REPORT ON A MISSION TO MAURITIUS
(27 September - 13 October 1988)

By

Robin M. Andriana solo, Chief
Censuses and Surveys Advisory Service
Statistics Division

Addis Ababa
October 1988
I. OBJECTIVE AND ORGANIZATION OF THE MISSION

The mission was undertaken from 27 September - 13 October 1988 at the request of the Government of Mauritius and the United Nations Population Fund (UNFPA). Its terms of reference which were communicated by ECA by cable NISC 577 of 13 July 1988 from the Resident Representative of the United Nations Development Programme (UNDP) in Port Louis were as follows: "To prepare a comprehensive project document to cover the 1990 census project, with particular attention to building census data processing capability within the Central Statistical Office, including training related thereto."

In preparation for the mission, a cable was sent to UNFPA Headquarters, New York, enquiring about the UNFPA level of assistance to the Mauritius 1990 census and whether other donor agencies were expected to contribute. A reply was received on 29 September 1988 through the UNDP Office in Port Louis indicating that the document concerning the population country programme was under preparation and that discussion should be held with the UNDP Resident Representative and the national authorities on any possibility of multi-bi assistance.

The first meeting was held on 28 September 1988, in the morning, with the Director, the Deputy Director and the Chief, Social Statistics Division, Central Statistical Office (CSO). The mission was briefed about the Government's decision to advance the next housing and population census to 1990 and the reasons for this. Information on relevant actions already taken or envisaged was also given.

A general meeting was held at CSO the same day in the afternoon with the participation of the Director, the Deputy Director, the Chief of the Social Statistics Division, the chiefs of the Geography and the the Labour and National Remuneration Board (NRB) sections and one of the statisticians in-charge of the Population and Housing Section. The meeting considered the issue of data processing equipment to be used for processing the 1990 census data, especially as regards the equipment to be acquired under the national budget.

Subsequent discussions on the technical and administrative aspects of the census project were held throughout the mission with the Chief, Social Statistics Division, and his professional staff who also participated actively in the preparation of the draft project document for the 1990 housing and population census of Mauritius. Consultations were also held from time to time with the Director and the Deputy Director of CSO.

The mission, accompanied by Mr. H. Bundhoo, Chief, Social Statistics Division, paid a visit to the UNDP Deputy Resident Representative (the Resident Representative was away on mission) and the UNFPA Programme Assistant a.i. During the discussions concerning the possible level of UNFPA assistance to the 1990 census, a tentative figure of US dollars 200,000 was given to the mission as the proposed UNFPA assistance in the field of data collection and analysis under the new population country programme for the period 1989-1992 which was being considered. The mission was also informed that the report of the UNFPA sectoral review and programme development mission undertaken in Mauritius in November/December 1987 was approved by the Government, particularly in respect of the section relating to population data collection.
The mission together with the Director of Statistics, CSO, and the Chief, Social Statistics Division, also paid a visit to a number of high level Government officials to discuss issues relating to the 1990 census. All the personalities met had expressed their strong support to the project.

A review meeting was held with the Director of Statistics on 6 October 1988 prior to his departure to Cairo on mission.

The debriefing meeting at the UNDP Office took place on 7 October 1988 since a consultant was going to New York the following day. An incomplete draft of the project document was handed over to the UNDP Deputy Resident Representative for UNFPA advance information. Key issues concerning the 1990 census were discussed at the meeting.

A final debriefing meeting was held with the Deputy Director and the Chief, Social Statistics Division, of CSO at the end of the mission. The urgent actions to be taken by the Government and CSO were stressed.

The complete draft of the project document was put on micro-computer by the CSO secretarial staff and a copy of the relevant diskette was given to the mission. UNFPA is requested to provide US dollars 200,000 for the project for the period 1989 - 1992. The Government contribution will amount to Rupees 27 million.

Brief discussions were also held with the Chief, Economic Statistics Division and a tour of all the sections and units of CSO was organised at the end of the mission.

The list of persons with whom discussions were held is given in Annex I.

II. THE CENTRAL STATISTICAL OFFICE

The Central Statistical Office (CSO) of Mauritius is located since its establishment at Rose Hill, a town which is about 7 miles from Port Louis, the capital city. CSO is accommodated in two separate buildings about 200 meters apart. The management and the administrative staff are located in one building while all the technical staff occupy the other one.

