



GrowAsia

Making Vegetable

Markets Work

(MVMW)

Case Study





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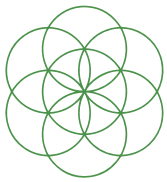
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Grow Asia is a unique multi-stakeholder partnership platform that brings together farmers, governments, companies, NGOs and other stakeholders in Southeast Asia to develop inclusive and sustainable value chains. At Grow Asia's core are three goals – to increase the productivity, profitability and environmental sustainability of smallholder agriculture across the region by helping farmers and the organizations that work with them access knowledge, technology, finance and markets.

Grow Asia comprises the regional Grow Asia Secretariat in Singapore; six Country Partnerships, each supported by an in-country Secretariat; and the Working Groups, which focus on specific issues or crop-based value chains.



The Myanmar Agriculture Network (MAN) is a non-profit and multi-stakeholder platform that promotes partnerships in sustainable agriculture. As the Grow Asia Country Partnership in Myanmar, MAN works in close coordination with the Ministry of Agriculture, Livestock and Irrigation (MOALI), Ministry of Commerce (MOC) and Ministry of Planning and Finance (MOPF).

MAN brings together companies, government agencies, civil society organizations, farmer groups and financial institutions to link smallholder farmers to the market with the shared goal of increasing farmers' profits and productivity while improving the environmental sustainability of their farms.

Executive Summary

What does it take to implement multi-stakeholder partnerships on a fragmented value chain in a frontier market?

Making Vegetable Markets Work (MVMW), a US\$5 million donor-funded initiative¹, worked with more than 35 businesses to improve the performance of Myanmar's vegetable sector for smallholder farmers. Generating an Economic Rate of Return (ERR) of 44% over a project period of 3.75 years, MVMW increased farmer incomes by an aggregate of US\$14.8 million, supported businesses to develop new services that sustained after the project concluded, and delivered key policy changes in the seed sector. However, not all project activities gained traction, especially because of the context and difficulties experienced in Rakhine State. See [Results](#) section for more details.

Myanmar's agriculture sector faces significant hurdles. Farm productivity is among the lowest in Southeast Asia², the country has a challenging business environment³ (ranking 170 of 191 in the Ease of Doing Business Index) and rural poverty rates are nearly thrice those of urban areas⁴. To address those challenges, the project utilized a market system approach⁵, rather than direct service delivery. This required working with selected market actors in order to create sustainable systems change at a reasonable cost per farmer reached. Mercy Corps and Swisscontact formed partnerships with more than 35 private sector companies, and in particular vegetable seed and agricultural input suppliers.

Partnerships in two states were formed using a three step process: (i) co-design, (ii) implementation, and (iii) adapt and scaling. These partnerships differed significantly with some achieving large scale and impact, while others struggled due to multiple challenges. In Rakhine State, an extremely underdeveloped region with high poverty rates and a limited vegetable sector, the project's impact was limited by a combination of extreme weather, limited vegetable farming experience and market outlets, as well as by conflict. Lessons learned from the partnerships approach include the following:

- **Tailored design**

The two project areas were extremely different. Southern Shan had a conducive environment: a cadre of experienced vegetable producers,

well-developed marketing channels, easy access to expanding demand and a stable political environment. Over 98% of the economic benefits to producers happened in this state. The outcome in Rakhine State is likely to be more positive by taking a different approach, including different partners and a longer-term, more hands-on and resource-intensive mode of operation.

- **Coordination at multiple levels**

Coordinating activities required engagement across three tiers of staff. The project streamlined decision-making by identifying one decision-maker per organization to better coordinate activities.

- **Complementary interventions**

The project took a flexible approach, and after reviewing lessons from its first phase, focused its efforts on stimulating vegetable farmers to take up improved technologies and techniques. Two interventions stand out, and are believed to have had a synergistic effect with one another: First, the use of on-farm demonstration plots, training leading farmers, and co-opting small-scale off takers and local retailers to encourage growers to produce higher quality vegetables, and stock the inputs in their retail shops. This approach was exemplified by the work of East-West Seed. Complementary to this was the use of vouchers to provide a one-off subsidy for the purchase of improved inputs and technology by the growers. This has the triple benefit of (i) enabling producers to engage and understand the advantages of the new technologies, (ii) de-risking the investment, and (iii) providing growers with an extra profit, affording them the extra cash to purchase the inputs again at full price in the next season. This approach was exemplified by Marlarmyaing, a major supplier of agricultural inputs.

- **Productivity foundations**

Most successful value chain projects are built on the foundation of a large and committed off-taker with a need for additional supplies. This project demonstrated a successful alternative approach:

1. The Livelihoods and Food Security Trust Fund (LIFT) is a multi-donor fund established in 2009 to improve the lives and prospects of smallholder farmers and landless people in rural Myanmar. LIFT provided US\$4 million, while follow-on funding from Mastercard and Shell (US\$500,000 each) allowed the project to expand into more townships of Rakhine State and expand activities on land law and business advisory services.

2. World Bank Group & LIFT (2016). *Myanmar: Analysis of Farm Production Economics*.

3. World Bank Group (2019). *Doing Business 2019: Training for Reform*. 16th Edition.

4. 38.8% in rural areas versus 14.5% in urban areas. Source: World Bank Group & Ministry of Planning and Finance (2017). *Myanmar Poverty Assessment 2017: Part Two*.

5. *Market system approaches* start with the premise that the poor interact with markets (agriculture, labor, etc.) and then look for ways to enhance the performance of the market for pro-poor growth. Changes are made to the system to create sustained change even after donor funding concludes.

operating in a fragmented market, and in traditional supply chains, it deliberately set out to use the existing small-scale buyers and input supplies to promote the new technologies. However, underlying this difference is the same critical success factor: an expanding market demand for the product.

- **Devoted and influential leaders**

Success in promoting policy changes stemmed from convening key people with knowledge, influence, and shared interests. The long-term impact has included the government recognizing the importance of vegetable production, and the creation of institutions to progress the development and modernization of the sector in a more coordinated way. Examples include the Vegetable Sector Acceleration Taskforce (VSAT), a platform that promoted policy dialogues and published sectoral research, and the Myanmar Agriculture Network (MAN) Horticulture Working Group.

- **From the same playbook**

A strong research agenda supported policy discussions and built the project's credibility with government and sectoral leaders.



Project farmer showing his farm accounts, and the increased profits the family farm achieved.

