Report on the

Development of Vietnam's Cocoa Seedling Production Capacity, Its Outlook for 2007 and Areas of Growth and Concern

This report provides a brief background on the development of the capacity of Vietnamese farmers to grow quality cocoa seedlings and how this contributes to the current growth trend for the entire cocoa sector.

1.0 SUCCESS Alliance[1] Vietnam's Early Constraint: Supply of Cocoa Seedlings

An early assumption of the SUCCESS Alliance (SA) in Vietnam was that quality planting material would be available to meet the need of the USDA funded project to provide cocoa seedlings to 17,000 target farmers. An additional assumption was that the seedlings would be of sufficient numbers and quality to supply the expected growing demand from commercial purchases. Neither assumption was accurate.

In the project's first year (2004), SA set a target of supplying 4,000 new farmers with 150 seedlings each. The main constraint was finding enough quality planting material to supply seedlings to the targeted number of farmers. It was anticipated that these seedlings would be composed of 80% (120 trees) grafted seedlings of commercially proven clonal material and 20% (30 trees) F1 hybrids. At the time, Nong Lam University (NLU) in Ho Chi Minh City was the only source of F1 hybrids from their seed gardens, and grafted clonal seedling production capacity in Vietnam was limited to NLU and a few private nurseries in Ben Tre province. Together, their capacity was not adequate to meet the initial target.

Once the situation was understood, SA revised the target down to 2,000 farmers receiving seedlings in 2004, and changed the distribution ratio to 50% clonal seedlings and 50% hybrids. With considerable effort, the project managed to supply the reduced number of farmers in year one. However, the entire package delivered to the farmer was of reduced quality. In general, clonal seedlings are expected to become better producing trees than F1 seedlings. Unfortunately, the suppliers did not have a good understanding of cocoa seedling quality standards, so many seedlings were delivered to farmers that were not healthy or mature enough to be planted. In many cases, seedling survival rates were below acceptable standards. Of course, farmers immediately complained about the poor quality of the seedlings, and this led them to question the whole enterprise of planting cocoa. The issue of seedling supply, though not initially in the SA Vietnam project design, became a critical success factor that had to be overcome.

After the first year, SA and its partners resolved to improve the Vietnam's seedling production capacity to meet future project targets to supply an additional 15,000 farmers over the next two years.

[1] The SUCCESS Alliance is a public-private partnership consisting of ACDI/VOCA, Mars Inc., USAID, USDA, and the World Cocoa Foundation.

In so doing, the project would bring Vietnam's cocoa seedling production capacity up to a level to supply the projected demand for cocoa seedlings through private investment.

2.0 Development of Good Nursery Production Practices

In 2004, ACDI/VOCA hired a Vietnamese Nursery Coordinator, Mr. Huynh Van Thanh, who worked full-time to improve the quality of existing cocoa nursery operators and develop new nurseries. Mr. Nic Richards, ACDI/VOCA's Cocoa Farming Systems Advisor, worked closely with Mr. Thanh to provide trainings to nursery operators, monitor their performance, and keep them to tight production schedules. Over the next two years, the project developed capacity in 20 nurseries. These included small and large privately run nurseries, nurseries managed by government extension agencies, and nurseries owned and managed by the Loc Ninh Rubber Plantation Company. Within two years, clonal cocoa seedling production capacity in project provinces had increased from 100,000 to over 2,000,000/year. Most importantly, the nursery operators were consistently applying "best practices" in their nursery management, and as a result, the quality of seedlings improved greatly even as the quantity of production also increased. These 20 project-assisted nurseries have succeeded in setting the standard for high-quality cocoa seedlings throughout the four project provinces. Nearly all of the nurseries that have supplied the SUCCESS Alliance continue to produce cocoa seedlings in 2007.

