

## POLICY POINTS

**Chinese companies operating in Africa do care** about societal issues such as local education, both as business and social concerns.

**Private sector companies should consider** going beyond traditional CSR models in order to contribute to social improvement. For-profit models paired with CSR models may help in addressing the most pressing societal needs.

**“Industrial bootstrapping”— a process and mindset** that embraces experimentalism, pivoting, accepting feedback, and course corrections— is likely a more effective way to design social programming in developing countries than classic plan-and-execute approaches.

## Creating a Market for Skills Transfer: A Case Study of AVIC International

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DESPITE THE RAPID EXPANSION OF CHINESE INVESTMENT in Africa in the past two decades, Chinese companies operating in Africa have often been accused of not doing enough to encourage local skills development and technology transfer. Despite vast public concern and extensive media coverage, there is scant literature on how Chinese companies view the issue of local skills development in Africa. Even basic questions remain unanswered: Do Chinese companies perceive local skills development to be a salient issue? Has this issue caused them to change their strategies and operations? How has this influenced how they interact with local stakeholders, and what sorts of changes are produced as a result of these interactions?

This study offers a starting point for answering these questions by using AVIC International as a case study. AVIC International is a Chinese state-owned company and member of the Global Fortune 500, and is one of the major construction contractors and heavy machinery providers in Kenya. It has also made major investments in the area of local skills development.

### STUDY SCOPE AND METHODS

The results presented below stem from extensive document review, interviews, on-site observations, and participant surveys. Document review focused on project documents related to AVIC International’s skills development programs, including internal planning documents, press and media materials, and memoranda of understanding between the company and the Kenyan government. In addition, we spent July 2016 in and around Nairobi, Kenya, conducting interviews, on-site observations in the AVIC International offices in Kenya, and surveys of participants of one of AVIC’s flagship skills training programs.

### AVIC INTERNATIONAL

Headquartered in Beijing, AVIC International has seven specialized companies, ten regional subsidiaries in China, and 60 overseas branches worldwide. Globally, AVIC International operates in over 180 countries and regions. The company holds more than RMB 50 billion in assets, and its businesses are responsible for annual trade volume exceeding US\$40 billion.<sup>1</sup>

In the mid-2000s, AVIC's Kenya division won its first government contracts for the provision of military vehicles and port container scanners.<sup>2</sup> In the late 2000s, AVIC International won several much larger contracts, including a US\$55 million contract for supplying construction machinery and equipment, and facilitating capacity building for the National Youth Service from 2007 to 2010.

### SKILLS DEVELOPMENT PROGRAMS

Over the past decade, AVIC International has stood out amongst foreign companies operating in Africa for the extent to which it has invested in local skills development. The origin of skills development programs came early on in the company's history in Kenya, when it became concerned that one of its major customers lacked the technical capabilities to utilize and maintain the heavy machinery that it bought from AVIC. This was a business concern as much as a social concern: the company worried that if the machines were poorly utilized and maintained, the company's reputation would suffer.

In the years since, AVIC has engaged in four major skills development projects in Kenya, all of which are ongoing today:

1. A capacity building project attached to a heavy equipment provision and maintenance contract for the Kenya National Youth Service (NYS). Two phases of this project have been completed, and a third phase is anticipated. The model is a for-profit contract with the Kenyan government.
2. An equipment provision and capacity building contract for Kenyan vocational training institutions. The first phase of this project has been completed, and an MOU has been signed for Phase 2. The model is a for-profit contract with the Kenyan government.
3. The Africa Tech Challenge (ATC), a novel machining skills competition whereby vocational students compete for a US\$100,000 machine parts contract. Initiated in 2014, it underwent its third season in 2016. The ATC is a CSR project funded by AVIC, in cooperation with the Kenyan Ministry of Education.
4. The Sino-Africa Industrial Skills Upgrading Center (SAISUC), a training center for Kenyan vocational education instructors. The MOU for this project was signed and publicly announced in July 2016. The model for this is expected to be a mixture of charitable donations by AVIC, combined with the possibility of incorporating for-profit components in the future.

### FROM BUSINESS IMPERATIVE TO BUSINESS LINE

Our research shows that AVIC International perceives and treats the issue of local skills development as a top business priority, driven by both pragmatic and social considerations.

Pragmatically, investing in skills development has allowed the company to break into new fields and expand its business. Socially, in the words of the Deputy President of AVIC International's Project Engineering Company division, there are two reasons to invest in skills building projects: "One, China has a competitive advantage in technical education. This is what helped change China itself from an agricultural to a manufacturing economy. Two, the impact on Africa...It's important that young people realize that they can use technical skills to change themselves."

The attention paid to skills development is evident in the way that AVIC International both operates and markets itself. During our field study, we observed every company manager actively participating in planning and executing the AVIC Africa Tech Challenge corporate social responsibility (CSR) project—a deep commitment in terms of both time and management resources. In addition, AVIC International has used its skills development programs as a marketing tool to project itself as a socially conscientious company. During a visit by Chinese premier Li Keqiang in 2014, AVIC showcased full-color billboards proclaiming that the "NYS project has improved the social benefit as well

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as overall, sustainable economic benefit by cultivating young talents and high quality professionals of the new generation."

Moreover, AVIC International has turned these programs into an entirely new business line. The company has started skills development programs in Gabon, Ghana, Zambia, and Uganda, and is involved in discussions to launch similar programs in a number of other African countries. The company invited—and paid travel costs for—representatives from the governments of Ghana, Uganda, and Zambia to attend the opening ceremony of the 2016 Africa Tech Challenge. AVIC's hope is that by showcasing its skills development programs in Kenya, it can win additional business in other African countries.