The Approach

Project Overview

MVMW aimed to increase the incomes of 15,000 vegetable farmers in Myanmar. Led by Mercy Corps, Swisscontact, and East-West Seed, the project utilized a market systems approach that partnered with 35+ market actors (businesses, civil society, entrepreneurs, and government) to create inclusive business partnerships (i.e., interventions)¹. 25,663 farmers used improved inputs and services as a result of the business interventions over the project's 3.75 year duration (June 2014 to March 2018)¹.

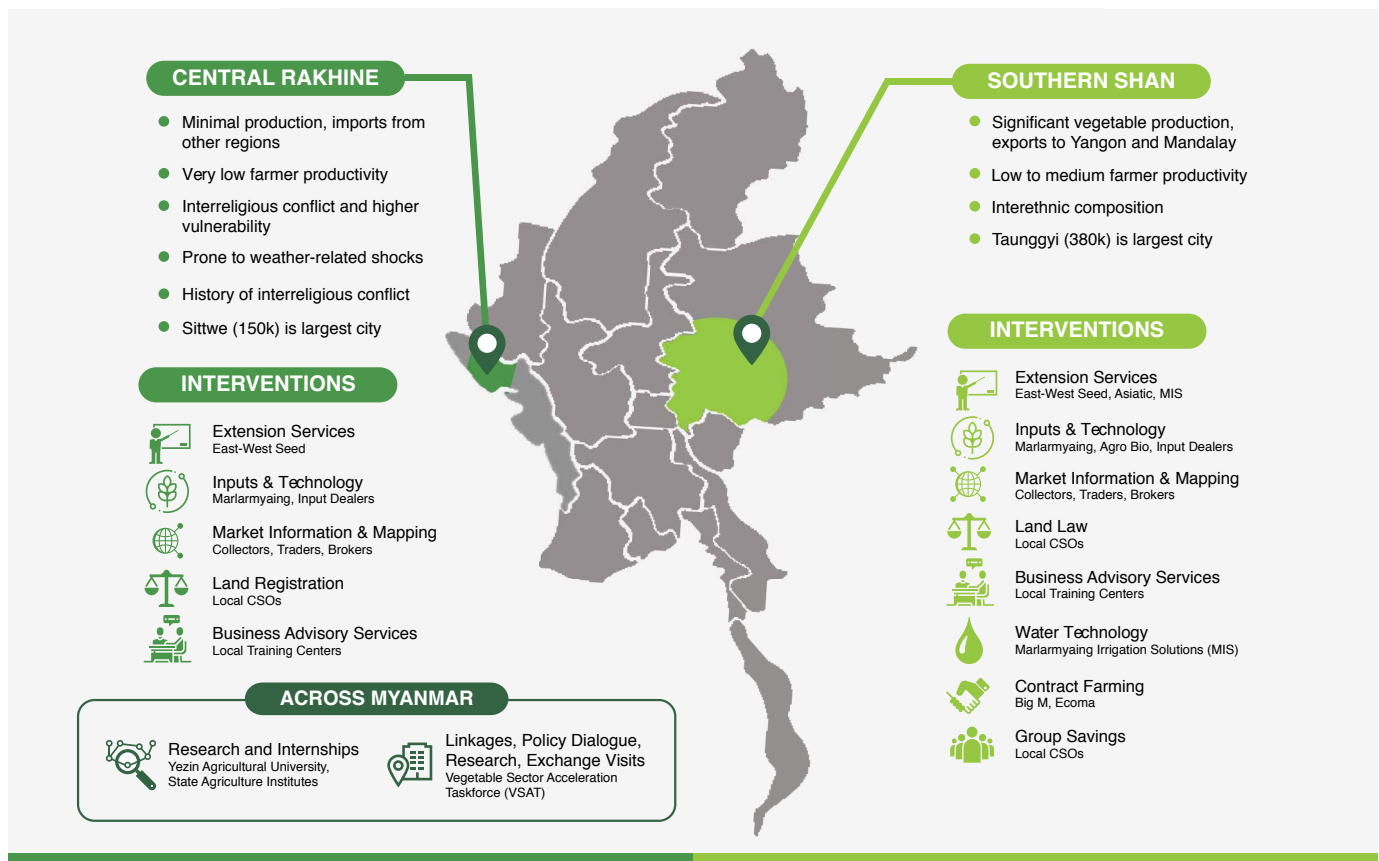
Developing, negotiating and implementing Public-Private Partnership (PPPs) were central to the MVMW approach. Staff from Mercy Corps and Swisscontact provided minimal on-the-ground

services to farmers. Instead, field staff acted as facilitators: organizing farmers and linking them with business-led interventions, sharing information, and monitoring activities. Staff at higher levels, such as in Yangon, co-developed partnerships and oversaw a cohesive management approach.

Project implementation occurred in two very different geographies and operating environments:

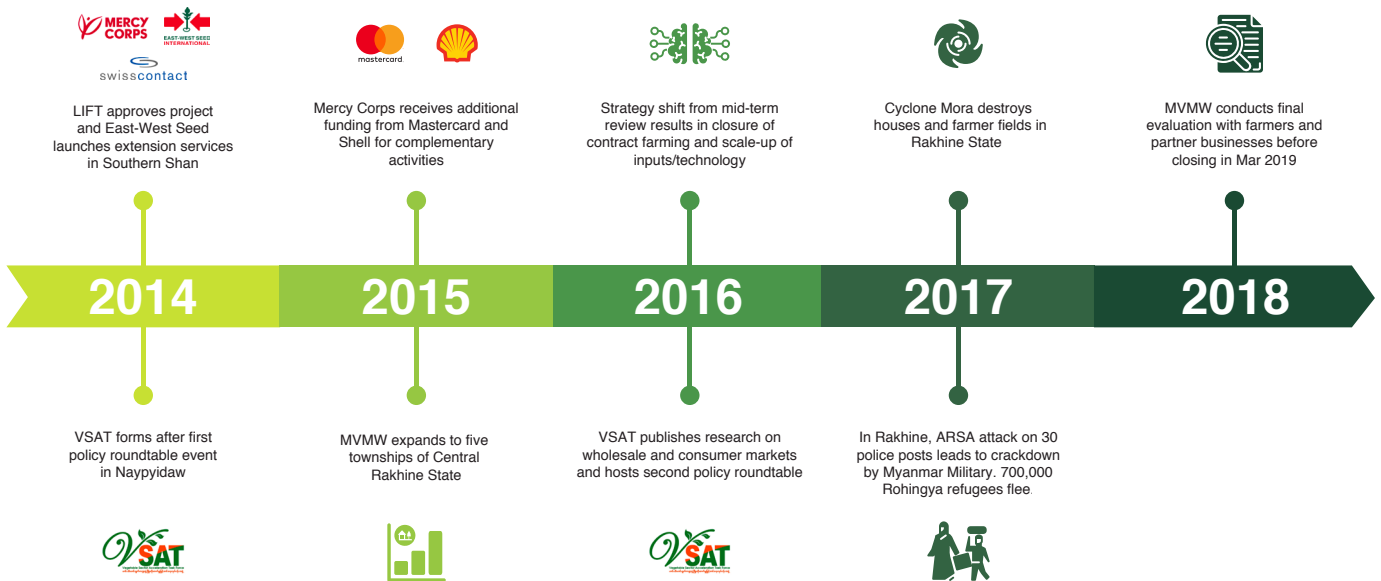
- **Southern Shan** – a hilly, temperate region with significant vegetable cultivation and export
- **Central Rakhine State** – a tropical delta with little vegetable cultivation and high poverty rates⁶