The best practices have been documented and compiled by the SA team into the *Cocoa Nursery Manual: Guide and Reference Manual for Cocoa Plant Production and Cocoa Nursery Operations*. This manual is currently being translated into Vietnamese and will be provided to cocoa nursery operators throughout Southern Vietnam in 2007.

3.0 SUCCESS Alliance's Strategy for Reaching More Farmers

From the beginning of the project, local project partners preferred that SA supply fewer farmers with more seedlings rather than many farmers with relatively few seedlings. However, SA chose to reach more farmers for very specific and simple reasons.

First, the project objective was to introduce as many farmers as possible to cocoa. SA did not have the budget and Vietnam did not have the seedling production capacity to supply each farmer with 1,000 seedlings, an amount that many Provincial Department of Agriculture officials wanted. Secondly, SA believed that farmers would invest their own money and effort to expand cocoa once they found that they could successfully grow 150 cocoa trees. In addition, "follow-on investment" by a farmer would be more convincing to neighboring farmers than larger, project-supported plantings. Also, there was an advantage in getting as much good planting material in the hands of as many farmers as possible from the beginning (see Success Story).

The *Farming Systems Appraisal* conducted by SA in September 2006, surveyed 400 project-supported cocoa farmers and found that 15% of the farmers surveyed had already invested in additional cocoa seedlings within two years of entering the SUCCESS Alliance training program, and they usually expanded with 400% more trees than they received from the project. In a growing number of cases, industrious farmers are starting to propagate the clonal planting material themselves on a large, commercial scale.

SUCCESS STORY: The Good Student: Farmer Pham Thanh Truyen

Mr. Truyen of Duc Lieu Commune in Binh Phuoc was first introduced to cocoa in 2005 through the SUCCESS Alliance farmer field school training. As part of his training, he received 150 clonal cocoa seedlings from the project. He immediately decided cocoa had good potential on his farm, so he bought 1,000 more cocoa seedlings and expanded his cocoa plantings to 1 ha planted under cashew trees. In 2006, he purchased 3 more hectares in neighboring Dak Nong Province in which he will plant cocoa in 2007. His most impressive development to date has been his cocoa nursery. In 2007, through his own investment, he constructed a beautiful nursery (pictured here), that will produce 30,000 to 50,000 clonal seedlings per year for his own use and for sale to neighboring farmers. He is applying all the "best practices" for nursery management, and he'll be able to produce high quality clonal cocoa seedlings to any nursery in Vietnam. He can already identify all of the commercial clones immediately by the shape and color of their pods on the tree. This is an added advantage of getting improved planting materials, no matter how small the quantity, into the hands of as many farmers as possible so that they can see the performance and propagate the material themselves.

