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# Lean lends a helping hand in developing countries

*Reducing waste boosts bottom lines, efficiency for small and medium enterprises*

By Andrew Parris

**W**hen I read the two *LeanFrontiers* blog posts about the benefits of applying Lean in a rural Zambia business making beehives, something inside me shouted a joyful: “Yes! I knew it!”

The first post, “Spreading Hope by Creating Wealth,” described how the application of basic Lean concepts and tools had helped to increase productivity from three to 55 to 100 and 200 beehives over a span of about four years. The second post, “Self-Creating Capital with help from Lean and the Free Market,” explained how further improvements and production expansion allowed the business to begin to export products and local villagers to provide a stable income and a decent home for their families.

I was working for World Vision and living in Nairobi, Kenya, at the time, and rejoiced because these reports confirmed my growing conviction that Lean could be of great value to small and medium enterprises in developing countries.

We in the West know Lean works for Toyota and other major corporations. We’ve also seen the benefit of Lean in small businesses and in a wide variety of sectors, including governments and schools, as Torbjorn H. Netland’s and Daryl J. Powell’s book *The Routledge Companion to Lean Management* so compellingly describes. But little has been written about Lean in developing countries.

In this article, I address the applicability and application of Lean to small and medium enterprises (SME) in developing countries. I describe the context of SMEs in such countries, explain why Lean is helpful to them and describe how the International Trade Centre’s Quality Champions program teaches and promotes Lean for SMEs. I then share quotes from Quality Champions that express how and why they believe Lean can benefit developing countries’ SMEs and give initial examples of improvements.

## Developing country context

Economic poverty decreases and prosperity increases when companies get better at creating valuable goods and services for which domestic and international customers are willing to pay.

As SMEs develop, they become more productive (produce more with less) and improve the quality (thus competitiveness) of their goods and services. SMEs can produce more and make a greater profit. Employees can provide for their families and contribute to their communities. Local products replace imported products. As SMEs gain access to global value streams, they can export more. Increased import substitution and exports improve the balance of trade, which increases economic prosperity and helps a country develop.

But developing country contexts make this difficult. On top of the normal competitive challenges that Western SMEs face, those in developing countries operate in contexts characterized by corruption, tribalism (division and violence between ethnic, religious and other groups), burdensome bureaucracy, central control and other political and governmental factors that often hinder or destroy economic progress. A government that wants to lift its people out of poverty must minimize these often overwhelming obstacles.

And while companies in developed countries face increasing volatility, uncertainty, complexity and ambiguity (VUCA), these same challenges are an order of magnitude greater for SMEs also facing the challenges of fewer resources, worse infrastructure, weather-related crises, lower levels of education and cultures that inhibit growth and innovation.

## Why Lean is helpful

Can Lean help SMEs in this context? Experience has shown that it can. The Japan International Cooperation Agency (JICA) has probably done more than any organization to promote Lean in developing countries. (JICA uses the term *kaizen*, but the two can be equated.) JICA strategically promotes *kaizen* as part of its development assistance, and has seen significant diffusion of and benefits from it in Southeast Asia and India.

In its 2009 book *Introducing KAIZEN in Africa*, JICA stated “*kaizen* was originally a foreign technique, which was adopted and adjusted to become a Japanese technique.” It noted some challenges to *kaizen* in developing countries: weak human resources, strongly hierarchical structures and the long timeframe needed to benefit from continuous improvement. JICA also noted that Japanese workers were considered “ungovernable” before companies adopted *kaizen* and rose to global prominence. Its 2018 *Kaizen Handbook*, explains in detail how it is disseminating *kaizen* in Africa.

Aligned with JICA’s thinking, Lean (*kaizen*) is helpful for developing countries’ SMEs because:

- **Lean is low-cost.** Most Lean improvements are low-cost or no-cost, and lower costs.