Figure 1
Interventions by State



6. 78% of the Rakhine population lives below the poverty line versus a 37.5% national average. Source: World Bank Group (2014). Myanmar: Ending poverty and boosting shared prosperity at a time of a transition.

Figure 2
MVMW's timeline of activities



Key Challenges

Myanmar is a developing economy undergoing a political transition while emerging from relative economic isolation. The agriculture sector struggles with low farmer productivity, limited foreign investment and weak infrastructure. With one of the highest rates of per capita rice consumption in the world, Myanmar's farmers, policy makers, and businesses

have unsurprisingly focused their efforts on that sector, leaving others lagging far behind. However, vegetables have significant nutritional advantages and economic potential, generating 4 to 8 times the profit per acre compared with rice. To develop this nascent sector, MVMW sought to address some of the following challenges outlined below.

Figure 3
Key challenges in the Myanmar vegetable sector



LOW PRODUCTIVITY

- Farmers in the project **lack access to extension services**. Instead, they rely on informal networks to learn new practices and solve problems.
- A **developing seed sector**, limiting farmer access to high quality seeds and keeping yields low.
- There is **insufficient finance**, in the form of credit and savings, to improve inputs and technologies.



CHALLENGING BUSINESS CLIMATE

- Myanmar ranks **171 of 191** on Ease of Doing Business Index.
- Lack of **cooperation and coordination** among market actors due to business culture.
- **Rice-focused policies** have diminished investment and limited agriculture growth to ~2.5% per year.
- **Low institutional capacity** coupled with agriculture budgets of less than 1% of government spending.



HIGH VULNERABILITY

- Rural areas, which have poverty rates ~3X urban areas, have **high transaction costs and remain risky investments**.
- Myanmar is the third most vulnerable country in the world to climate change, according to the **Global Climate Risk Index**.
- **Ongoing conflict, especially in Rakhine State**, prevents educational achievement, stymies livelihoods, and results in chronic displacement.

Partnership Approach

To address these challenges and capitalize on the economic potential of the vegetable sector, MVMW worked with partners through a “market system deal” mechanism (see pop-out box on right). Mercy Corps and Swisscontact avoided direct implementation of project activities. Instead, partner organizations led activities with support from the project staff. Deals were co-financed by MVMW and the partner because they had aligned incentives and stood to benefit. Deals were formed through a negotiation process consistent with The World Economic Forum’s Guide to Country-Led Action partnership model⁷.

1. Co-Design

Following a market assessment, MVMW set its vision for change using a results chain—linking activities to outputs and expected results. Mercy Corps and Swisscontact identified high-potential intervention areas, such as private sector extension and the need for improved inputs/technology, where it would seek out partners to implement activities.

The project initially tried to engage the private sector by soliciting expressions of interest. However, limited knowledge of the PPP models resulted in no submissions. Companies typically viewed NGOs as donation-driven organizations. MVMW staff initially struggled to meet with decision-makers within the business units. As a result, MVMW actively met with companies one-on-one to explain the project and educate staff on the benefits of participation. Ongoing work with East-West Seed, which had already started activities, showed promise which increased interest from non-participating companies. The Myanmar Agriculture Network (MAN), the multi-stakeholder Country Partnership established by Grow Asia, provided a channel to identify and court potential partners. MVMW involved MAN’s Horticulture Working Group in the VSAT, a platform that promoted policy dialogues and published sectoral research.

Interested companies submitted a two-page concept note with their preliminary budget. After reviewing the concept, project and company staff met to align the design including goals, roles/responsibilities, and budget. Discussions occurred over a period of several weeks with significant back-and-forth. MVMW focused on listening to companies’ needs and proposing practical solutions with aligned incentives. For example, initial discussions with Agro Bio on contract farming fell apart but were revived when an opportunity to develop a nursery business was introduced.

What is a market system deal?

In market system development, project teams and private sector companies negotiate deals to implement certain activities. For MVMW, deals were mutually beneficial arrangements that contain:

- **Risk-sharing** – often through cost-sharing
- **Additionality** – activities that would not take place without the project, often with innovation
- **Neutrality** – not providing one business with a long-term, unfair advantage

Deals were finalized through a sub-grant agreement which set a pragmatic structure for day-to-day collaboration, reporting, and finance, consistent with findings from other Grow Asia Country Partnerships⁸. Senior MVMW staff including Monitoring & Evaluation, Finance, and the Program Director reviewed and approved each deal. Needing to conform with donors standards, sub-grant agreement were lengthy documents that required administrative oversight. This was sometimes a challenge for smaller partners that lacked mature internal systems.

7. *Building Partnerships for Sustainable Agriculture and Food Security: A Guide to Country-Led Action* is a guide to forming locally-owned, multi-stakeholder and market-driven partnerships.

8. Setting clear roles and responsibilities and parameters for monitoring and evaluation is a criteria for success. Source: Grow Asia Singapore (2017). *Coffee Sector in Indonesia: The Journey*.

2. Implement

All market deals resulted in on-the-ground activities in the project area. The implementation modalities differed. East-West Seed field staff offered extension services through key farmers and demonstration plots. On the other hand, Marlarmyaing worked mainly at the input supplier level; supplying stocks of improved inputs (e.g., seedling trays and plastic mulching) and operating a discount voucher system which de-risked farmers' investment in resilience and productivity-improving technologies.

