Technical Assistance for Development Banks in Brazil:
Results of a Four-Year Action-Research Program*

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Revision of W. P. No. 543-71
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Abstract

A four-year action-research program of technical assistance between the Banco Nacional do Desenvolvimento Econômico and the Massachusetts Institute of Technology is described briefly and some results presented. A major goal was to increase the effectiveness of the FIPEME development finance system for small and medium size loans. The technical assistance included training courses, organization development, and management information systems. Objective measures of performance show substantial increases in number of FIPEME projects and substantial reductions in time required to process them. Before-after measures show improvements in FIPEME system communications. The project was seen as helpful by bank personnel, especially in those banks most involved with project activities. Results suggest that a) organization development and information systems are appropriate forms of technical assistance for Brazilian organizations; b) training courses are most effective when accompanied by other improvement activities; c) more effective organizations (i.e., active agent banks) seek out and benefit more from technical assistance than less effective organizations, and benefits increase with amount of involvement in technical assistance activities; d) multiple strategies of assistance geared toward organizations as systems can be especially effective forms of technical assistance.
Technical Assistance for Development Banks in Brazil: Results of a Four-Year Action-Research Program

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The Banco Nacional do Desenvolvimento Econômico created the Fundo de Investimento para Pequena e Média Empresa to fill an important gap in development finance programs available to Brazilian enterprise. To ensure effective operation of this fund, a program of research, training, and technical assistance was created. This paper presents a brief description and some results of that effort.

The Project

Early in 1967 the Ford Foundation granted funds to the Banco Nacional do Desenvolvimento Econômico (BNDE) of Brazil and the Massachusetts Institute of Technology (MIT) of the United States to develop a collaborative program of technical assistance in development finance. A major goal of the project was to increase the effectiveness of the FIPEME development finance program operated by the BNDE through state and regional development banks throughout the country. The program provides long term credit at low interest rates to small and medium size firms. As each project is approved, money is passed from the BNDE to the state and regional banks which in turn repass it on to the borrowing firm.

The project was guided by a Joint Working Group composed of four to six people from appropriate departments and levels in BNDE, and a similar number from MIT. Two of the MIT members took up full-time residence in Rio de Janeiro.
The others made periodic visits to Brazil and prepared project material at their MIT base in Cambridge, Massachusetts. BNDE and participating agent banks provided additional personnel from their regular staffs and special research assistants were employed both in Cambridge and Brazil.

The project was an interdisciplinary one, involving specialists in development finance, information systems, and organizational psychology. Throughout, emphasis was placed on working with organizations to get systemic improvements, not just improvements within a single organization, and not just improvements within single individuals. Emphasis was also placed on using systematic measurements to discover needs and document changes. Training courses, organization development activities, and management information systems were utilized as appropriate. Finally, continual efforts were made to institutionalize contributions of the project so that advances could continue after the visiting social scientists left.

The challenges facing the project in the beginning were enormous. Two of the major ones were a) assisting not just one but a whole network of 16-20 organizations spread throughout Brazil and b) utilizing foreigners for assistance, both with respect to personal collaboration on-site and and institutional collaboration across thousands of miles. There were many other challenges as well.

What follows are some results of the BNDE-MIT project in terms of systemic changes in FIPEME performance and important intermediate variables. Perceptions about causes of change are also presented, as well as a brief description of major project interventions and institutionalization.

Systemic Changes

Data on the performance of the FIPEME system indicate that considerable improvements occurred during the operational phase of the project. As we can see in Figure 1, for the 13 banks on which complete before-after data are available,
The number of projects approved by the BNDE increased from 74 in 1968 to 121 in 1969 to 189 in 1970, an overall increase of 155%. Time necessary to process the loans, after they reached the BNDE, was reduced from a bank median of 47 calendar days in 1968 to 30 days in 1969, to 23 days in 1970, an overall reduction of 52%. The FIPEME system is thus granting more loans, and doing so in less time.

Opinions from a variety of sources also indicate improvement. National Development Bank experts evaluating the performance of the agent banks frequently saw improvement from year to year, and only rarely judged a bank's performance as deteriorating. Similarly, Figure 2 shows that 59% of 98 entrepreneurs who filled out a questionnaire evaluating their regional development bank saw improvement, while only 4% felt bank performance was getting worse. (Thirty-four percent did not know of any change in performance and 3% did not answer the question.) Agent bank personnel themselves thought their banks were improving their FIPEME operations. On an item from a questionnaire administered in 16 banks, 74% of 223 respondents answering saw from moderate to very great improvement in the last three years, while 12% saw little and 7% saw no improvement in FIPEME operations over the three-year period.