## Offer your time and expertise

If you are an experienced Lean or Lean Six Sigma professional and you would like to offer up to an hour of pro bono coaching weekly to a quality champion for an initial commitment of three months, please learn more and sign up at [www.lean360.org](http://www.lean360.org).

- **Lean reduces waste.** Lean helps SMEs reduce the significant waste that exists because of the tendency to accept rather than solve problems.
- **Lean transforms culture and relationships.** Lean builds up and empowers people lower in the hierarchy, treating them with respect and relying on their insights and experience.
- **Lean is simple.** The basic concepts and tools of Lean can be easily communicated to and understood by people of all levels of education and at all levels in the hierarchy.

Lean is especially appropriate for SMEs in developing countries because it requires little financial investment. Rather, it provides a low-cost approach to promoting economic development that builds up and empowers workers and is easy for everyone to grasp and apply. Because of all the external obstacles and challenges these SMEs face, improving internal processes through Lean becomes even more important.

Finally, these SMEs need Lean because waste in them reduces profits and salaries, with the possible consequence that parents can’t feed their children or pay for their children’s school fees. Conversely, improved quality and productivity can mean families have a good income, live in a decent home, eat well, buy medicines and send their children to school.

## The ITC Quality Champions Program

The International Trade Centre (ITC, [www.intracen.org](http://www.intracen.org)) is the joint agency of the World Trade Organization and the United Nations fully dedicated to supporting the development and internationalization of SMEs. Its mission is to foster inclusive and sustainable growth and development through trade and international business development.

ITC promotes international trade through many programs in a wide variety of countries. For about four years, ITC’s Quality Champions (QC) Program has built the capacity of future trainers and coaches to help SMEs meet international quality requirements and standards in selected sectors. QCs receive several weeks of training in food safety, ISO 9000, Lean and other topics. They then work as consultants through quality hubs to help SMEs meet relevant requirements and standards and improve quality and productivity, so they sell more domestically and internationally.

“We see many good examples of how Lean can help SMEs in developing countries improve productivity, reduce waste

and variation, and build a culture of continuous improvement,” said Margareta von Kirchbach, who leads the ITC Quality Champions program. “Seeing work as processes that can be redefined and streamlined with the involvement of those directly involved is often an eye-opener for small businesses, and this is why the Lean component is an important element of the QC program. Implementing Lean also directly supports the implementation of quality and food safety standards – other key elements of the QC program.”

## Training quality champions in Lean

Each group of QCs receives a one-day “Process Excellence Energizer” training and a one-week Lean Green Belt training. These provide QCs with the vision of process excellence (Figure 1), an ideal state to strive for, described in my April 2019 *ISE Magazine* article “Making Work and the World a Better Place,” [link.iise.org/ISEApril19\\_Parris](http://link.iise.org/ISEApril19_Parris) and the “seven habits of process improvement,” described in my forthcoming 2023 article in the *ASQ Lean & Six Sigma Review*.

The Energizer introduces process excellence and the seven habits, and inspires people to improve. The Lean Green Belt training goes deeper and uses exercises to build the capacity of QCs in the seven habits of process improvement: 1. Organize the area; 2. make work visual; 3. standardize work; 4. eliminate waste; 5. prevent mistakes; 6. make workflow; and 7. solve problems.

These seven habits (Figure 2) communicate in simple terms the most important actions everyone in an organization should do daily in pursuit of process excellence. The first three habits aim to stabilize processes, while the second three aim to optimize them. These six are all part of the scientific and creative habit No. 7: Solve problems.

The training also explains how Lean works: We grow and empower people who solve problems to improve processes; this leads to better performance and greater prosperity for all stakeholders (Figure 3, Page 30).

After completing the Lean Green Belt training and passing a test, QCs apply what they learned in a “33P” engagement with an SME. Taking inspiration from Art Smalley’s *The*

FIGURE 1

## Process excellence goals

The ideal state vision for quality champions to strive for.