The level of MVMW support and coordination varied by deal. For some deals, such as East-West Seed, MVMW staff worked alongside company staff every day. In other instances, company teams worked independently, with MVMW only playing an advisory and monitoring role. Different levels of support were agreed upon during the negotiation stage and allowed partners a degree of independence or assistance depending on need. In follow-up interviews, partners agreed that more support from MVMW staff, which were often stretched too thin at one person per township, would have helped to achieve greater scale, faster results, and greater impact.

An Intervention Manager from MVMW and one person from each partner business coordinated all activities and decision making. These individuals served as a funnel through which all communications were channeled. At the field level, staff met at monthly meetings and then regularly communicated through instant messaging and phone calls. Partners submitted short monthly reports to the Intervention Manager. Concurrently, Mercy Corps staff took responsibility for Monitoring & Evaluation (M&E) including baseline, midline, endline, farmer feedback, and research studies.

Why do companies participate?

There is an assumption that companies participate in programmes like MVMW with well-developed business plans and profit motivations. Interviews with leaders from participating business revealed a more nuanced list of interests beyond profit.

- **Need to “grow the pie”**
Desire to expand the agriculture market, with special attention to farmers' basic skills, in order to unlock future opportunities.
- **Brand the complementarities**
Increase farmers' awareness of a company brand with the intention of marketing complementary goods and services.
- **Accelerate and expand**
Achieve greater scale at faster rates. In general, companies saw MVMW as catalyst rather than introducing technical and business model innovations.
- **Farmer relationships**
Build closer, more localized relationships with farmers to gain insights and establish trust.
- **Amplify voice**
Increase the company profile and its voice through associations with proven development actors and participation in VSAT.
- **Learn**
Understand new operating and development models in a dynamic, frontier market.

3. Adapt and Scale

An emphasis on “learning by doing” led to MVMW launching interventions, gauging results and farmer feedback, and then adapting. MVMW management incorporated adaptation through different mechanisms including reliable field data (i.e., M&E), regular reporting, and strategy review sessions every six months with all staff and key partners. The two-day biannual review sessions allowed information exchange between partners, across different staff levels (i.e., field and management), and between the two different states.

The project’s mid-term review, conducted by an external consultant in mid-2016, provided an opportunity for reflection and adaptation. At this time, management deprioritized contract farming and group savings interventions in favor of scaling up more successful interventions on extension services and agricultural inputs/technology. The team agreed that the contract farming interventions in particular had potential but the project lacked the necessary time to overcome the challenges. Resources were redistributed to increasing work on the voucher intervention (Marlarmyaing) and developing new inputs/technologies deals on seedling nurseries (Agro Bio) and water access (Marlarmyaing Irrigation Solutions).

New partnership opportunities developed over the course of the project as it established credibility within the marketplace. Initially, private sector companies were hesitant to engage due to their unfamiliarity with the PPP model. Interest grew as companies observed the benefits of participating. New interventions with Agro Bio and Marlarmyaing Irrigation Solutions blossomed in the waning project years. The interest and crowding-in of new competitors underscores the importance of having strong initial partnerships that show results, in this case East-West Seed, and a project of sufficient length to allow for adaptations.





MVMW's voucher intervention introduced new technologies with a ~40% discount for farmers. After the project period, the demand for improved seeds and seedlings trays remains high although plastic mulching demand has dropped.

Ma Ohmar Ye (left) started her input business in 2003. She manages the shop while her husband negotiates with suppliers.

East-West Seed supported key farmers whose demonstration plots served as the nexus for field days and trainings.

Thar Yar (right), an East-West field staff, answers Nang Lar's (far right) questions about a pest problem.



Nan Lay (39) and her husband Cho Myint (47) own only one acre of land and are one of the poorer families in their village. Through a key farmer, Nan Lay learned about fertilizer usage, composting, spacing and improved seeds. Their yields have improved only slightly but they have reduced their costs through better farm management practices.

Results

Key Results

Figure 4



25K Farmers
\$14.8M increase in incomes



35 Business
New products and services



Est. seed association
Improved seed policies



44% ERR on \$5M project
Market system learnings

Farmer Level

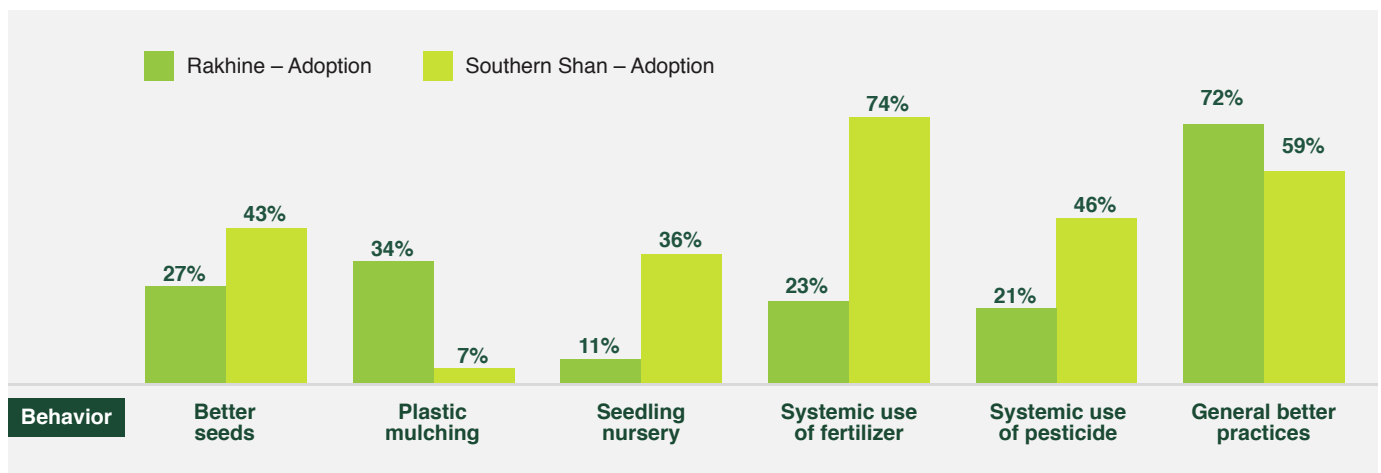
MVMW reached 25,633 farmers (17,276 men, 8,387 women) with improved services including extension services, inputs/technology, and market information. Results were measured based on behavior, productivity, and income change using baseline, midline, and endline measurements from a random sample of farmers⁹.

