



## Legal Aspects of the Conditions for Protecting New Plant Varieties in Thailand

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### ABSTRACT

The Kingdom of Thailand maintains a prominent position among agricultural nations in Southeast Asia due to its robust export market. Given the importance of agriculture in Thailand, the production and protection of plant varieties are of paramount importance. To address these concerns, the Plant Varieties Protection Act was passed in B.E. 2542 (A.D. 1999) (Thai PVPA 1999). Concerns have emerged, however, regarding the Thai PVPA 1999's ability to meet the needs of all parties engaged in agricultural management in the country. This uncertainty regarding the effectiveness of Thailand's plant varieties protection regime has the potential to detract from its intended benefits. This article seeks to highlight the necessary conditions for the preservation of novel plant varieties and stresses the need to modify the extant provisions to guarantee the effective implementation of the Thai PVPA 1999.

**Keywords:** New Plant Varieties, Plant Varieties Protection Act B.E. 2542 (A.D 1999), International Convention for the Protection of New Varieties of Plants (UPOV Convention)

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## Introduction

Thailand's nominal GDP is about 500 billion US dollars, making it Southeast Asia's second-largest economy. A robust domestic market and an increasing middle class characterize its free-market economy. The private sector drives economic development. Thailand exports 70% of its GDP. Thailand is a net food exporter and has a traditional agrarian lifestyle, although the agricultural industry currently accounts for 9% of the GDP [1]. “Thailand is a leading country in high-value agricultural produce and processed agricultural products” is a milestone in the thirteenth national economic and social development plan (2023-2027) [2].

Thailand's agriculture industry has four stages: traditional, chemical, transformational, and technology. Starting with transformative agriculture, the Thai government researched and released quality-based new plant varieties [3]. The agriculture industry of Thailand has always been the main source of food for internal consumption and exports. Modern agricultural biotechnology, combining plants with genetically modified organisms, may enhance plant and animal DNA more precisely and efficiently than traditional techniques to boost agricultural productivity [4].

Therefore, the government authorities of Thailand enacted the “Plant Varieties Protection Act B.E. (2542) A.D 1999” (Thai PVPA 1999). The Thai PVPA 1999 explanatory memorandum states that recognizing and establishing intellectual property rights for new plant varieties is a main objective and also establishes a framework for propagating and using these varieties to enhance agriculture [5]. In Thai PVPA 1999, the conditions required for the protection of new plant varieties are provided and are supposed to be amended in line with International Convention for the Protection of New Varieties of Plants (UPOV Convention) 1991 to become the better version.

## Research Questions and Scope of the Study

The research questions of this study are as follows:

- What are the conditions for the protection of new plant varieties under Thai PVPA 1999? and
- What are the needs to enhance regarding the requirements of new plant varieties protection

in Thailand? Moreover, in this study, the historical development of Thai PVPA 1999, the requirements for the protection of new plant varieties and the proposed amendments of Thai PVPA 1999 under the conditions for the protection of new plant varieties shall be emphasized.

## Research Methodology

The study will use doctrinal legal research methodology, also called “black letter” methodology, which will focus on the letter of law, analysis of the legal doctrine, and how it has been developed and applied. Conclusively, the study will provide suggestions relating to the conditions required for the protection of new plant varieties in Thailand.

## Research Results

### The Development of Plant Varieties Protection Act, Thailand B.E. 2542 (A.D. 1999)

Since November 20, 1982, Thailand has been a member of the “General Agreement on Tariffs and Trades” (GATT) [6] and, starting from January 1, 1995 [7], of the “World Trade Organization” (WTO) [8]. Thailand did not implement protection for plant varieties until the final phase of GATT’s negotiations. Due to the beginning of the “multilateral trading system of the WTO” in 1995, the "Agreement on Trade-Related Aspects of Intellectual Property Rights" in the "Marrakesh Agreement Establishing the World Trade Organisation" (TRIPS Agreement) established a minimum standard of protection for intellectual property rights (IPRs).

The TRIPS Agreement outlined the comprehensive guidelines relating to IPRs protection, including plant varieties protection. Article 27.3 (b) of the TRIPS Agreement, pertaining the specially of plant varieties, mentioned “plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof”. In light of Thailand's membership in WTO, the country’s laws and regulations must comply with WTO and the TRIPS Agreement.

