other one is based on farmers' annual income from the crop produce or the sale scale<sup>30</sup>. But it is necessary to point out, during the implementation of breeders' right, the primary responsibility of the PVP law in China is to the right holders, but not farmers. Thus it is strongly suggested for the government to choose the cropping area standard to classify small farmers in China because it is more easily to be calculated by the right holders. The common standard to define smallholder farmers by cropping area is those who possess less than 2 ha of cropping land<sup>31</sup>. But this is just a general standard which widely-accepted by many studies. During the drafting process, the legislators should carefully consider other factors like regional farming capability or growth density of different crops. In addition to this, the legislators also should remove commercial smallholder farmers from the 'smallholder farmer' catalogue. If smallholder farmers do their agricultural production for commercial market, they ought to be removed from the 'smallholder farmers' in order to safeguard the interests of breeders.

Then the government needs to further clarify the privilege level entitled to each farmer catalogue. Under the PVP legislation in China, smallholder farmers can be free from paying the royalty of all the protected varieties under the PVP legislation system. Besides, it is necessary to clarify the privilege variety scope that farmers can self-propagate and self-use towards protected varieties in the new Chinese Seed Law. Under the new Seed Law, farmers have the privilege to self-use and self-propagate seeds of protected varieties on their own holdings. The government can make a list of plant variety based on the current protected variety resource and further draw the privilege boundary towards farmers' privilege content. The catalogue can be adjusted every year to add or delete some farmer's varieties so that the catalogue can better reflect the real needs of farmers. Those protected varieties belong to privilege catalogue are allowed to be self-used and propagated by farmers within their own holdings, whereas other protected varieties will be cut from the

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<sup>29</sup> The government, farmers, market and seed. Chen Yiyuan.

<sup>30</sup> A differentiated approach to plant variety protection in Africa. Bram De Jonge and Peter Muniyi.

<sup>31</sup> Smallholder farming in transforming economics of Asia and the Pacific: challenges and opportunities. IFAD.

privilege scope. If farmers want to reuse the seeds of protected varieties not covered by the privilege catalogue, they can choose to pay certain amount of remuneration to the breeders. The amount of remuneration can be decided according to the suggestion given in Chapter 2.

## 4.2 Farmer's variety

Another issue related to the agricultural production sector in China is that the agricultural varieties vary from regions to regions. Farmers, farmer's communities and indigenous people make some contributions in developing plant varieties which fit better the local agro-economical conditions. Unlike those commercial seeds sold in a national level market, they prefer to maintain a certain level of heterogeneity to lower the environmental aberrations<sup>32</sup>. But the UPOV-type criteria for protection is considered to be unreasonable for those more heterogeneous varieties which lead to the fact that they are difficult to be granted a breeder's right under the current PVP legislation system. In order to better protect their contribution and provide farmers more options of high-quality seeds under the PVP system, some opportunities are found outside the UPOV-type PVP system.

In spite of accepting international agreements, some developing countries like India, Malaysia and Thailand designed a sui generis PVP legislation system instead of accepting the UPOV Act. The India Protection of Plant Variety and Farmers' Right (PPV&FR) 2001 is chosen to be discussed as an example in the field of how to protect farmers' practice in the seed sector. PPV&FR Act puts forward the idea of dual-protection which grants farmers in India the recognition of proprietary. In the PPV&FR Act, it stated that the Act applies to (1) New plant varieties, and (2) Extent (domestic and existing) varieties. According to the definition given by PPV&FR Act, 'extent variety' refers to those varieties:

- (1) Notified under section 5 of the Seeds act, 1996; or
- (2) Farmers' variety; or
- (3) A variety about which there is common knowledge; or
- (4) Any other variety which is in public domain.