Farmers' adoption of key behaviors, such as using improved seeds, drove improved productivity and incomes. In general, farmers in Southern Shan showed higher rates of behavioral change which is unsurprising given their previous experience with vegetable production, greater access to financial resources and market demand, and the longer duration of the project in that area.

Extension services from East-West Seed and Asiatic, which taught and reinforced the behaviors in the below table, reached the most number of farmers: 20,737 and 4,142 households respectively. Complementing the trainings, 2,190 farmers purchased key technologies using MVMW's voucher system that offered subsidies of 15 to 40%.

Inputs and technologies introduced during the extension services were available through the voucher system. More than 5,000 farmers purchased technology, investing US\$85,000 while the project contributed US\$46,000 in subsidy. Marlarmyaing, the wholesaler of many of the technologies, also contributed to the subsidy amount in the final project year.

Figure 5



9. Comparison of 2,855 farmers' baseline measurements (Southern Shan n=2,142, Rakhine n=713) collected from February 2015 to August 2016 in Southern Shan State and September 2015 to 2016 in Rakhine State, against 799 farmers' endline measurements (Southern Shan n=401, Rakhine n=398) collected from January to March 2018 in both states.

Number of smallholders purchasing inputs and technologies through the voucher program

Figure 6

Technologies	Rakhine	Southern Shan	Total
Seeds	1,682	-	1,682
Fertilizer	1,042	-	572
Seedling Trays	148	493	641
Plastic Mulch	378	194	572
Trellis Netting	458	65	523
Sprayer	433	-	433
Methyl Eugenol	61	-	61
Protective equipment	10	42	52
Drip Set	-	32	32
Soil PH tester	24	-	24
Total	4,234	836	5,060

In terms of vegetable sales and income, farmers in Southern Shan increased their vegetable income more (120%) than those in Rakhine (-15%). Farmers who had previously not grown vegetables (labelled 'New Veg Farmer' in below table) also showed an increase from a baseline of zero¹⁰. Rakhine vegetable farmers, who started the project with basic vegetable production techniques and in more fragile market, faced several

challenges during the project that contributed to the lower income. Severe weather destroyed farmers' plots in May 2017 and intercommunal violence in August 2017 caused market disruptions. These shocks reinforce the need to develop resilience alongside productivity enhancements as well as longer project periods in more fragile markets.

Figure 7

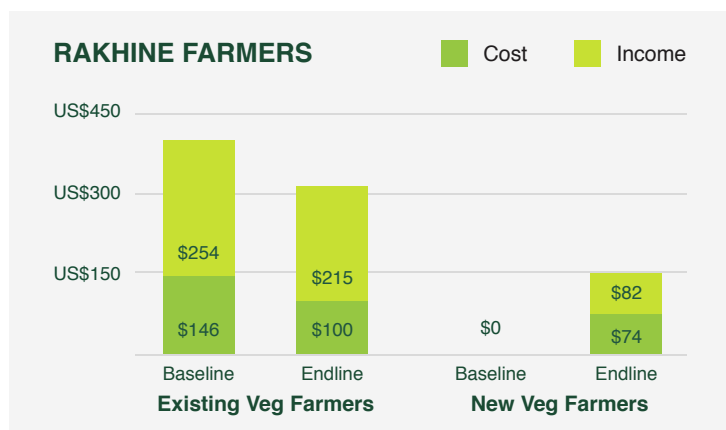
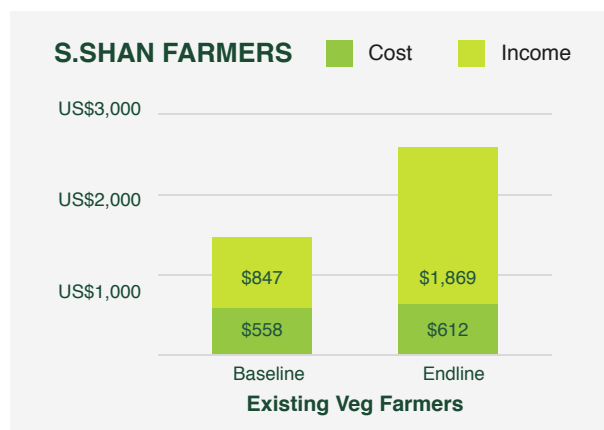


Figure 8



10. New vegetables farmers have a baseline of zero because they did not previously grow vegetables. For them, vegetable cultivation is not replacing other crops since vegetables are grown in the offseason, opposite the monsoon when paddy is grown. Most Rakhine farmers' fields are fallow in the offseason so vegetable production is a new farming activity. Rakhine vegetable farmers, especially new ones, have extremely small plot sizes (~0.1 acres) so there is little to no crop substitution occurs (i.e., growing vegetables instead of paddy or another crop).

Overall, the US\$5 million project increased aggregate farmer income by US\$14.8 million and ERR of 44%. Greater gains are seen in Southern Shan compared with Rakhine due to the challenges discussed above. 2,972 Rakhine farmers (26% of Rakhine farmers) are 'New Veg Farmers' and started with a baseline of US\$0. The above graphs and below numbers show only vegetable income as the project did not measure

total household income. Households have a variety of income sources, from farming different crops and off-farm activities, and the importance of vegetable income varies greatly from household-to-household. Estimates from interviewed farmers and project staff indicate that vegetable income is on average ~30 - 40% of total household income in Southern Shan and 5 - 20% of household income in Rakhine.

			2014	2015	2016	2017
Shan	# of farmers		Project inception	Baseline established	2,005	14,159
	Avg income change / farmer				\$64	\$1,052
	Total income change				\$128,247	\$14,891,999
Rakhine	New Veg Farmers	# of famers	N/A	Project inception	Baseline established	2,972
		Avg income change / farmer				\$84
		Total income change				\$250,314
	Existing Veg Farmers	# of famers	N/A	Project inception	Baseline established	8,532
		Avg income change / farmer				(\$40)
		Total income change				(\$338,349)

Figure 9

Systems Level

Market development projects also aim to achieve higher-level impacts: market actors changing their behaviors, businesses offering new products/services, and governments improving policies to enhance the enabling environment. MVMW worked with 39 organizations with an emphasis on Micro, Small and Medium Enterprises (MSME), especially 21 rural input suppliers that provided access to improved inputs and technologies through the voucher system.