Regarding the rights of the breeders on an international basis, the UPOV system of plant varieties protection came into being with the adoption of the “International Convention for the Protection of New Varieties of Plants by a Diplomatic Conference”, containing “the UPOV Convention 1961 as amended by the Act of 1972, the UPOV Convention 1978 and the UPOV Convention 1991”. The UPOV Convention 1991 has been regarded as superior to its predecessor, the UPOV Convention 1978, due to substantial advancements in the promotion of innovation in plant breeding and the protection of plant breeders' rights. Significant increases have been made to the minimal number of plant genera and species that are entitled to protection. Member states were required to administer protection to "at least five genera or species" upon the implementation of the UPOV Convention 1978 [9].

In contrast, the UPOV Convention of 1991 enhanced the criteria to "at least fifteen genera or species" [10]. Moreover, the UPOV Convention 1978 allowed member states to extend their protection to “ten genera or species in three years, eighteen genera or species in six years, and twenty-four genera or species in eight years” [11]. The UPOV Convention 1991 requires member states to secure the protection of all plant genera and species within five years, whereas new members have ten years to do so [12].

Another key improvement is the scope of the protection. Under the UPOV Convention 1978, the breeders can authorize “the production for purposes of commercial marketing, the offering for sale and marketing of the reproductive or vegetative propagating material of the varieties” [13] but under the UPOV Convention 1991, “conditioning for the purpose of propagation, selling, exporting, importing and stocking of the propagating material of the protected varieties” is added [14]. Moreover, the duration of protection in accordance with the UPOV Convention 1978 is between fifteen and eighteen years,

depending on the crop [15] and the UPOV Convention 1991 describes “the protection period for not shorter than twenty to twenty-five year in accordance with the types of crops” [16].

The most significant aspect is only the UPOV Convention 1999 mentions “the essentially derived materials, certain other varieties and products made directly from harvested material of the protected variety under the rights of the breeders” [17] but under the UPOV Convention 1978, “any protected variety could be freely used as a source of initial variation to develop further varieties so that such further varieties can be protected by the subsequent breeder without any obligation towards the breeder of the initial variety” [18]. Notably, the UPOV Convention of 1978 does not extend protection to the use of propagating material in the production of ornamental plants or cut flowers [19] and the UPOV Convention 1991 shall not extend the rights of the breeders to the “further breeding in case of essentially derived varieties, acts done privately and for non-commercial purposes, and act done for experimental purposes” [20].

The Thai PVPA 1999 became effective on November 26, 1999. Notably, Thailand is not a member of the UPOV. Thai PVPA 1999 nearly adheres to the UPOV model despite this. The majority of Thai PVPA 1999 is based on the UPOV Convention 1978. UPOV organized “a national symposium” in Thailand in an effort to advocate its model of plant varieties protection legislation. UPOV assisted the Thai Ministry of Agriculture and Cooperatives (MOAC) in formulating and implementing the Thai PVPA 1999 [21].

However, the Thai PVPA 1999 contains provisions for the protection of new plant varieties with lenient standards. To deal with these concerns, the new amendment proposal supported by the “Thai Seed Trade Association (THASTA)” seeks to mitigate certain issues, such as exclusions from revenue-sharing requirements for new plant varieties that did not originate from Thai PVPA 1999. Additionally, it includes essentially derived varieties, potentially expanding the extent of plant breeders' intellectual property rights to encompass varieties created through minor modifications [22].

The Thai PVPA 1999 was amended for the first time by the MOAC in 2010, but previous efforts to amend the law were thwarted by opposition from non-profit organizations. These organizations contend that the proposed amendment to the PVPA 1999 could have negative repercussions for farmers and allow multinational corporations to monopolize the Thai seed industry. As a result, the implementation of the new proposed amendment remains uncertain, as does its adoption schedule [23].

#### **Nature of Conditions Required for The Protection of New Plant Varieties under Thai PVPA 1999 and UPOV Conventions**

The Thai PVPA 1999 protects “local domestic plant varieties, forest plant varieties, and general domestic plant varieties” in relation to the protection of new plant varieties [24]. As a consequence, section 11 of the Thai PVPA 1999 outlines the requirements for the protection of the aforementioned plant varieties. Moreover, section 12 of the Thai PVPA 1999 establishes specific requirements for the preservation of new plant varieties. Both sections 11 and 12 of Thai PVPA 1999 are the primary provisions

that outline the eligibility requirements for the protection of new plant varieties, but they implement fewer restrictions than the UPOV Convention 1991.

