AGRICULTURE SECTOR MODERNIZATION PROJECT

Policy Note, Dec 2024

Enhancing Dry Chili Production in Sri Lanka: Scaling up ASMP Interventions for Self-sufficiency and Market Competitiveness[1]

Prepared by Wasanthi Wickramasinghe

1. Introduction

This paper outlines the policies for scaling up ASMP technological and institutional interventions to enhance dry chilli production in Sri Lanka, aiming to achieve self-sufficiency and market competitiveness of chilli. By analyzing the impact of ASMP interventions introduced through the Agricultural Technology Demonstration Park—specifically improved management practices for chili cultivation—and the farmer company model for F1 seed and dry chili production, the paper recommends the appropriate scaling up of these interventions and corresponding policy adjustments. These measures seek to meet national demand for green and dry chili, gradually reduce import dependence, and ensure the successful realization of targeted outcomes.

2. Background and Context

MI CH HY1, developed by the Field Crop Research and Development Institute (FCRDI) at Maha Illuppallama in 2015, marks a significant milestone in Sri Lanka's F1 hybrid chili seed history. This innovation has led to a substantial increase in potential chili yield. Compared to the

[1] Assessment of the impact of ASMP intervention into local dry chili production on the National Dry Chili Market of Sri Lanka - Strategic Analysis of the Chili Industry, ASMP Study, 2024

average yield of major producing countries, MI CH HY1 demonstrates exceptional performance. Realizing its full potential could significantly enhance Sri Lanka's national average chili yield. However, improved management practices are crucial for achieving these potential yields.

Most chili-growing countries have increased productivity using hybrid varieties alongside high-tech agriculture, such as greenhouses, drip, and sprinkler irrigation. This varietal breakthrough is seen as a game-changer by stakeholders, capable of transforming Sri Lanka's chili production and reducing the annual USD 100 million chili import bill.

Despite productivity improvements, overall production has not increased substantially, and dry chili production remains limited. The extent under chili has either declined or remained constant, with cultivation mainly focused on green chili, which continues to fetch a good market price. To increase local dry chili production, the government directed the Agriculture Sector Modernization Project (ASMP) to develop the local industry. With a target of producing 20% of the national dry chili requirement, ASMP invested in value chain development between 2019 and 2024.

3. ASMP Interventions and Achievements

ASMP provided material and technical support, introducing a package of improved management practices for MI CH HY1 cultivation across 11 districts. This initiative formed chili clusters involving 3,000 farmers cultivating 1,600 acres. The ASMP management package included poly-mulched raised beds, insect-proof netting, drip irrigation, and fertigation. The project also established a hybrid chili seed production cluster with 20 farmers in Dambulla and introduced a farmer company model, making ASMP-supported chili farmers shareholders. Financial support from the World Bank and EU covered capital and implementation costs alongside technical assistance.

4. Field Survey Findings

A field survey conducted in November 2024 found that ASMP interventions effectively scaled up improved management practices. Farmers showed strong willingness to adopt new technologies and contributed localized innovations to adapt these practices to specific conditions. While the Department of Agriculture (DOA) recommended improved management practices, scaling up primarily occurred through externally funded projects. ASMP introduced additional practices beyond DOA recommendations, such as raised beds and high plant density.

Comparing yields under traditional and ASMP-introduced management practices revealed a 60% increase. On average, ASMP beneficiary farmers in the Thirappane and Makulewa clusters achieved 24,000 kg/acre, while non-beneficiaries using traditional practices yielded 15,000 kg/acre. Furthermore, ASMP's technical packages reduced production costs by 6-7%. A key

advantage was the elimination of seasonality, as controlled environments enabled staggered cultivation, ensuring consistent year-round production.

5. Challenges to Scaling Up

The ASMP intervention demonstrated the viability of a vertically integrated chili value chain—including F1 seed production, commercial cultivation, and dry chili production—through the farmer company model. However, scaling up this model to meet the national targets of 55,850 Mt of dry chili and 37,760 Mt of green chili depends on technological, ecological, economic, and market-related factors.

A simulation model developed in the study identified optimal scaling strategies for achieving national requirements through local hybrid technology. Using ASMP's state-of-the-art technology, less than 20,000 acres would be required to meet the national target, provided dry chili prices remain at Rs. 1,000/kg at the processing center level. Successful scaling depends on location suitability, maximizing the potential yield of MI CH HY1. The study identified Anuradhapura and Northern districts—particularly Thirappane—as the most suitable areas for chili production. Establishing high-potential chili clusters in Vavuniya, Mullaitivu, Kilinochchi, and Jaffna, along with pockets in Kurunegala, Matale, and Puttalam, is recommended.

6. Policy and Institutional Gaps

The ASMP technology package, introduced through the Agriculture Technology Demonstration Park, has yet to receive approval from the DOA's Technology Release Committee for widespread adoption. This approval is crucial for expanding cultivation and fulfilling the national dry chili requirement.

A study of dry and green chili price behavior revealed distinct demand dynamics. Imported dry chili prices are generally on par with green chili prices, except during exchange rate surges. This price parity challenges local farmers, who struggle to compete with cheaper imports from India. Therefore, protection during the transition—gradually reducing import dependence until the ASMP model is fully adopted—is vital for the program's success.

7. Market Protection and Price Stabilization

Currently, a special commodity levy of Rs. 100/kg is imposed on dry chili imports. However, the instability of Indian FOB prices complicates the maintenance of a stable protected price. In addition to tariffs, introducing quality standards, labeling, and certification requirements for imports can create a level playing field for domestic producers. A price stabilization mechanism based on production and processing costs is also recommended.

8. Seed Quality and Production Capacity

Another key strength is the existing infrastructure for F1 chili seed production, supported by ASMP, government initiatives, private sector investments, and development projects. However, the field survey highlighted farmers' concerns about deteriorating F1 seed quality and availability. During the project's early stages, MI CH HY1 seeds yielded excellent results, creating high demand. Good-quality F1 seeds are essential for a national dry chili development program.

To ensure genetic purity and high germination rates, regulating F1 seed production protocols and developing testing tools for genetic purity and hybridity verification are crucial. Strengthening government-led seed multiplication programs and establishing F1 hybrid seed clusters as the value chain's nucleus can ensure accountability. Expanding seed production to suitable locations like Kotmale, Nawalapitiya, and Kahalla—where agro-climatic conditions favor high-quality seed production—is also recommended.

9. Conclusion and Way Forward

While ASMP interventions have demonstrated the potential for enhancing Sri Lanka’s chili industry, policy adjustments are necessary to ensure long-term sustainability and reduce import dependence. Achieving self-sufficiency in chili production while maintaining market stability requires coordinated efforts among government agencies, private sector stakeholders, and farmer organizations.