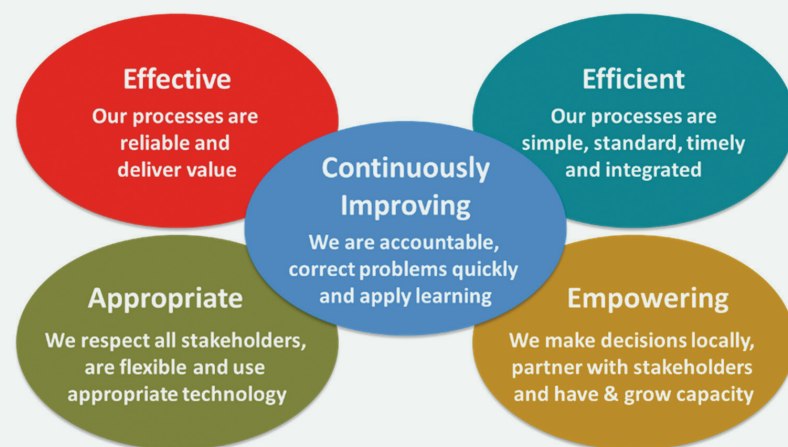
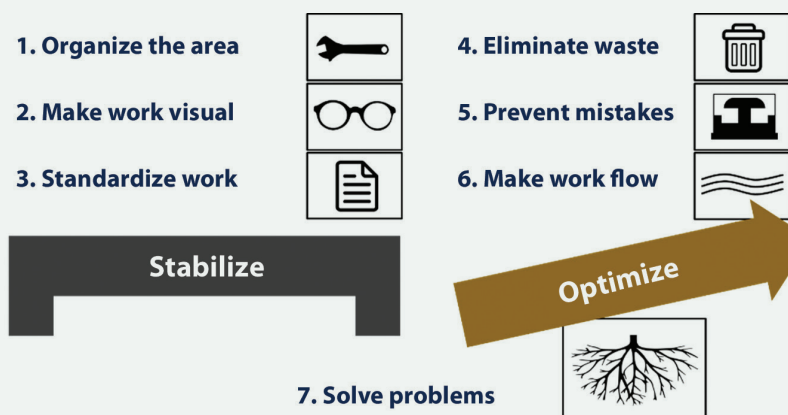


FIGURE 2

## Seven habits of process improvement

The most important actions everyone in an organization should take daily toward the final goal of No. 7: Solve problems.



*Lean Turnaround*, 33P consists of a three-day action workshop focused on stabilize; a month of implementation; a second three-day workshop focused on optimize; and a project of further guided improvements in the SME.

## What quality champions say about Lean

I continue to be amazed at how positively most quality champions see Lean. Within a week, they are extremely grateful not only to receive the Lean training but also to be able to teach, coach and promote Lean in their countries. Whether they are from Africa, Asia or the Middle East, most QCs see Lean as something new and different yet very valuable that can help bring much-needed, fruitful transformation in SMEs and other sectors of society.

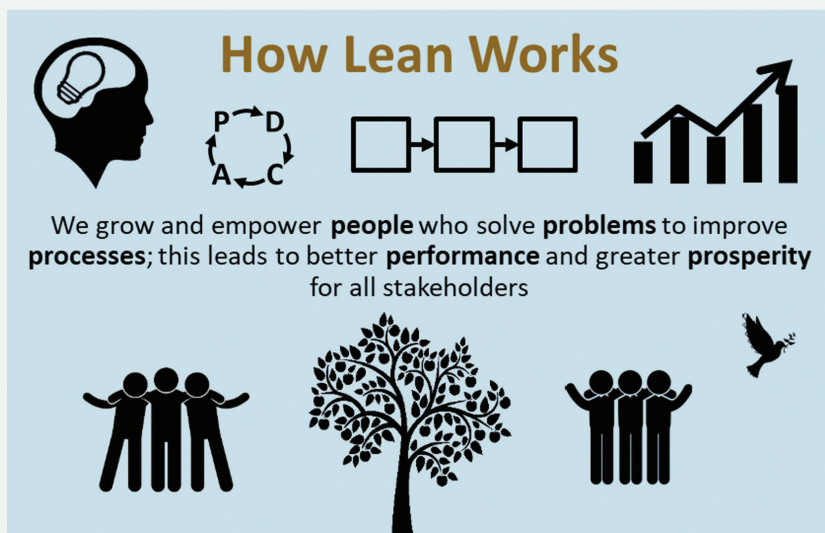
I asked the quality champions I trained in Laos, Nepal and



