Final Report.

General considerations.

The purpose of the consultancy was to hold interviews with groups doing research on small scale industry in four countries (Colombia, Peru, Uruguay and Chile) and to discuss the way in which they have examined or are examining the problems of firm growth and choice of techniques, or, in a more general sense, technology. These interviews were held between July 25th and August 18th, some quite in depth and others unfortunately quite superficially, given that my visit schedule in Colombia was enlarged by the Centre's regional office and this prevented me from an in depth discussion of one of the projects. This report will have three parts, in the first of which I shall do a report of my scheduled visits and a brief summary and conclusions, in the second I shall report on my unscheduled visits, and the third will refer to administrative matters.
Part I. The Scheduled Visits.

Project 3-P-82-0127.

This project, which is directed by Dr. Gabriel Murillo, of the Universidad de los Andes, is oriented basically towards socio-political aspects of the urban informal sector in Bogota, and as such deals with small-scale industry in certain activities. It does not go into much detail as to issues of firm growth or technology, given that its main objective is to analyse social and political attitudes of people, but to some extent such issues are covered. My discussion of the project was limited to an interview with Dr. Murillo, which lasted some three hours. Unfortunately I was unable to hold a second interview with the people in charge of specific areas within the project, given that they only work in the mornings and I had several interviews all mornings I was in Bogota.

My discussion with Dr. Murillo was somewhat difficult in terms of going deeply into subjects, and was mostly at a very general level. We began discussing our respective objects of analysis, i.e. small-scale industry (microindustry, as I prefer to call it) and socio-political attitudes in the informal sector, and seeing points that both objects had in common, and a general review of the work done on both subjects. From there we
went into more specific issues, such as the choice of activities, sectoral definition and empirical methodology, and faced some problems in terms of what we considered informal or microindustrial, given that their definition refers exclusively to the number of people while mine is activity specific and goes into some detail into internal relations of ownership and forms of recruiting labour within the enterprise.

At the time of my visit Dr. Murillo and his group were in the process of developing the questionnaire for their field work, which will consist of a sample survey of seven activities (four of them industrial) in selected neighbourhoods in Bogotá and a few case studies to be defined after the survey is completed.

We discussed some issues within the questionnaire, basically with respect to two aspects, which were the forms of recruitment of labour and the questions referring to skills and machinery, which are rather interesting. I made some suggestions of possible ways to improve the questionnaire, but could not discuss them with the person in charge of its development. These questions are oriented more to assess the importance of linkages between the formal and informal sector in Bogota than to analyse the role of technology within the enterprise.

My general opinion of the work they are undertaking is that it is quite interesting in terms of assessing the social and poli-
tical role of the urban informal sector in Bogota, which may reach several important conclusions in terms of reaffirming or destroying myths that are common in the topic, but that its treatment of firm growth and technological issues is superficial. This is not a harsh critique, given that the objective is not to treat these issues in depth, and was the basic problem I faced during my interview with Dr. Murillo, because though we have a common object of study our objectives from the analysis are radically different. It would be unfair to judge the project on my terms, given that we are asking different questions, as it would be unfair to criticise my work in terms of its contribution to the understanding of social or political attitudes.

Nevertheless, I believe that the project being undertaken by Dr. Murillo and his group is interesting and that the sample survey and, to a greater extent, the case-studies, could offer interesting by-products that might be used later for a deeper analysis of issues which are relevant to technology and firm growth.

Project 3-P-82-0027.

This project is being undertaken by SENA(Servicio Nacional de Aprendizaje) and also focuses on the urban informal sector, including two definitely microindustrial activities and one
which under certain criteria might be considered microindustry. The basic objective they have in mind is to obtain adequate information on the needs and demand for skills in these activities in order to develop an adequate training programme, given that traditional programmes have failed to give people the skills they really demand within the urban informal sector. In this sense their research is also oriented in a different direction from mine, but certainly deals with technological issues in a broad sense. I held two meetings with the people at SENA, the first on Tuesday afternoon, with a large group of researchers at SENA and the second with the project coordinator alone on Thursday July 28th.

During the first meeting I was introduced to SENA's objectives, programmes and actions and how the project on informal activities fits into the institution's programme, and into specific points regarding the project itself, such as the activities they are covering, the way in which they are developing the sample survey, which is massive and a quasi-census of certain activities in the urban informal sector, the objectives of the survey itself and of the project.