Figure 10

Organization type	National	International
Large Commercial	7	2
Micro, Small and Medium Enterprises (MSME)	26	1
Civil Society	3	0
Total	36	3

Seven of nine interviewed businesses reported a positive experience working with MVMW. Businesses reported that the project resulted in increased brand awareness, greater sales, and closer relationships with farmers. MVMW helped businesses to accelerate and amplify existing or planned activities rather than develop new, innovative business models. In particular, business leaders noted that the project's complementary interventions created synergistic effects that amplified results for businesses. For example, extension services by East-West Seed and Asiatic complemented Marlarmyaing and input suppliers' inputs/technology sales, promoted through a voucher system.

One participating business, which has achieved ~20% per year sales growth in the target markets, credits much of its success to the partnership. While exact attribution to sales is impossible, businesses uniformly reported that the project enabled them to reach greater scale with faster speed. Another business remarked that the project helped to instill more rigor and formality in their business due to the project's requirements of a business case, financial procedures, and work planning.

Businesses agreed that system changes in Southern Shan outpaced those in Rakhine State due to the more mature market and absence of disruptions. Positive economic and political trends, such as strong growth, better infrastructure, and peace/stability, aided the project in Southern Shan. Many of MVMW's participating businesses view Rakhine State as a longer term opportunity that is not yet "market ready", according to one business leader. Interviewed business

leaders remarked that a different and longer-term approach was needed in Rakhine State due to its limited vegetable production, high poverty rates, ongoing conflict, and susceptibility to natural disasters.

VSAT, which was later folded into MAN's Horticulture Working Group, proved to be an effective platform for fostering horizontal collaboration. Of the businesses interviewed, seed companies reported the most positive experience with VSAT due to its convening stakeholders, forming a national seed association, and supporting the liberalization of seed laws. Non-seed business had less involvement with the group, however, mentioned its contributions in raising the profile of the sector due to its large events in Naypyidaw.

VSAT members reported that the group contributed to the Ministry of Agriculture's shift of opinion on the potential of the vegetable sector. This shift is best shown in the Agriculture Development Strategy, released in June 2018, which references VSAT's vegetable white paper and emphasizes the importance of vegetable cash crops¹¹. To accomplish this, key VSAT leaders collected support through their vast networks and then delivered important messages at the three policy roundtable events. Beyond education, VSAT was able to establish the Myanmar National Seed Association and influence the government to liberalize the vegetable seed sector resulting in more farmer choice and competition. These changes are a direct result of VSAT's action and showcase an example of an effective multi-stakeholder platform.

11. Ministry of Agriculture, Livestock, and Irrigation (2018). Myanmar Agriculture Development Strategy and Investment Plan (2018/19 - 2022/23).



The MVMW program introduced new inputs to our farmers and raised their awareness on water and fertilizer management. The program guided the local farmers on how they can maximise their income by using modern agriculture tools. As a result, we were able to increase our sales, form closer relationships with farmers and expand into new areas.

Ye Mun Htun,
Chief Operating Officer, Marlarmyaing



Naing Win Tint and his aunt, Mar Mar Aye, outside his farm.

Knowledge comes from surprising places. For Naing Win Tint (36), knowledge of improved vegetable production came from his mother-in-law who was selected by East-West Seed as a key farmer. Increased productivity allowed him to purchase a new card (~US\$7,000) and one additional acre of land (~US\$7,500).



Naing Win Tint and two farmer laborers picking green peppers under shade netting.

Lessons Learned

1. Tailored Design

Key message

The drastic difference between markets required different partners and longer-term, more hands-on approach in Rakhine State.

The differences between MVMW's target geographies are vast. Southern Shan is a more stable political environment with a transitioning agricultural economy. The state produces a significant amount of vegetables for export to other markets in Myanmar. Conversely, Rakhine State suffers from ongoing conflict and has an agricultural economy focused on rice. Prior to the project, vegetable production was minimal and traders imported most produce from outside the state.

MVMW expanded to Rakhine State in late 2015 permitting less than two years of implementation before violence erupted in August 2017. Results in Rakhine suffered due to the conflict-created market disruptions such as lack of labor, increase in input costs, and market breakdowns. However, post-project focus group

discussions showed promise and continued interest from farmers despite the challenges.

More project investment and time in Rakhine State is necessary to support the nascent vegetable market. Project partners from Southern Shan were reluctant to invest in the fragile market so new partners could have been identified. Additional project subsidy, through cost sharing, may have also spurred partners to increase investment. Partners agreed that Rakhine is a high-potential agricultural market, however, current political and economic challenges require a slower approach. As one of the first market-driven projects in the state, MVMW has pioneered a new approach which other donors are starting to follow.



On farm demonstration plot growing bitter gourd on an iron framework.

2. Coordination at Multiple Levels

Key message

Coordinating activities required engagement across three tiers of staff. However, one decision maker per organization supports success.

Creating successful market system deals between the project team and companies requires coordination at multiple levels within the partnering organizations. For MVMW's deals, MVMW middle management initiated discussions with companies and then involved senior leadership for relationship building and to check for strategic alignment. MVMW and companies' administrative (e.g., grants, finance) and field staff began working together after the deal negotiation was complete. Administrative staff from MVMW and the company worked together on budgets grant agreements.

Methods and tools for coordination varied by the different levels. Field staff used instant messaging

as well as monthly coordination meetings in the project office. Middle management primarily used email and written reports. Senior leadership had infrequent in-person meetings but regularly communicated by email, relying on the middle management for progress updates, key messages, and problems.

Due to the large number of people involved, MVMW staff reported that it was crucial to have one point person, from the project and company, for each deal. Middle management assumed this role because they had sufficient authority and ability to navigate field and senior management requirements.

Figure 11

Level	Personnel	Major Responsibility	Tools
Senior Management	Director, COO, CEO, Business Head, Donor Officer	Approving deals, ensuring strategic fit, overseeing budget	In-person meetings, emails, donor reports
Middle Management	Intervention Manager, Field Manager, Technical Specialist, Project Manager, M&E Manager	Monitoring, adapting, reporting, overseeing field terms	Email, monthly reports
Implementation Level (i.e. field teams, administrative teams)	Project Officer, Agronomist, Grant Officer, Finance Officer	Training farmers, establishing demo plots, meeting with traders, collecting data, ensuring sub-grant compliance	Monthly coordination meetings, instant messaging, phone calls

3. Complementary Interventions

Key message

Partnerships that reinforced key behaviors produced a catalytic effect. Investment in dovetailing interventions creates more returns on investment and holistic solutions.

