



สำนักงานที่ปรึกษาการเกษตรต่างประเทศ
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Office of Agricultural Affairs - Royal Thai Embassy - Washington DC

High-Value Agriculture, Alternative Survival Towards Sustainable Future



“In the water there are fish, in the rice fields there is rice”, a familiar phrase that reflects the abundance of Thailand. The agricultural country is blessed with natural resources and a perfect environment. Nevertheless, the limited resources are unproportional to extensive consumption needs. Excessive use of agricultural chemicals as well as rapid invasion of forest lands and water sources for farming have led to climate changes. Human, animals and even produces are severely impacted. It has become a catalyst for us, especially in the agricultural sector, to urgently find the ways to adapt.

In addition to the problem of the changing environment, agricultural practices in Thailand are facing challenges. Trade Policy and Strategy Office (TPSO) reported that the Thai agriculture accounted for only 9 % of the country's GDP. Though agricultural products and agro-

industry seem to generate significant incomes for Thailand but rather small in proportion. Overall, in 2023, Thailand exported a value of \$284.6 billion USD, consisting of \$ 49.2 billion USD (1.69 trillion baht) agricultural and agro-industrial products or 17.39 %. Meanwhile, industrial products accounted for 78.69% of the country's total export value.

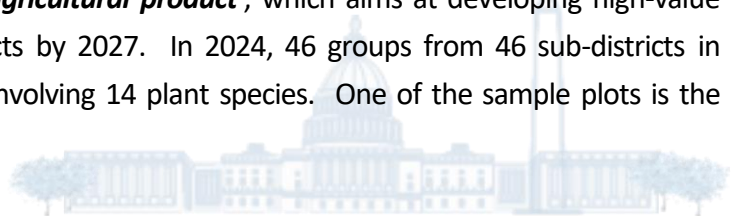
Thai agricultural sector still produces and exports primary agricultural products, accounting for 87.7% of the value of agricultural and agro-industrial exports. If the strategy of producing and trading primary agricultural products is continued, the net profit per unit will be comparatively low. Farming areas are decreasing. Natural disasters caused by climate changes occur more frequently and severe. Consumers' purchasing powers are plunging due to economic constraints. Farmers suffer losses and may not withstand the risks for a long period of time.

In order to help Thai farmers cope with the risks, Ministry of Agriculture and Cooperatives (MOAC) under the leadership of Minister Captain Thammanat Prompao, proposed guideline to create and prepare for a better future. One of the ways to survive is moving away from traditional farming toward "high-value agriculture" by implementing refined or highly precision agriculture. The concept will take advantage of biotechnology, renewable technology, the use of biological materials, pharmaceutical, creative economy and product differentiation. As a result, higher net incomes, higher returns on technological investments as well as better adaptation and mitigation towards adverse effects from climate changes are expected.

Basic success factors to be addressed regularly and continuously throughout the supply chain, which involve farmers, producers and processors, are as follows:

- 1) Improving productivity and assessing their own farming efficiencies at all times
- 2) Taking advantages of sciences, technology and innovation
- 3) Implementing financial and accounting management and equity investment
- 4) Exercising logistics supply chain management
- 5) Applying data management and data analytics
- 6) Enforcing economic of scale and supply chain security
- 7) Adhering to circular and sustainable business model: Lean and Clean Factor/Energy
- 8) Addressing knowledge management, adaptation and resilience to achieve ESG: Environmental, social and corporate governance.

The above guidelines are consistent with **'High-value agricultural products and services project, 1 locality, 1 high-value agricultural product'**, which aims at developing high-value agricultural model plots in 500 sub-districts by 2027. In 2024, 46 groups from 46 sub-districts in 43 districts of 26 provinces are targeted involving 14 plant species. One of the sample plots is the



'integrated orchid plot" in Nong Nok Khai sub-district, Kratoom Ban district, Samut Sakhon province. Previously, it faced the problem of continuously rising production costs. Plant growth is impaired due to environmental changes, severe pest outbreaks and salt water intrusion. As a consequence, farmers' incomes are decreasing affecting cash flow as well as savings and household's capital funds.

The Department of Agricultural Extension (DOAE) has analyzed the problem and proposed solutions to improve productivity as follows: 1) Encourage farmers to take advantage of mobile solar water irrigation systems 2) Develop a highly accurate Dendrobium management system 3) Manage and balance the plant growing system and 4) Produce and tailor fertilizers corresponding to the needs of each growth stage. Plant diseases and pest resistance capacities will be improved and resistant strains will be developed.

In order to tackle the saltwater intrusion problems, a surveillance, risk assessment and notification systems are implemented. Risk management plans are jointly developed by farmers and officials. Examples are securing sufficient freshwater quantity to replace saltwater and dispatching water tankers to farms.

In terms of marketing challenges for orchids, the production technology is promoted to increase the proportion of high-quality grade and extend shelf life. Establishing future market, exploring new marketing channels for both domestic and international, development of packaging and improving processing techniques will be conducted by DOAE and concerned agencies. The goals are to ensure increased farmers' incomes by 3 folds in 2027.

Agricultural sector is subjected to many risks. Methods to increase productivity are determined. Thus, it is necessary to keep abreast of the MOAC's policy on "High-value agricultural products and services, 1 locality, 1 high-value agricultural product". Farmers, particularly those new generations, need to adopt new technology and develop modern mindsets. They should welcome changes and become the leaders in the development of the country's agricultural sector, as an alternative and the way to survive for a better future.

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