Though the project does not focus precisely on technology or firm growth these are problems which worry the SENA people quite directly, given that these issues are crucial in the deve-
Development of adequate training programmes, both in terms of manual and management skills. Thus their questionnaire deals to a large extent with the nature of the production process, the machines and equipment which are most common, the way in which skills are acquired, the way in which accounts are kept, the sources of machinery and equipment, the need for external repair services and similar problems. In terms of enterprise growth they had the assumption that most informal enterprises are growth oriented, which is the common assumption in the literature, aspect on which I introduced some "noise", given that my hypothesis is that this is only true of some kinds of informal enterprises, and not as common as might be expected. My hypothesis was at first rejected but during the discussion their attitude became more critical, and they agreed to take it into account in the analysis of their sample. This hypothesis rests on the fact that within informal enterprises non-wage labour is a common feature, and that in many cases this induces particular attitudes which prevent growth, given that growth would only be possible through increased fixed investment or through wage-labour, both of which represent a cost for the enterprise which might not be compensated by the increase in income, given that the enterprise has a very low labour-productivity which nevertheless satisfies the owners.
My second interview, with Dr. Carlos Zorro, basically consisted in a discussion of two papers I had handed them in my previous visit and on how my hypotheses with respect to particular points were complementary or opposite to theirs. We also exchanged references and held a point by point discussion of their questionnaire and how some of my hypotheses, which were not contemplated when the questionnaire was developed might be tested given the information they were gathering. This discussion proved quite helpful to me, and hopefully also to them.

My general opinion of the SENA project is that it is extremely interesting and that the people working in it are very open-minded towards the problems they are attacking. Though their main interest is not in technological issues or firm growth they are taking the problems into consideration, given that they are very relevant to the final objective of the project, which is to develop adequate training programmes for the urban informal sector in Bogota. They are attacking the problem of technology from several points and in a comprehensive manner, and I hope they will include tests of some aspects which I consider critical for the analysis of enterprise growth, though they did not have this in mind when developing the project except for the need of some knowledge of management techniques.
In spite of its different orientation and that the intention of the project is totally action oriented it ought to collect very useful information in terms of the informal sector in Bogota, its linkages with the formal sector, the ways in which it acquires skills and its actual and potential contribution to the Colombian economy.

Project 3-P-82-0148

This project is being undertaken by Dr. Carbonetto of CEDEP, and focuses on the social and economic characteristics of the urban informal sector in Lima. Though the focus and the approach we use differs, both the CEDEP project and mine are similar in several respects and we are worried about similar issues, though we start from different perspectives. Dr. Carbonetto has approached the problem from a macroeconomic perspective, worried about the contribution of informal employment to income generation and the sector's capacity to grow, both horizontally and vertically, while I intend to analyse the same problem but from a completely microeconomic standpoint. This helped to a good understanding during the interview, which was held on Monday August 1st.

Dr. Carbonetto is attempting to assess the importance of the informal sector very much in relation to choice of techniques,
and the very definition of the sector is related to this problem and to the role of the enterprise within the market. Underlying his definition is the notion, which he argues to have proved, that up to a certain level of fixed investment within an activity enterprises differ from those that have larger assets in terms of their internal characteristics and their role, which I believe to be a correct but oversimplified assumption, and through this assumption defines the cutpoint between formal and informal sectors. When going into the reason for the heterogeneity in size Dr. Carbonetto uses the common assumptions about imperfect capital markets, segmentation of labour markets, differential access to technology etc., but also argues, and is intending to go further into the assumption, that there are structural reasons within the enterprise that also prevent its growth. This is precisely the point I am trying to make in my research, and this led us to a strong discussion of each other's theoretical framework and the way we have been developing our research. His arguments about what makes the informal sector different from the formal sector are totally complementary to mine, given that he argues from a macroeconomic standpoint and I do so from a microeconomic view, and this difference in approaches does not, surprisingly, lead us to different conclusions. My emphasis
on activity-specific market structure and on microeconomic rationality and his emphasis on macroeconomic aspects, such as the rate of growth of GNP, investment and other variables curiously lead us to support that particular algorithms lead microenterprises, and in general the informal sector, to certain technological choices that are only possible or sustainable within the informal sector, and that on one hand promote its horizontal growth and on the other prevent its vertical growth. Thus, in spite of the differences in approaches we reach basically the same conclusions with respect to virtually the same questions, and both analyses are almost totally complementary. This inhibited our being able to discuss their project, or mine, in detail, and led us to a far more specific comparison of the data and the sort of analysis we had conducted, to see where the similarity came from. We reviewed Dr. Carbonetto's work in Guayaquil and Caracas and went into little detail about the present study, which was a mistake in terms of this report but extremely interesting in itself, because though I missed to see the forest I took a deep glance of trees.