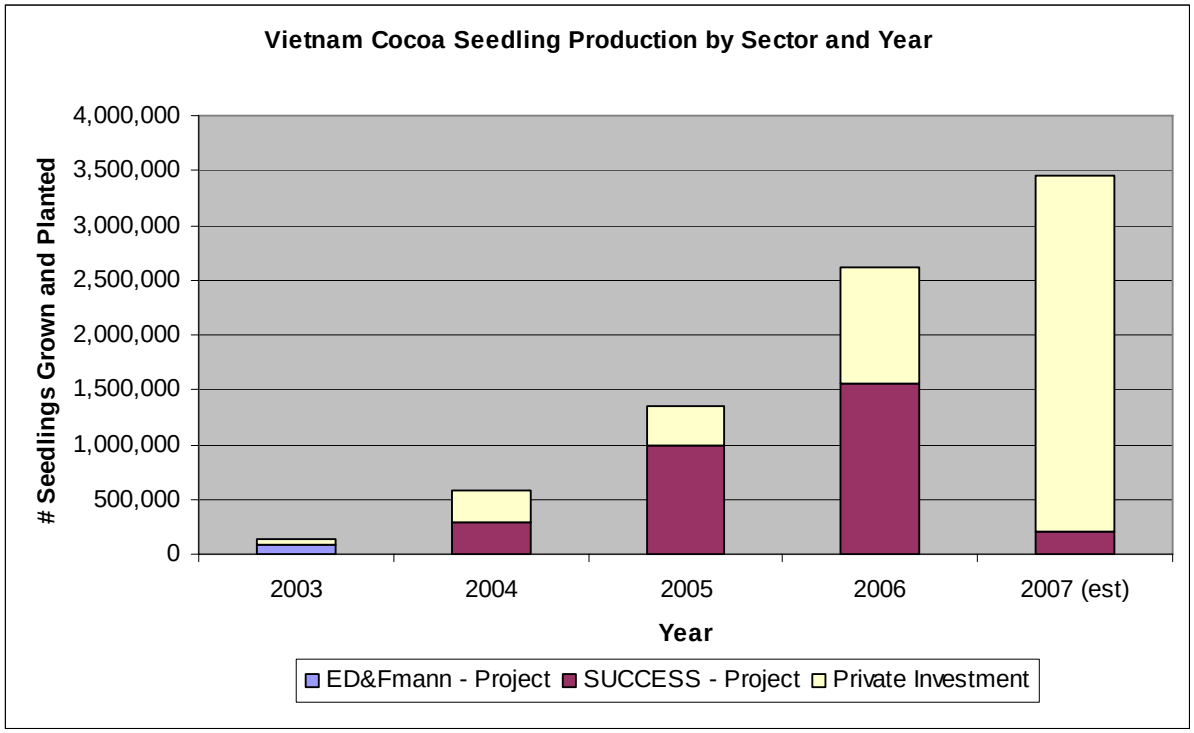
4. Approval and Propagation of Improved Varieties

There is no doubt that the approval of 13 clonal cocoa varieties in early 2006 by the Ministry of Agriculture and Rural Development has eased the development and investment of the cocoa subsector. Now, both commercial and government funded nurseries can invest in cocoa production with official government approval. The approved clones also provide a standard for regulating cocoa seedling production. The test and challenge for managing the growth of this new industry will be whether the Vietnamese government, especially the Provincial Departments of Agriculture and Rural Development, will be able to control the quality of cocoa planting material that is sold to farmers. This issue is rapidly becoming more important as cocoa seedling production and planting move quickly from a controlled project-funded environment to a commercial and market-driven industry.

5. Cocoa Seedling Production Goes Commercial in 2007

SA staff and provincial partners expected that after a project-funded expansion of cocoa planting over the last three years, 2007 would be the year when existing plantings continue to mature and the market continues to development. The project underestimated the Vietnamese farmers' willingness to take up this new crop. After surveying all current and potential cocoa growing areas in Vietnam in January, the project has revised estimates and now expects 2007 cocoa planting will expand by 33% over the previous year's expansion, and nearly all of the new planting will be through private investment (Chart 1). The only investment in seedlings from the SUCCESS Alliance in 2007 will be for supplying ethnic minority farmers in the Central Highlands.

Chart 1



As Chart 1 shows, SA investment in seedling production and improving production capacity accounted for the majority of cocoa sector growth from 2004 to 2006. Private sector investment also kept pace in growth during this time. Nearly 75% of the private-sector nursery sector growth through 2006 was through coffee plantations expanding their cocoa area in Dak Lak and Dak Nong provinces. SA was not active in these two provinces during that time.

Year 2007 looks to be a watershed year in terms of the nature of cocoa planting and expansion in Vietnam. Growth in private investment has replaced public and project financed stimulus for the sector. This has happened more quickly than expected in the current four project provinces. Former project-supported nurseries have sought and found commercial markets for cocoa seedlings in these four provinces.

According to the majority of farmers interviewed by SA staff, cocoa tree growth and production in Vietnam has been satisfactory to date. Farmers also find the market price for cocoa beans to be attractive compared to other crops they could grow. Based on farmers' positive perceptions toward the crop and continued good prices, it is fair to expect that this long-awaited surge of private investment in cocoa expansion and planting will continue to grow in the coming years.