Despite its intention to encourage innovation in plant breeding, Thailand's current Plant Varieties Protection regime confronts obstacles that could lead to the granting of rights to insignificant innovations and the privatisation of public plants.

During the formulation of the Thai PVPA 1999, the nation's reluctance to ratify the provisions outlined in the UPOV Convention 1991, which pertains to the protection of plant breeders' rights, resulted in a weakened version of eligibility requirements and, as a result, inadequate protection. Revision of the eligibility requirements for plant variety protection under the Thai PVPA 1999 in accordance with the UPOV Convention 1991 is one method for achieving this objective [25].

In relation to the aspects of "distinctness" concerning plant varieties, Thai PVPA 1999 mentions in section 11 (3) that "the plant variety must demonstrate the particular features from other varieties in respect of shape or appearance, or having any characteristic resulting from the expression of the genotypes distinct from other plants". In addition, newly registered plant varieties must possess distinct characteristics that distinguish them from other registered varieties, such as "cultivation, consumption, pharmaceutical applications, production, and processing."

These distinguishing characteristics must be applicable to previously registered plant varieties within or without the borders of the Kingdom of Thailand. Additionally, these distinctions should apply to varieties that have been submitted for registration in the Kingdom of Thailand and subsequently registered. In other words, the distinctiveness requirement pertains to both previously registered varieties and those in the registration process [27]. Therefore, the Thai PVPA 1999 concentrates on the "shapes, appearance, expression of genotypes, and distinctions relating to cultivation, consumption, pharmaceutical purposes, production or processing".

In accordance with the Thai PVPA 1999, distinctiveness can be assessed through a comparison of materials for application to other existing varieties. Consequently, the significance of differentiating the materials for application from other existing plant varieties is not considered during the evaluation of distinctiveness. Insofar as the materials for application can be differentiated from any other existing variation, it satisfies the distinctiveness requirement of the Thai PVPA 1999. Even if such material resembles well-known, widely available varieties that are not registered in Thailand, it may still be deemed "distinctive."

These provisions appear to comply with the distinctiveness requirements of UPOV. Although the Thai PVPA 1999 is based on the text of the UPOV Convention of 1978, the criteria needed for the protection of new plant varieties under distinctness are distinct. When evaluating the uniqueness of plant varieties under UPOV, the existence of "a matter of common knowledge" is vital. The UPOV Convention 1978 had no definition of "common knowledge" but offered a non-exhaustive list of instances in which a variety could become common knowledge [27]. "A matter of common knowledge"

may be established by reference to various factors such as: “cultivation or marketing already in progress, an entry in an official register of varieties already made or in the course of being made, inclusion in a reference collection, or precise description in a publication” [28]. The term “common knowledge” is a “world-wide concept, which is not limited to areas or organizations” [29].

However, in the new draft amendment of Thai PVPA 1999, the distinctness of the plant variety based on the existence relates to the “matter of common knowledge”, which is similar to the UPOV Convention. According to section 1 (5) of the new draft amendment of Thai PVPA 1999, “the variety shall be deemed to be distinct if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge”, and a plant variety eligible for registration as a new plant variety under Thai PVPA 1999 shall be distinct from other plant varieties provided that “such distinctness is a matter of common knowledge at the time of the application is filed”, as per section 1 (6) of the new draft amendment of Thai PVPA 1999.

Similar to the distinctness under Thai PVPA 1999, the requirement of uniformity also emphasizes “the particular features of the variety in respect of shape and appearance or respect of other qualifications resulting from the expression of the genotype-specific to plant variety” under section 11 (1) of the Thai PVPA 1999. Nevertheless, in the new draft amendment of Thai PVPA 1999, subject to the variation that may be anticipated from the unique aspects of its propagation, “the variety must be regarded as uniform if it is sufficiently uniform in its relevant qualities and consistent in its unique qualities, whether they be shape and appearance or other traits resulting from the expression of the genotype unique to that plant variety” [30]. According to Article 8 of the UPOV Convention 1991, “the variety shall be deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in its relevant characteristics.”