On the other hand the Lima project intends to apply a similar approach to that which was tested for the Ecuadorean and Venezuelan cases, which consists basically in analysing both macroeconomic indicators and the results from sample surveys
in order to determine a "maximum informal size" and see what characteristics the informal enterprises have. The survey has detailed information about the production process, machinery and equipment, the source of skills, attitudes towards growth, sources of inputs and need for external repairs, all of which are intended to give a clear microeconomic description of informal enterprises and to be linked to macroeconomic indicators and their evolution in time. The hypothesis that is trying to be proved is that informal activities grow fastest when the formal economy is slowing down, and that once the formal economy recovers its pace most informal enterprises disappear, or at best reduce their levels of activity, which makes them non-growth-oriented in most cases, but rather a sort of survival algorithm which has its own logic of choice of activities and of choice of techniques. I dont know whether this particular project will be able to reach the same conclusions as it expects, but from my experience I would predict that the hypothesis is certainly likely to be true in the Peruvian case.

My general opinion of this project is that it is extremely interesting, both in terms of the approach and the way in which several issues related to technology and to firm growth are attacked. The existence of several points in common between the CEDEP project and mine, and the complementarity between
them makes my appreciation of this project extremely subjective in some senses, but it remains attractive and serious in spite of this. Much of the methodology used in CEDEP is compatible with the data base I am using, as is their data base compatible with my methodology, and this makes it possible that sometime in the future a comparative study of the Mexican and Peruvian cases be developed, attacking similar problems and using virtually the same methodology, though this should have to wait for a while. Of all the interviews I had during the journey the visit to CEDEP was clearly the most satisfying for me, in terms of finding someone in Latin America working on the same problems I am working on from a complementary perspective, and the discussion was extremely interesting.

Project 3-P-76-0006.

My visit to CIESU was different from the others, given that they are not currently working on a particular project on the urban informal sector, not to say on microindustry. In spite of this the visit turned out to be quite interesting, giving me a chance to expose my research to criticism (basically from a sociological perspective), to exchange research experiences with respect to the problem and to get in touch with a fine group of researchers. My first interview was with Dr. Filgueira, and we
spoke about the way we were approaching the problem and on the differences between the Uruguayan and Mexican economies and how this affected the way in which the informal sector was to be conceived. The vast majority of microindustrial enterprises in Uruguay are small capitalist workshops, which do have significant differences with larger enterprises but tend to have the same economic rationality, while in the Mexican case the vast majority of microindustrial enterprises tend to rely on non-wage labour, which makes the two objects radically different. On the other hand a very extended complex of cottage industries is present in the uruguayan economy, which is similar to the mexican case, but this network concentrates in two or three activities in the first country and is far more generalised in the Mexican case, where this sort of subcontracting of labour is common and extends to both sexes, while in Uruguay it is based primarily on female labour.

After this general introduction to their work and a brief description of mine Dr Filgueira took me to see a group of researchers who were finishing a report on a study they had undertaken on female employment in the shoe-making cottage industry in Montevideo, with whom we held a discussion which highlighted certain similarities and differences between both countries, and into some conceptual issues in which I received severe cri-
ticism for my rather lose definitions of some categories, which are extremely important in a sociological approach, such as my definition of households and my excessive emphasis on economic issues. Though the basic objective they pursue is to analyse social aspects of cottage industry, they do not leave aside some analysis of the way in which the production process that takes place in such activities is linked to larger enterprises, nor on the way in which it actually takes place, analysing how working conditions differ from those in larger enterprises.

My second visit to CIESU began with an interview with Dr. Apecechea, with whom we discussed some work he had performed with relation to microindustry (basically the assessment of a training programme) and to how they were trying to develop interest from students with relation to this and related topics. That afternoon I held a seminar with most of the research staff at CIESU and with some of the students, in which I had to present my basic theoretical framework, enter a discussion of background references and receive criticism and questions. This was a very interesting experience in terms of facing an audience where there were virtually no economists and where I had to make several assumptions which are very weak from a sociological point of view, as well as having to be very precise as to my objectives while doing research on microindustry.
My third visit to CIESU had the purpose of exchanging references and allowing them to copy most of the material I had gathered in Bogota and Lima, which I was glad to do. When I was leaving Rafael Bayce, who is the economist who has conducted most of the research on microindustry appeared, having just arrived from a trip to Brazil, and we had a short talk about each other's work. After my return to Mexico I have received a paper of his on small-scale industry in Brazil, in which he analyses the problem of I-O and firm growth with reference to this statum, and is quite interesting. I am quite sorry that we could not speak longer.