## INDUSTRIAL BOOTSTRAPPING

AVIC's approach toward designing and implementing its skills development programs has been uniquely flexible. Project goals were created with a variety of stakeholders, and implementation has rarely followed the timeline envisioned at the beginning of each project. This may be a suggestive of a Chinese approach toward development—one that dispenses with the procedural rigidity of the Western gold standard and instead follows a more flexible and unpredictable course of uncovering successive barriers and engaging in social learning.

Charles Sabel termed this approach “bootstrapping development,” and our research suggests that it is the reason AVIC In-

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ternational ended up with four skills development programs as opposed to just one.<sup>3</sup> AVIC International pursued its first skills development project out of a desire to diversify its business in Kenya. The work on this first project with the NYS led directly to a second project with the Ministry of Education, resulting in a multi-year contract in which AVIC International outfitted 10 Kenyan vocational schools. When it became clear that the schools were not utilizing the new machinery, the Africa Tech Challenge was created. Running the Africa Tech Challenge revealed another critical problem: vocational teacher skills. The Ministry and the company both became concerned that skills development in Kenya could never advance far without upgrading instructor skills. As a result, over the course of two years, the parties co-designed the Sino-Africa Industrial Skills Upgrading Center (SAISUC), an industry-supported training program for vocational teachers in Kenya that launched in July 2016.

## PROGRAM IMPACT

Overall, the impact of AVIC's skills development programs has been mixed. In interviews, stakeholders were positive about their involvement in AVIC International's skills building programs. The Kenyan Ministry of Education praised AVIC International's project management, its deep technical expertise, its dedication to the project, and the quality of the equipment that it provided. Students and teachers that have participated

in AVIC International's training programs were equally, if not more, enthusiastic about their experiences. One teacher who had taught for twenty-five years before participating in the Africa Tech Challenge said that the experienced that “rejuvenated” him. Another called the Challenge “life-changing.”

In a survey of thirty participants at the 2016 Africa Tech Challenge, 24 (80%) said that they were “very satisfied” with their experience in the program. When asked, “How did the training you received at ATC compare to the training you received at school,” 25 of 29 respondents answered that the ATC training was “Much better.” And importantly for the company, 25 of 29 respondents said that they now have a “more favorable” impression of Chinese companies when asked, “Has ATC caused you to change your opinion of Chinese companies?”

Despite these rave reviews, the tangible outcomes have not been as exemplary. The Ministry of Education has three criteria for gauging success of AVIC's programs:

1. The equipment is commissioned, delivered, and installed;
2. The instructors are trained before the equipment is delivered;
3. And the equipment is used effectively.

Of these criteria, only the first two have been met. The average machinery utilization of the schools that AVIC International has outfitted is only about 35 percent—roughly similar to the utilization rate that the Ministry of Education has achieved in previous projects. When we interviewed Chinese master trainers and their trainees at the National Youth Service industrial skills project, the Chinese trainers were unsatisfied with the progress of their students, whereas the students were thrilled about the training they had received—a curious juxtaposition.

The evidence for employment impacts is similarly mixed. Despite individual success stories, AVIC International's skills development programs have yet to produce widespread job creation. According to AVIC International project managers, the half dozen or so previous Africa Tech Challenge participants that got jobs as a result of their participation in the program were provided jobs directly by AVIC International or by its affiliated companies.

## POLICY IMPLICATIONS

This case challenges the stereotype that Chinese companies operating in Africa do not care about socially relevant issues. This should offer encouragement and reassurance for African

governments, educational institutions, and other stakeholders to begin engaging Chinese companies. Certainly not every Chinese company operating in Africa will invest in such programming or

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in such a large-scale, sustained way, but AVIC International is a typically large-scale, bureaucratic Chinese firm; there is no reason to suspect it is an outlier in terms of how Chinese companies perceive their business environment.

In addition, this case provides an interesting example of how a mixture of public and private models can be incorporated

## ENDNOTES

1. AVIC International, "Competency Reference of AVIC International Holding Corporation," 2014.
2. AVIC International, "肯尼亚高教项目概况," 2013.
3. Charles F. Sabel, "Bootstrapping Development: Rethinking the Role of Public Intervention in Promoting Growth," Paper presented at the Protestant Ethic and Spirit of Capitalism Conference, Cornell University, Ithaca, New York, 2004.

to address the same social issue. The multi-faceted model of AVIC's skills development program models has allowed it to work with numerous stakeholders to tackle a variety of problems, from machine availability to student training to teacher training. This sort of openness to both for-profit and not-for-profit models will allow developing country governments to get more out of their partnerships with the private sector.

Finally, this study offers insight into the process of developing socially impactful programs. One of the critical factors to AVIC International's success has been its flexibility—its willingness to pivot, try new ideas, and develop additional programming as new information is uncovered. Utilizing this "bootstrapping" approach, as opposed to more traditional, rigidly-defined and planned programming, will help resolve large-scale social issues in developing countries. ★

## AUTHORS

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**THE SAIS CHINA-AFRICA RESEARCH INITIATIVE** at the Johns Hopkins University School of Advanced International Studies (SAIS) in Washington, D.C. was launched in 2014. Our mission is to promote research, conduct evidence-based analysis, foster collaboration, and train future leaders to better understand the economic and political dimensions of China-Africa relations and their implications for human security and global development.

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Support for this policy brief was provided by a grant from Carnegie Corporation of New York. Carnegie Corporation of New York is a philanthropic foundation created by Andrew Carnegie in 1911 to do "real and permanent good in this world."