For the stability of the new plant varieties, section 11 (2) of the Thai PVPA 1999 mentions that “the plant varieties must be stable in the particular features of the variety which are capable of expressing such particular features in every cycle of the production of the propagating material of such a plant”. The level of stability afforded to new plant varieties under the Thai PVPA 1999 can be deemed comparable to that provided under the UPOV Conventions. According to the UPOV Convention 1991, a variety is considered stable if its relevant characteristics remain unaltered after repeated propagation or, in the case of a specific propagation cycle, at the conclusion of each such cycle. Despite the proposed amendment to the Thai PVPA 1999, the standards for stability pertaining to new plant varieties remain unchanged. Aligning with the provisions of the Thai PVPA 1999, fulfilling the requirements for uniformity and stability of new plant varieties is straightforward and uncomplicated.

There is a problem with the criteria relating to the novelty of new plant varieties under Thai PVPA 1999 because section 12 (1) of the Thai PVPA 1999 only mentioned that “a new plant variety whose seeds or propagating material has not been exploited, by sale, trade, or any other means, within or outside the Kingdom of Thailand by the breeder or by other with his or her consent for more than

one year before the applying date for registration”. The term "the seeds" from section 12 (1) of the Thai PVPA 1999 will be removed in the new proposed amendment. Evidently, the Thai PVPA 1999 did not include "the harvested material" not only under the novelty criteria for new plant varieties, but also under any other provisions of the Act.

In addition, the Thai PVPA 1999 does not account for the recent creation of new plant varieties, nor for trees or vines. According to the UPOV Convention of 1991, the "transitional" provision for varieties of recent origin is a voluntary provision. The purpose of the transitional novelty provision is “to permit the protection of varieties that were produced shortly before protection became available for the first time”, but are not included within the UPOV Convention's period for novelty [31]. Therefore, it can be hypothesized that the plant varieties protection regime implemented by the Kingdom of Thailand reduces the incentive for innovation, as it combines a minimal distinctiveness criterion with relaxed novelty criteria, thereby blurring the line between non-innovation and invention.

## Conclusion

Regarding the Thai PVPA 1999, the commendable goals of Thailand's unique Plant Varieties Protection system, as it has been implemented and developed, have become a subject of significant criticism. Controversy has surrounded Thailand's prospective membership in the UPOV but certain observers are of the opinion that Thailand ought to ratify the UPOV Convention of 1999, thereby harmonizing the protection of plant breeders' rights with the internationally acknowledged standards established by UPOV. However, Thailand was unable to join UPOV due to its 2003 membership in the Convention on Biological Diversity 1992 (CBD 1992), as the provision of the Thai PVPA 1999 were incompatible with the UPOV Convention 1991. One example is that CBD 1992 mentioned and benefit sharing under article 19 but these are not included in UPOV. However, the authorities of Thailand provided the section relating to the benefit sharing under the Thai PVPA 1999.

Nonetheless, Thailand done to comply with certain essential UPOV Convention provisions, even without formally joining the UPOV. In view of this, in 2010, the Thai Seed Trade Association and MOAC drafted a new amendment to ensure compliance with the 1991 UPOV Convention. However, there are certain provisions of the proposed amendment relating to the conditions for the protection of new plant varieties required to be revised before it can be deemed optimal. The first two things are adding the term “the seeds” in describing the novelty of new plant varieties and “harvested material” under the novelty criteria for new plant varieties, and under any other provisions of the proposed amendment. In addition, accounting the recent creation of new plant varieties, including trees and vines should be mentioned in the proposed amendments. Moreover, as mentioned before, the provision relating to the “matter of common knowledge”, which is in line with UPOV 1991 is provided in the proposed amendment even it is not included in the Thai PVPA 1999.

In the past, attempts to enact such amendments have met with opposition, in part from nonprofit organizations because these organizations argue that the proposed amendment to the Thai PVPA 1999 would have a negative impact on producers and extend excessive market control to multinational corporations in the Thai seed industry. Therefore, the timeline for enacting this new proposed amendment, if it is to be enacted at all, remains uncertain. While the new draft amendment has already been drafted, additional revisions are required to achieve the optimal version of Thailand's new plant variety protection system.

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