In addition to these objective and perceived improvements in performance, before-after measurements were made on relationships between the BNDE and regional development banks. Questionnaires were administered to agent banks early in the project, and again at the close of the project. Figure 3 presents combined bank averages for those items dealing with communications within the FIPEME system. The data from Figure 3 indicate that there was significant positive change in communications within the FIPEME system. Other questions about relationships within the system reveal similar improvements.
Perceived Causes of Improvements

The systemic changes in both performance and relationships among FIPEME banks, while comforting to observe, do not necessarily indicate that the project had such a favorable effect. Other factors could have brought about the improvements. Indeed, as we all know, the past few years have been ones of significant economic growth for Brazil. At the end of the after questionnaire, we asked bank personnel how much improvement (if any) they saw, what the possible causes of this improvement were, and how much help the project had been to their organization. These data are presented in Figure 4, broken down by degree of bank involvement with the project.

Assignment to the high and low involvement categories was based on project records of bank participation in course, information system, and organization development activities.

It is evident from the top and bottom items of Figure 4 that banks which participated more actively in the project saw greater improvement in FIPEME operations and saw the project as being more of a help than did banks less involved in the project. The effect of involvement is greatest for those two items.

All of the possible causes listed in Figure 4 are attributed at least a moderate effect. They are also interrelated in that the BNDE-MIT project, while mentioned specifically only in item 2c, played a major role in developing BNDE courses and was also involved in developing improved procedures within and between the agent banks and BNDE.

It is interesting that the perceived cause, "Time, learning and experience," seemingly not a function of the project, shows a difference between more and less involved banks. Apparently experience was helpful for all of the banks in improving their FIPEME operations, but more helpful
for some (those in the high involved group) than others. Perhaps the project helped these banks to capitalize on their experiences. Or, perhaps there is something about those banks predisposing them to benefit more from experience. An additional analysis suggests these two possibilities may go hand in hand.

Figure 5 presents the average number of projects per bank per year for the more and less involved banks. It shows that the more involved banks were better FIPEME performers initially, and improved more than the less involved banks, although the latter group also improved. Since involvement in the BNDE-MIT project was largely a function of each bank's own initiative, this may indicate that the more effective FIPEME banks were more attracted to the project and, subsequently, got more out of it. This suggests that readiness to seek out and receive technical assistance may be an important factor in the success of the technical assistance effort, and further that more effective banks are more likely to seek out the type of technical assistance offered by the BNDE-MIT project.

Returning to the results in Figure 4, we see that the perceived cause, "BNDE courses," shows a sizeable difference between the more and less involved banks. In other words, the BNDE courses were seen as an important cause of improvement in FIPEME operations, more so for the banks more involved in the project. What is worthy of note here is that all of the banks participated in the courses, but some also participated in other aspects of the project -- either organization development or information system activities. Figure 6 presents the same data as Figure 4, now organized by banks who participated in the courses and something else, and banks who participated only in the courses. The results are almost identical to Figure 4. In other words, the high involvement category in Figure 4 really means involvement in the courses
and some other aspect of the project.

Further, the key to the success of the courses was coupling them with other efforts at improvement. Courses alone were helpful. Courses in conjunction with something else, and it didn't matter whether it was information systems or organization development, were much more helpful.

To summarize briefly: more effective FIPEME banks may have seen more potential benefits to participation in the project, and participation beyond courses alone may have been the key to receiving those benefits. While other factors may also be accounting for the results, it does appear that greater involvement in project activities is related to greater perceived benefits to the bank, and greater number of FIPEME projects.

Interventions and Institutionalization

There were three major interventions by the project: courses, management information systems, and organization development. By the end of 1970, three courses in development finance, with particular emphasis on project appraisal, had been held in Río de Janeiro. Each lasted two months. A total of 86 development bankers from 30 financial institutions, including two private investment banks, attended these courses. By design, MIT played a decreasing role in each course. BNDR is now planning to run additional courses on its own, and has designated part of its facilities as a training center.

A management information system for small and medium size firms, the type served by FIPEME, was developed by the project. The broad outlines of this program, called "SIPEME," were described at the First Congress of Brazilian Development Banks (Luzny, 1969). Based on experimental work with two firms testing the system, the Banco Regional de Desenvolvimento do Extremo Sul, with MIT's help, held a special course in management assistance for 14 persons from 6 banks. BRDE subsequently created a department of
management assistance and has plans to make a major effort in this field, one sorely needed by small and medium size firms in Brazil.

Organization development work was based on a survey-feedback program organized by MIT through the BNDE. This program was described in BNDE-MIT working paper no. 37, (Butterfield, 1970). The program reached 16 FIPEME banks and was very well received. It utilized the Likert Profile of Organizational Characteristics (Likert, 1967) as a quick and easy means of providing information about the human side of the organization to each bank. The BNDE is now discussing ways of using the profile periodically. Research results with the profile and other measures suggests the advisability of pursuing the organization studies area in Brazil, and a proposal has been prepared to do just that (Butterfield and Farris, 1971).