My general appreciation of CIESU is that it is a small group of serious researchers working in quite difficult conditions (both in terms of the political environment and their resources), but willing to do things and to listen to new ideas, who firmly believe on an interdisciplinary approach to problems and who have gathered a very valuable experience throughout these years. Their interest in facing problems from a multidisciplinary point of view enables them to go into some depth into issues that are normally analysed quite superficially by non-specialists and their approach to research projects is very serious. We did not enter into much detail into the project on microindustry they intend to undertake shortly, but the little we spoke of
it proved to me that they are thinking it over seriously, and intend to approach the topic from several angles.

Project 3-P-80-0153

This project is virtually ended, and they were writing the final report at the time of my visit. The person in charge of the project, Mr. Oscar Corvalán, was away from Chile at the time of my visit, and Mr. Patricio Cariola was ill. Thus my visit to CIDE consisted in a brief introduction to Luis Brahm, who was acting as Director, and with Marianela Cerri, who had been in charge of most of the research in two "comunas" in Santiago. Their objective is similar to SENA's, in the sense that they are basically interested in training and educational programmes which should be specific to the sector, and they have developed special training courses for young unemployed people to be able to enter the sector with some skills. Part of my visit to them consisted in going to one of these courses, while another part of it consisted in a discussion of my work and of theirs. The two interviews were held before the visit to the course, but we could not get into a very deep discussion given that their definition of microindustry is limited to enterprises with less than ten workers but in which non-wage labour is scarce or totally inexistent, which makes their object of analysis different from mine. Further, they intend to go into pro-
blems which are more linked to action than into theoretical problems. They undertook a virtual census of microindustry in three neighbourhoods in Santiago, and then developed a sample survey which was oriented basically to detecting the demand for skills and the way in which the enterprises were facing the Chilean crisis, after which they began the design and application of a skill- and sector-specific training programme which has had amazingly good results, given that almost 80% of the people who took the course have found employment in spite of the enormous unemployment and crisis being faced by this sector. Their approach to training is quite interesting and my diagnosis of the reason for its success is that it relies basically on teachers who are trained workers in microenterprises themselves, and belong to the community in which the course takes place.

The visit to the course was a fascinating experience, not so much because of the course itself but because of the discussion of prospects and present situation with the students, but also because of the teaching techniques that were being applied. The course was intended to develop basic electrical skills in the students and combined practical work, such as the design of circuits, with basic physics and collective discussion, not only of the theoretical issues but also of the individual practical work.
My general impression of the CIDE project on microindustry is that, being an action-oriented research, it proved extremely successful both in the detection of potential demands for trained people within the sector and in supplying these skills to young people, while it also made an interesting description of what I would call small capitalist workshops in Santiago. Unfortunately their definition of microindustry only refers to a very specific kind of enterprise which is less common in Mexico than family enterprises, but the results of their research, and particularly of their training courses, is extremely interesting and should be made known to the people at SENA and other institutions in Latin America. I have written the people at SENA sending them a brief description of what I saw and urging them to get in contact with CIDE.

As for a general assessment of my trip and my visit to these projects I must first of all admit that I learnt a lot in the consultancy, and that each in its own way was very interesting. As for the way they treat the issues of technology and firm growth I believe that the one that goes further into the problem is Dr. Carbonetto of CEDEP in theoretical terms, and the CIDE project in terms of action. Yet this judgement may be unfair in the sense that I did not have a general discussion with the people in charge of these issues in Dr. Murillo's team.
nor do I know of the results of the SENA project. My general impression is that all four projects were well thought and that they were doing serious research, though with different objectives in mind. This sometimes made it difficult for me to establish a meaningful dialogue, given that the issues we had in common were treated in a very different way by the researchers and me, but it also helped me to get some new insights into the problems of microindustry and to discuss my ideas and establish communication with other people working on the same topic.

Part II. The unscheduled visits.

These visits were organized by Dr. Chaparro, of the Regional Office in Bogota, and my general feeling towards them is mixed. Some of them proved to be very interesting in terms of very specific aspects of microindustry or in terms of the more general topic of industrialization, such as my visit to Dr. Gabriel Misas of Fines and my visit to Instituto SER, while others made me feel useful in terms of communicating the Mexican experience in certain areas such as Social Security towards the sector, as in the case of Dr. Cristina Bernal of the Planning Office, or interesting in terms of learning about the Colombian experience in terms of technological research in general, such as the visit to the Instituto Colombiano de Investigación Tecnológica, while others were, I felt, a loss of time both for me and
the people I visited, particularly because they prevented me from a more in depth interview with the people of the Universidad de los Andes and SENA. Basically these two visits were those with Dr. Jose Escalante, with whom we spoke on small and Medium enterprise on extremely general terms, and a visit to FICITEC, in which I was virtually out of place because their interest was in financial matters and more particularly on the Mexican scheme of financing high risk capital, the latter being a topic I have hardly worked upon.