FIGURE 3

## Lean in a nutshell

The basic principles and goals of process improvement.



*Whether they are from Africa, Asia or the Middle East, most QCs see Lean as something new and different, yet very valuable, that can help bring much-needed, fruitful transformation in SMEs and other sectors of society.*

Iraq to describe how Lean is similar to, or different from, the management systems in their country. They only responded with differences, which is telling. I also asked why they thought Lean would be helpful to SMEs in their countries. Here's a sample of what they said:

### Difference between Lean and current management systems



**Viengdala Sompheth**, team lead manager, Vientiane GEOMATIC Services, Laos: "Lean is different from the Lao management style, which is not really structured; the company will take whatever it takes to get the things done, not consider how they will do it as long as it will be done. Ten people may have 10 different ways of doing the work. Instead, Lean is about simplicity, making it standardized and identifying how to do things in the most effective and efficient way."

**Phonexay Sengsoulichanh**, senior adviser on Standards and Certification on BioTrade Product Value Chains at Helvetas, Laos: "Lean is much different from current management styles in Laos ... Lean equals continuous improvement. All of the companies I have work with rarely think of Lean. They sometimes improve but not about quality products or quality management. Companies focus on increasing quantity for extending markets. They do not think of improving product quality to meet buyers' requirements and improving quality management as a measure to interest more buyers."



Lao QC Phonexay Sengsoulichanh gives Lean training to employees at the Lao Organic Product Co. as part of the first three-day action workshop.



**Tina Saud** (visiting lecturer at Kathmandu University School of Management, Nepal): "In Nepal, the majority of the organizations still follow an autocratic style of management with centralized decision-making. Employees are not empowered, and there is silo culture and blame game. However, the main objective of Lean is to bring changes in the mindset of employees that quality is everyone's business by following a bottom-up approach so that the employees start taking ownership of their job. Besides these, Lean focuses on empowering employees and creating a culture of collaboration where the employees work together to improve the process, focus on waste elimination and solve the problems by finding the root cause of the problem."



**Wasan Bahir**, country quality and hygiene manager at Majid Al Futtaim, Iraq: “The management style in Iraq tends to overprocessing with extra steps in the process, which lead to wasted time and effort; the extra steps they are applying (auditing time, signatures, no person to delegate during manager’s absence) are related to substandard attitudes of employees and poor technological infrastructure. ... Managers tend to be dictatorial and autocratic, giving direct and sometimes unclear instructions. This means that employees are less likely to show initiative and complete tasks outside of their remit. Another difference: The current management approach does not pay attention to the root cause and does not use a scientific approach to solve problems.”

## How Lean can help SMEs

**Viengdala:** “LEAN is the basic and the beginning step that SMEs can take to improve how they work and how they produce their products, by opening up their mind and changing the way they work and think. Applying Lean daily saves costs and resources, increases productivity and much more.”



**Enusha Khadka**, chief executive officer at Institute of Innovation and Quality Assurance, Nepal: “Lean tools are simple enough to be implemented, cost-effective, no need of any advance infrastructure or technology and also competency for managing it. We only need effective management of the process: systematize, standardize, stabilize and optimize the process. ...

“Lean management will help SMEs to identify the customer requirement, cope with the different challenges like sustainability, productivity and cost effectiveness. This will help SMEs to reduce the nonvalue-added activities in their organization and to improve the activities that add value to customer; this will eventually help them in increasing their operational efficiency. ... Root cause analysis will also help SMEs to think critically on the issues that they are facing, to figure out what actually is causing the trouble and to settle their problems on their own.”