In traditional donor funded projects, NGOs directly provide interrelated services to farmers such as training, free or subsidized inputs, and finance. Grouping services together provides a reinforcing and synergistic effect. For example, farmer training emphasizes using specific fertilizer practices and then subsidized fertilizer, distributed by the project team, spurs uptake. Complementary interventions can be more challenging for market systems projects as the lead organization should not step-in to fill a missing role in the system. Instead, they must create partnerships which requires a level of market maturity: companies' interest, willingness and skill to provide complementary services and cooperate.

MVMW's successes hinged upon complementarities. For example, the dovetailing of East-West Seed's trainings with Marlarmyaing's technology promotion intervention led to high farmer adoption rates of key practices and technology (e.g., 35% of farmers adopted better quality seeds). Farmers learned about the voucher-subsidized products during the training and were able to purchase them from their local input shops, supplied by Marlarmyaing. 2,190 farmers invested US\$85,000 alongside the project's US\$46,000 discount during the project period.

Additional overlapping interventions would have further strengthened MVMW's impact. Follow-up interviews with farmers and input dealers revealed a growing demand for some inputs such as high-quality seeds and seedling trays. Demand for higher priced inputs, such as plastic mulching, has decreased due to the large investment cost. A complementary intervention promoting financial access tailored to vegetable cropping seasons and costs would have further reinforced input/technology adoption needed to increase resilience and sustain high yields. All interviewees agreed that adding a financial interventions, especially in Southern Shan where there is a stronger set of institutions, was feasible. The Livelihood and Food Security Trust Fund's work with, and support of, microfinance institutions could have been leveraged.

Creating synergy through complementary interventions

- **Market information** – MVMW staff shared trader and collector information with trained farmers to ensure sufficient sales channels.
- **Seedling nursery** – Argo Bio developed seedling nurseries in areas where East-West Seed had previously trained farmers on the importance of high-quality seedlings.
- **Land law** – MVMW worked with local CSOs to provide land law awareness training and support to farmers. Initially, many of the target villages did not overlap with other MVMW activities although this improved in later years.

MVMW's contract farming intervention with Ecoma had no overlap with other interventions and contributed to its slow start and issues with farmers' adherence to organic practices. Eventually, MVMW and Ecoma decided to end the intervention due to slow progress.

4. Productivity Foundations

Key message

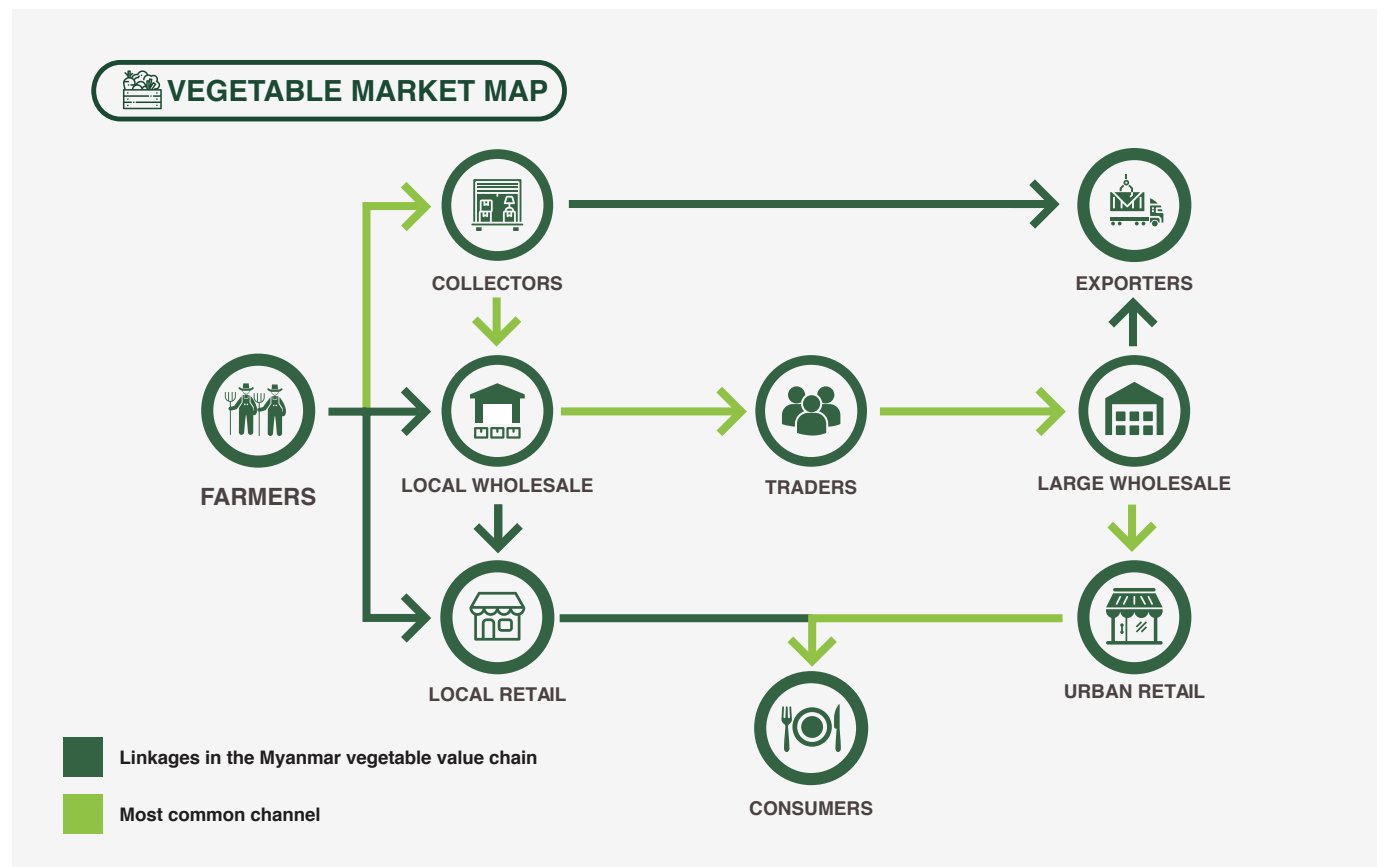
Increasing farmer productivity through better use of inputs, technology, and practices supported the development of the market.