My visit to Dr. Misas was interesting in the sense that we discussed industrial policy in general and the way this affects small scale and microindustry, and the way in which special measures could be implemented to avoid harming the sector and the development of a "supportive" small scale capital goods sector. Nevertheless the topic was so general that we could not go into much detail.

My visit to Dr. Escalante was long and tedious, passing from one subject to another without really going into anything.

The interview with Dr. Bernal was interesting in that it gave me some knowledge of what was being done at SENA and by the government authorities in Colombia with respect to microindustry and that we discussed aspects of Mexican social security which were new to her, in relation to non-wage workers.

The visit to Dr. Mariño of FICITEC was very demanding and of
little use to either side, given that he lacked interest in microindustry and I knew little about high risk capital financing in practice.

The visit to IIT was interesting in that I learnt about studies which had led to the development of appropriate techniques in small-scale food processing, with some surprising achievements, such as making guayaba paste which is suitable for export to the U.S. in small batches and using labour-intensive techniques, and was also useful in terms of making an interesting contact for PROCIENTEC.

Finally, the visit to Instituto SER was very interesting in that I was shown a report on the assessment of support programmes towards microindustries, which shows that these programmes only help the enterprises which are a priori inclined to grow and that have the capacity to do so, while being a loss of time to the rest of the entrepreneurs or workers, unless the programme is specially designed. The methodology they use to prove this is quite impressive and the results are very strong.

Including this last visit, the one to Dr. Misas, the one to IIT, and the one to Dr Bernal, were quite useful or at least satisfactory.
Part III. Administrative Matters.

In general everything turned out well. I received my per-
diem in Bogota, on the first working day after my arrival, and
faced no financial problems. The only two problems with respect
to the trip were the following: travel schedules and my arrival
to Lima. The first problem is due to the lack of direct, frequent
or regular flights from one point to another, which meant a loss
of time at airports and the need to cancel flights in several
opportunities, which is an unavoidable problem. The second was
due to a miscalculation by the Centre, in the sense that my dates
for work in Lima, i.e. 28th and 29th July, are the National Ho-
lidays of Peru, and though I had made arrangements to see Dr.
Carbonetto in spite of such circumstances these arrangements
failed and we could only meet on Monday, given that I could
contact him only on Sunday August 30. Fortunately our original
appointment was for Friday 29, which made me stay an extra day
in Bogotá and fly the very Friday, instead of Thursday, as sche-
duled, and the final effect was that I had to postpone my trip
to Montevideo and my trip from Montevideo to Santiago, one day
in the first case and two in the second, given that flying from
Lima to Montevideo took me almost all Tuesday. These minor modi-
fications aside everything ran smoothly and relatively on sche-
dule, except for my visit to Santiago, during which I worked
three days throughout two weeks, given that in the meantime
there was a National Protest with a long Curfeue and a Bank
Holiday, which meant no one worked from the 11th August to the
16th. Thus, my visit to the course was on Thursday 18th, and had
I not taken vacations in Chile I would have been unable to do it.

My precise travel schedule was the followig:

Mexico City-Bogota 24th July.
Bogota-Lima 29th July.
Lima-Montevideo August 2.
Montevideo-Santiago August 5.
Santiago-Mexico. August 21st.

Yet in Santiago I only take into account three days of
effective work, though these were spread over nearly two weeks,
and a weekend which was inevitable in terms of per-diem claims,
given that I stayed there because I wanted to and that in the
meantime I did things which bore no relation to the consultancy.

This means that I stayed one more day than expected in
Bogota (5 days instead of 4), the exact time required in both
Lima and Santiago (4 and 5 days respectively) and one extra day
in Montevideo (4 instead of 3 days). In terms of the allowance
for research costs I spent most of it in phone-calls (two of
them to Lima to contact Dr. Carbonetto, from Bogota, and in
copies of papers and material which I cannot get hold of in
Mexico, such as certain Prealc publications.
The consultancy turned out to be extremely interesting and satisfying, and I am grateful to IDRC for having enabled me to establish contacts which will be quite useful in the future. As soon as my research is completed, (hopefully by the end of this year), I will be sending you a copy of it.

Yours sincerely

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