Compared with the UPOV-type 'one size fit all' model<sup>33</sup>, farmers and farmers' communities under the India PPV&FR Act can register their varieties according to its own testing requirements and be granted the breeders' right. However, during its implementation, the PPV&FR Act still faces some problems and challenges. One study conducted by FNI analyzed the achievements, limitations and barriers of PVP legislation in India<sup>34</sup>. It indicated the problems of the testing criteria of farmers' variety in PPV&FR Act. In the PPV&FR Act, the requirements of farmers' variety are DUS which simply excluded novelty out of the testing criterion which was considered not proper for those more variable and heterogeneous varieties. According to the suggestion given by Carlos M. Correa, the UPOV-type standard for stability and uniformity could be replaced by identifiability. He divided farmers' varieties into traditional farmers' varieties and, new farmers and other heterogeneous varieties. The requirements for new farmers and other heterogeneous varieties are novelty, distinctness and identifiability and the requirement for granting traditional farmers' variety is only identifiability.

It is a possible solution to add a farmer's variety regulation during the legislation process towards UPOV 1991 and set the protection criteria independently. But the farmers' varieties registration is not covered by PVP legislation system in China. Its main purpose is for benefit-sharing<sup>35</sup>. If a breeder is granted a breeder's right based on farmers' varieties, he or she needs to pay certain amount of remuneration for using the farmers' varieties. All the remunerations can be collected by the government and the money will be used for encourage farmers, farmers' community and indigenous people to participate in the breeding sector. Thus farmers can continue use, exchange and sell the seeds of these farmers' varieties in the informal seed market. Meanwhile, if farmers or farmers' communities develop high-quality farmers' varieties, their

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<sup>32</sup> Plant variety protection in Sub-Saharan Africa: balancing commercial and smallholder farmers' interests. Bram De Jonge.

<sup>33</sup> See Carlos M. Correa, *op. cit.*

<sup>34</sup> Anitha Ramanna. Farmers' right in India.

<sup>35</sup> See Carlos M. Correa, *op. cit.*

contribution can be rewarded which is normally not recognized under the UPOV model.

## **5. Conclusion**

The new Chinese Seed Law published in 2015 was widely considered as a big improvement in the PVP legislation sector in China. It released the high possibilities that China would join the UPOV 1991 Act in the future. During the transition period towards UPOV 1991 Act, the Chinese government should consider carefully on how to improve the PVP legislation system towards the UPOV 1991 Act and make the PVP legislation system indeed promote the development agricultural industry in China. On the one hand, the Chinese government needs to further upgrade the content of the new Chinese Seed Law. But it is worthy to point out that the UPOV 1991 Act is just a guideline for the legislators of the UPOV member states. If the Chinese government simply focuses on upgrading PVP legislation but fails to notice the problems occurred during its implementation, the law would be too vague to be used by different stakeholders when they are trying to protect their interests. In Chapter 2, farmers' privilege content in the new Chinese Seed Law is chosen to be discussed in order to put forward some suggestions on how to improve the PVP legislation in China towards the UPOV 1991 Act. The farmers' privilege content is written close to the requirements of the UPOV 1991 Act. But during its implementation, the general content received some complains from the stakeholders. Some suggestions are put forwards in Chapter 2 on how to better specify the farmers' privilege content in the new Chinese Seed Law and solve the practical problems during its implementation.

Another improvement direction is to make the PVP legislation system suit the Chinese agricultural condition and ensure the development of agricultural production in China. The Chinese government can take some warnings from the 'Monsanto Law' bill case in Chile. The case is discussed in Chapter 3 which reflects some limitations of the UPOV 1991 Act towards developing counties. The Chilean government failed to recognize the individuals who were in need of improved modern varieties, but tended to favor several big seed companies when they were drawing the plant IP policies. Concerns raised towards the possible results after the implementation of the "Monsanto Law". Because farmers under the 'Monsanto Law' would lose access to these improved modern varieties and clearly this PVP law did not benefit all the stakeholders in the seed sector. It resulted in the failure of PVP system upgrading in Chile. Thus during the legislation process towards UPOV 1991 Act, the Chinese government should consider carefully whose values ought to be prioritized when designing national PVP law. China is big agricultural country. Farmers play an important role in agricultural production sector. In Chapter 4, the current situation of farmers in China is analyzed firstly. Then some suggestions are provided in order to better empower farmers in China under a strict IP environment. On the one hand, there should be some legal space for farmers which will better safeguard farmers' access to the varieties protected by a plant breeder's right. On the other hand, the government needs to notice farmers' contribution to the breeding sector and rewards their contribution from a legal perspective.



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