Most value chain projects form around a buyer with a strong ‘pull effect’ – demand for high-quality products from smallholder farmers. But, what can be done on value chains where the market is small-scale, informal and fragmented? MVMW experimented with some buyer partnerships, however, it concentrated on increasing farmer productivity through better use of inputs, technology, and practices.

The project focused on connecting communities with improved, reliable support services such as extension, inputs and seeds and water. The approach increased productivity and was seen by market players as a foundational step before more formal output market channels can flourish. Few, if any, vegetable farmers

in the project area, even in the more mature market of Southern Shan, have contracts with buyers. On the market side, instead of contracting, the project mapped all existing market players (i.e., brokers, traders) and shared the information with farmers in order to increase market efficiency and coordination. Since the project has ended, more formal buyers have entered the market including City Mart and Metro Wholesale—companies that have entered into contracts with farmers previously supported by MVMW. The change into more integrated, formal markets follows similar market improvements in other ASEAN countries. The project’s focus on partnerships without a strong buyer illustrates a method for building the foundations for more formal market players to enter.

Figure 12
 Myanmar’s vegetable market is highly fragmented. Small collectors, traders, and brokers buy and sell in small quantities with no formal agreements. Vegetables pass through many ‘hands’ on their way to your plate.





On farm production of modular vegetable transplants grown in a small shade tunnel.



Transplanting modular vegetable plants into raised beds.



Conventional seed growing on the left vs elite seed growing on the right.



Clear demonstration of the benefits of raised beds: the sweet corn on the right were subjected to flooding hence their yellow appearance and stunted growth. Those on the left were grown on the raised bed, have avoided water logging and are growing healthily.



Tool for carving raised beds for vegetable production.



Using pheromone traps to capture insect pests, without needing to spray insecticide.

5. Devoted and Influential Leaders

Key message

Success in promoting policy changes stemmed from convening key people with knowledge, influence, and shared interests.

Alongside its on-the-ground implementation, MVMW created the multi-stakeholder VSAT to develop horizontal linkages and foster policy dialogues. VSAT activities included research/white papers, large dialogue events in Naypyidaw, and exchange visits. At the conclusion of the project, VSAT merged with the Horticulture Working Group under MAN.

VSAT's leadership included devoted and influential leaders within the agricultural sector. A former Director General from the Ministry of Agriculture chaired the group which also benefited from the expertise of LIFT, the Dutch Agriculture Counsellor, and Mercy Corps'

Program Director. VSAT's leadership found common interests and drove the group's agenda and implementation. The absence of authority leading to stagnation, which is a pitfall for multi-stakeholder groups, was avoided by having strong leadership supported by a part-time secretariat who handled the group's administrative tasks. VSAT's leadership and their parent organizations invested significant time into the running and operation of the body. This yielded dividends in terms of the group's high-function, large and well-attended events, and government's policy changes especially in the seed sector.

6. From the Same Playbook

Key message

A strong research agenda supported policy discussions and built the project's credibility with government and sectoral leaders.

"Reading from the same page" is an old idiom underscoring the need for mutual understanding. VSAT created a playbook for the vegetable sector by conducting evidence-based research and publishing several important studies including a vegetable sector white paper, wholesale market management plan, consumer preference study, and seed sector roadmap. These outward-facing studies, rather than internal strategies, helped to align and set VSAT's priorities among its diverse membership base.

The research established the group's credibility and created key messages. Policy roundtables, attended by 100+ stakeholders in Naypyidaw, utilized the research documents to formulate discussion and inform the Ministry of Agriculture officials on sectoral gaps. In the case of the seed sector, VSAT's work led to the Ministry's recognition of the importance of high-quality seeds, the creation of the Myanmar National Seed Association, an improved registration process, and overall liberalization of the sector.

What's Next

Myanmar's poverty reductions, while significant over the past several years, are from a low base and must be sustained¹². Overall economic growth remains strong¹³, however escalating conflicts in Rakhine, Kachin and Northern Shan States are derailing inclusive development. Foreign direct investment has fallen from a 2016 high¹⁴ and the uncertainty of the 2020 election looms large.

With poverty concentrated in rural areas and the agriculture sector being the country's largest employer, inclusive agricultural development is a top priority. The vegetable sector remains small but increasingly important part due to farmers diversifying beyond paddy production. In particular, there is an increasing preference among farmers for growing more profitable products such as vegetables, fruits, and pulses. Consumers' preferences are widening with urban dwellers becoming more nutrition and health conscious. Improved infrastructure and economic liberalization has also opened new market opportunities, especially China and India, that farmers and market actors are just now beginning to explore.

MVMW's sought to address Myanmar's rural development needs while taking advantage of positive trends in crop diversification and market growth. By working with private business using a market systems develop approach, MVMW aimed to create systemic change that would last beyond the project lifespan. Since the project ended, market actors have continued to offer new and improved services showing strong commitment to growing the sector:

- East-West Seed has expanded its extension work to more states and region including Rakhine State.
- Knowledge Power, a provider of business training, has further developed its business training curriculum which was developed with project support.
- Marlarmyaing Irrigation Solutions continues to develop their drip irrigation business in Southern Shan with a focus on high-quality farmer outreach that proves return on investment.
- Agro Bio has closed two nurseries but continues to operate the most profitable one with the intention to expand the model into new geographies.

The ongoing operation of models and concepts developed during the project demonstrate the potential for multi-stakeholder partnerships like MVMW. Besides East-West Seed, no companies had previously formed partnerships with NGOs. Following the project, all interviewees indicated an interest and willingness to explore more multi-stakeholder partnerships with the requirement that it aligns with strategic priorities. LIFT, the primary donor for MVMW, remains committed to private sector-led development, especially to fund functions that cut across multiple crops including agricultural finance and mechanization.



Plastic mulching and trellises for growing higher quality tomatoes.

12. Poverty declined from 32.1% in 2004/05 to 19.4% in 2015 Source: World Bank Group & Ministry of Planning and Finance (2017). *An Analysis of Poverty in Myanmar - Part One*.

13. 6.75% in 2017. Source: The World Bank (2019). *GDP growth (annual %)*.

14. Myanmar Times (2018). FDI forecast to hit US\$5.8B in 2018-19

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