**Saud:** “As a QC, I believe that Lean can help SMEs mitigate challenges that they are facing currently related to low productivity, low efficiency, exporting the products in the international market, delay in production and delivery of products/services, improper packaging, poor quality of the products and failure to meet the technical specifications. Besides this, Lean can help SMEs to im-

prove the performance and profitability of the business at much lower cost, as most SMEs don’t have enough funds to support their business and there is high collateral if they want funds. The Lean tools are easy to understand and implement even at grassroots level.”



**Nirbek Shrestha**, consultant, director at quality excel and secretary general of the Network for Quality, Productivity and Competitiveness Nepal: “As Lean is a very simple technique for continual improvement, it will definitely prove to be a promising tool for continual improvement of SMEs. It is very easy to implement and I think if the fundamentals of Lean are well communicated to all concerned in a very simplified manner, then SMEs can and will practice it.”

In the above quotes, we see that QCs treasure and see great promise in Lean because:

- Lean focuses on delivering customer value.
- Lean improves quality and productivity by solving problems at the root cause, eliminating waste and standardizing work.
- Lean is a low-cost approach to improving performance.
- Lean transforms autocratic command-and-control hierarchies to more egalitarian empowerment hierarchies in which managers and leaders equip, expect and rely on front-line workers to make improvements.
- Lean can be easily understood and readily adopted by people at all levels in an SME.

These points align well with the reasons given near the start of this article and that Lean is based on universal principles that apply to improvement in work and all areas of life.

## Examples of Lean application in SMEs

Quality champions have begun to work with SMEs in several countries. These SMEs are making simple, basic improvements that are beginning to have a significant effect on their operations and on their people. We now look at examples from SMEs in Tanzania and Laos.



**Kibunje Mageme Kulwa**



**Philaiphone Vongpraseuth**



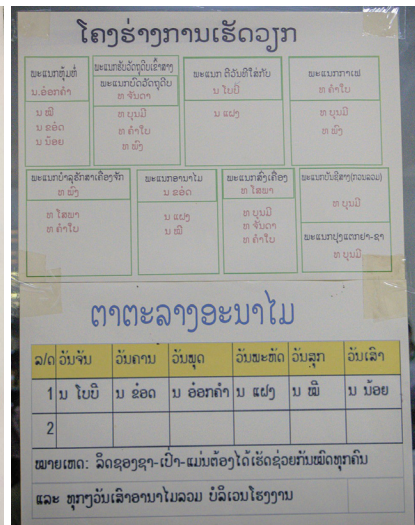
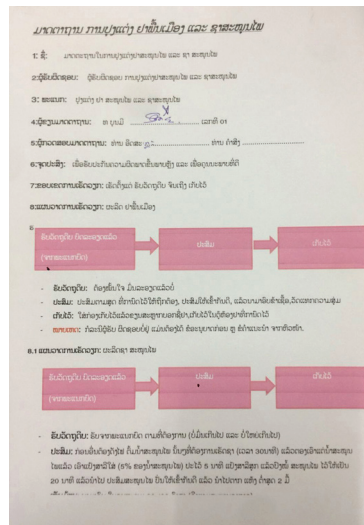
QC Kibunje Mageme Kulwa is a food scientist and quality assurance lead with Natural Extracts Industries Limited in Moshi, Tanzania. As part of the National Quality Association of Tanzania, he also coaches SMEs in the region. After receiving ITC Lean Six Sigma Green Belt training, Kibunje was assigned to help Tunu Agriproducts and Consultancy Ltd. improve quality, productivity and its ability to meet relevant food-related standards. He found a warehouse that was dirty and disorganized, lacking documentation and without quality control of raw materials.