Conclusions

The BNDE-MIT project was an action-research program of technical assistance. While lacking in rigorous experimental control, the data do suggest that the FIPEME development finance system has improved, and the BNDE-MIT project has had beneficial effects, especially for those banks more involved with the project. What have we learned from this technical assistance effort? A number of things:

1. The model of resident foreign specialists, working in collaboration with Brazilian counterparts and backed up by periodic visits from university experts, can be an effective one for providing technical assistance.

2. Training courses can be helpful for bringing about improvements, but they are much more effective if accompanied by other improvement activities as well.

3. A basic information system can be designed for small and medium size Brazilian firms, and can be a useful method of technical assis-
tance for banks to provide to their clientele.

4. Organization development activities based on feeding back questionnaire survey results can be a helpful technical assistance method for Brazilian organizations.

5. Organizations already operating at a reasonable level of effectiveness are more likely to seek out and benefit from technical assistance. Less effective organizations may require exceptionally heavy inputs of technical assistance in order to receive much benefit.

6. For any organization, benefits are likely to increase with amount of involvement in the technical assistance activity. Technical assistance is not something to be received passively, but rather, a process to be engaged in actively. This is especially true when the resources providing the assistance are of a limited scope, as they almost always are and as they were in the BNDE-MIT project. The FIPEME system is simply too large for all elements of it to have been treated adequately. Consequently, resources went where interest and willingness to make an effort were highest. Even in the high-involved group of banks, however, inputs of the BNDE-MIT project were often of a very limited nature.

7. Finally, technical assistance based on a number of different methodologies and geared toward the organization as a whole, can be especially effective. For example, banks sent teams of people to the courses, rather than single individuals. The organization development and information system activities attempted to work with as many people from as many levels in the organization as possible. The procedure not only increases exposure to new ways of working, but more importantly, enables a sort of momentum or critical mass for improvement to develop. The organization as a system feels the effects of the technical assistance. Benefits then reside in the
system as well as the individuals in the system. In short, the benefits become "institutionalized" within the organizational system so that even if key individuals leave, the benefits will remain.

In sum, although the task facing the BNDE-MIT project in the beginning was not an easy one, the results are encouraging. The FIPEME system has improved markedly, and the data indicate that the technical assistance offered by the BNDE-MIT project has had beneficial effects.
References


Figure 1. Performance Improvements of FIPEME System, 13 Participating Banks

a. Number of projects

Yearly Number of Approved FIPEME Projects From 13 Participating Banks

<table>
<thead>
<tr>
<th>Year</th>
<th>1968</th>
<th>1969</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td>73</td>
<td>122</td>
<td>190</td>
</tr>
</tbody>
</table>

b. Time to process projects

Median Days to Process FIPEME Projects in BNDE (Median of Bank Medians)

<table>
<thead>
<tr>
<th>Year</th>
<th>1968</th>
<th>1969</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days</td>
<td>47</td>
<td>30</td>
<td>23</td>
</tr>
</tbody>
</table>
Figure 2. Opinions About Improvement

A. Entrepreneurs (98):

"Do you know of any change in the performance of your regional development bank?"

Improving a lot: 44%

Improving a little: 15%

Worsening a little: 3%

Worsening a lot: 1% (No knowledge of change=34%)

B. Personnel from agent banks (223):

"In the last 3 years, to what extent do you think your organization has improved its performance in the FIPEME area?"

Great improvement: 8%

Considerable: 34%

Moderate: 32%

Little: 17%

No improvement: 9%
Figure 3. Changes in FIPEME System Communications: Combined Averages for 14 Banks

"...do you get sufficient information about:"

<table>
<thead>
<tr>
<th>Much less than I need</th>
<th>Less than I need</th>
<th>All that I need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

a. BNDE decisions affecting your work

b. BNDE plans and objectives for FIPEME

c. Functioning of BNDE/FIPEME system

d. Activities in progress and projects of general interest

e. Functioning of your institution as a FIPEME agent
Figure 4. Perceptions of Improvement and Its Causes by Bank Level of Involvement in Project Activities

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Little</th>
<th>Moderate</th>
<th>Considerable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement in FIPEME operations within bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement due to:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time, learning, experience</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>BNDE courses</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Other BNDE/MIT project activities</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Better procedures, own bank</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Better procedures, BNDE</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Overall helpfulness of BNDE project to bank</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>
Figure 5. Average Number of Projects Per Year for Banks Most and Least Involved in Project Activities
Figure 6. Perceptions of Improvement and Its Causes, by Bank Participation in Courses Only or Courses Plus Other Project Activities

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Little 2</th>
<th>Moderate 3</th>
<th>Considerable 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement in FIPEME operations within bank</td>
<td>Course plus</td>
<td>Course only</td>
<td></td>
</tr>
<tr>
<td>Improvement due to:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time, learning, experience</td>
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