6. Areas of Growth and Concerns about Quality of Planting Material

Seedling production areas are expected to grow fastest in the provinces of Dak Lak/Dak Nong, Lam Dong, Dong Nai, Ba Ria Vung Tau (BRVT) and Binh Thuan in 2007. (Table 1)

Table 1: Seedling Production by Province: 2003 to 2007

Province	Year 2003	2004	2005	2006	Est. 2007
Ba Ria Vung Tau	0	0	223,145	457,845	600,000
Ben Tre	0	156,015	328,000	567,525	500,000
Binh Phuoc	0	0	116,370	416,595	300,000
Binh Thuan	0	0	0	0	100,000
Dak Lak / Dak Nong	55,000	220,000	312,000	750,000	800,000
Dong Nai	0	0	0	50,000	500,000
Lam Dong	0	0	0	0	500,000
NLU	90,000	211,500	50,000	30,000	50,000
Tien Giang	0	0	318,800	338,548	100,000
TOTAL	**145,000**	**587,515**	**1,348,315**	**2,610,513**	**3,450,000**

In the case of Lam Dong and Binh Thuan, growth in cocoa will be supplied through nurseries in other provinces, including BRVT, Binh Phuoc, and some cocoa producing areas in Dong Nai on the border of BRVT (see map on following page). The seedling production practices have been well developed through SA in Binh Phuoc and BRVT. Before 2005, neither of these provinces produced more than a handful of cocoa seedlings, and no grafted clonal seedlings. In 2007, they will produce nearly one million grafted clonal seedlings for consistently high-quality cocoa trees. The experience of Binh Phuoc and BRVT is proof that such capacity can be developed quickly and well in any cocoa producing area of Vietnam.

Nurseries in Ben Tre are expected to produce 500,000 high-quality grafted seedlings in 2007, which is just below last year's peak production of 567,525. These nurseries will supply current farmers in SA areas and also will supply farmers in districts in Ben Tre that were not previously reached by SA. They are also expected to supply new cocoa farmers in the neighboring province of Vinh Long.

Most of the expansion through private investment will occur through existing nurseries that are known to the project, and that have demonstrated the ability to produce consistent grafted clones from approved genetic material. In addition to these nurseries, SA has seen a number of farmers produce high-quality clonal seedlings for both their own expansion and for sale to other farmers. However, this is not the case in the highland provinces of Dak Lak and Dak Nong.

SA has not been active in Dak Lak and Dak Nong over the past few years, and thus cannot verify the quality of seedling production. There are reports that a large share of the nursery production in those provinces in 2006 and 2007 are seedlings grown from seed, and the seeds used are of unknown origin. This raises the risk that the area of most rapid expansion in Vietnam will be planted with unknown cocoa varieties that will most likely be less productive and disease resistant than the approved varieties now readily available in all other cocoa growing areas of Vietnam.

It is possible for Dak Lak and Dak Nong to develop the nursery production capacity to supply both approved clones and F1 hybrids within a short amount of time. This has already been demonstrated in Binh Phuoc and BRVT. The Department of Agriculture and Rural Development in BRVT and Binh Phuoc have stressed that only clonal varieties are made available to farmers from the beginning of the project. This proved to be a sound policy. Farmers were extremely successful in adopting the new clonal varieties to their cropping systems. Also, farmers have good knowledge of the benefits of planting clonal varieties, and they are propagating these varieties for other farmers. This offers a lesson to the leaders of Dak Lak and Dak Nong in how they may ensure the supply of good quality cocoa planting material to their farmers.

Overall, quality cocoa seedling supply is progressing well and looks like it will be able to keep up with demand. Areas of concern are in the Central Highlands. Fortunately, they can easily look at the

success in neighboring and nearby provinces to see how to build capacity to supply quality seedlings in the future.

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