Kibunje worked with Tunu to sort, straighten and shine, and to create policies, standard operating procedures, forms and work instructions. Among other improvements, Tunu reduced losses in the production of cardamom from 7.8% to 4.7% (a 40% reduction) and of pilau masala from 14.1% to 2.3%, an 84% reduction.

Another Tanzanian SME, coffee producer Suvacor Limited, made many improvements under the guidance of a QC. It reorganized inventory, equipment and work areas, labeled what things are and where they belong, color-coded inventory, created standard procedures, improved the flow of work and developed key performance indicators in each area. During this time, Suvacor significantly increased quality and more than doubled production.

QCs Phonexay Sengsoulichanh and Bounhome Phanouvong, deputy director of the Standards Certification and Quality Inspection Center, worked with SME Lao Organic Products. They trained employees and then guided them to create SOPs and a cleaning schedule, to organize tools, raw materials, consumables, work in progress and final goods, to label items and where they belong, and to address safety issues. While measured impact is still forthcoming, the accompanying photos show some of the changes made.

Lao QC Philaiphone Vongpraseuth, founder and CEO of The Solver, shared two quotes from the SME she worked with, Chansoda Luangkhot, production manager at the company Maisavanh, who stated: “Lean theory is a very vital tool for us in communicating and setting examples for our employees. The assistance from six days of workshop has helped our team achieve what we have been trying to change for many years. Staff are able to apply 6S into their daily operations, which enhances our workplace, making it a happy environment, cleaner and safer.”



The Lao Organic Products' new SOP and cleaning schedule.



Lao Organic Products' organized tools. The sign translates to read: "Tool Storage. Please return the tools on the same spots after using. Thank you."

And a worker said with gratitude: “The workshop has helped us gain confidence to speak and be able to identify wastes to improve our work process and tasks.”

These examples show that applying basic Lean concepts and tools in SMEs in developing countries can grow and empower people, improve how they work and increase performance.

## Coaching is key

In his book, *2 Second Lean*, Paul Akers stated, “Lean is hard work that makes everything else easy.” Lean is hard work, and as with all competencies that one must apply to challenging contexts, developing wisdom, knowledge and skill in Lean takes a great deal of time, perseverance and experience (of both successes and failures). An experienced coach who asks good questions and gives valuable guidance can accelerate this learning.

Furthermore, a good coach also inspires and encourages the



Lao Organic Products' packaging storage, before and after Lean improvement principles.



Lao Organic Products' packaging storage, before and after Lean improvement principles.

coachee to aim higher, to work harder, and to persevere when challenges mount and the coachee questions themselves and the benefit of what they are doing.

QCs need coaching (beyond what ITC can provide) if they are to quickly develop their ability to facilitate significant, measurable and sustainable improvement in an SME, and to build the capacity of workers and leadership to sustain and grow Lean and its beneficial impact.

To help meet this need, my friend Sammy Obara, partner at Honsha, created Lean360°, a joint initiative to support Quality Champions (and Innovation Champions at Medair and other nongovernmental organizations) by connecting them with qualified Lean and Lean Six Sigma professionals who offer to give pro bono coaching. The following example describes the coaching Kibunje is receiving.

Kibunje was matched with Brion Hurley, a Lean Six Sigma Master Black Belt from Iowa City, Iowa. Kibunje expressed interest in implementing more Six Sigma techniques into the food production processes he was working with. The first topic discussed was determining the correct statistical process

control (SPC) control chart and control limit calculations to use for monitoring blanching temperatures during food production. Next, the pair identified the need to conduct a gage repeatability and reproducibility (R&R) study. Brion provided guidance so that Kibunje could quickly apply this more advanced statistical technique.

Lean can play a significant part in promoting economic development in developing countries. It does so by growing and empowering people who solve problems to improve processes; this leads to better performance and greater prosperity for all stakeholders. ❖

Note: For a full list of references for this article, see the ISE reference page, [iise.org/isemagazine/references](http://iise.org/isemagazine/references).

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