CSO is a department attached to the Ministry of Economic Planning and Development which is located at Port Louis. It comprises three divisions, namely the Economic Statistics Division, the Social Statistics Division and the General Service Division. Each division is divided into sections and units. The relevant management chart as at 1st July 1988 is attached as Annex II. It should be pointed out that CSO does not have at present any unit responsible for data processing. The relevant tasks have been carried out so far by the Data Processing Division at the Ministry of Finance. It should also be noted that a number of units of CSO are physically located within the relevant ministries and government departments such as the Ministry of Agriculture, Co-operatives, Education, Finance, Trade and Shipping, Industry, Social Security, Housing, Works and Labour and the departments of Customs and Excise, Income Tax and Tourism.
CSO has a permanent staff of 144 members. However 7 posts were vacant at the time of the mission. The staffing situation of CSO is shown in the following table:

<table>
<thead>
<tr>
<th>Categories of staff</th>
<th>Established posts</th>
<th>Staff in post</th>
<th>Number of female staff</th>
<th>Percentage of female staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Principal Statisticians</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Statisticians</td>
<td>19</td>
<td>18</td>
<td>3</td>
<td>16.6</td>
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<tr>
<td>Senior Statistical Assistants</td>
<td>24</td>
<td>24</td>
<td>9</td>
<td>37.5</td>
</tr>
<tr>
<td>Statistical Assistants</td>
<td>45</td>
<td>44</td>
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<td>43.2</td>
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<tr>
<td>Statistical Clerks</td>
<td>28</td>
<td>25</td>
<td>8</td>
<td>32.0</td>
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<tr>
<td><strong>Sub-Total</strong></td>
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<td><strong>115</strong></td>
<td><strong>39</strong></td>
<td><strong>33.9</strong></td>
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<tr>
<td>Administration and Finance staff</td>
<td>24</td>
<td>22</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>144</strong></td>
<td><strong>137</strong></td>
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</table>

Thus, out of 115 statistical staff in post, 39 are females representing approximately one third of the total. The percentage of female staff at the higher level is relatively low but the mission was told that some of the female staff members at the lower level are qualified statisticians. It should be indicated that all professional posts, including demographers, are called statisticians.

CSO produces on a periodic basis a number of publications in the various fields of statistics such as national accounts, agricultural statistics, external trade statistics, educational statistics, industrial statistics and demographic statistics. A list of these publications is attached as Annex III.

CSO has extensive experience in census taking. The 1990 census will be the sixteenth one to be conducted in the history of the country and the third since independence. The office has also solid experience in carrying out surveys. The following surveys have been conducted in the recent years: Census of Economic Activities (1985), Household Budget Survey (1986), Labour Force Sample Survey (1986) and Airport Survey (1986). The following
statistical operations are also underway: Bi-annual Survey of Employment and Earnings and Capital Formation Survey.

The main problem of CSO is the data processing. As already indicated, this work has been performed so far by the Data Processing Division, Ministry of Finance. However, this Division is also responsible for processing a number of other government applications such as payroll, income tax, telephone billing and sales tax ledger which receive higher priority than the statistical work. Therefore the processing of census and survey results has often been delayed and moreover incomplete. For example the number of tables produced for the 1983 census was very limited and users requests for specific tables and for disaggregated data at the regional and local levels could not be satisfied. Also, CSO had to undertake a manual processing of the 1986 Labour Force Sample Survey in order to produce the first survey results.

In view of the above problems, the Government has decided to build up the data processing capability of CSO to enable it to carry out the timely and complete processing of the 1990 census data. CSO has at present 3 micro-computers: one IBM PC/AT acquired in March 1987 under the UNDP-financed project MAR/85/003 Economic and Social Development, and two IBM PS/2 Model 8560-071 acquired in August 1988 with Government funds under the computerization programme of the Ministry of Finance. A complete list of computer and other equipment available at CSO is attached to the 1990 census project document prepared during the mission as Annex II.

III. THE 1990 HOUSING AND POPULATION CENSUS

Detailed information relating to the strategy and the work plan for the conduct of the 1990 census is included in the draft project document. The mission is of the view that CSO has the capacity to carry out the 1990 census as planned. However, a number of actions which should be taken in order to ensure the success of the census will be further stressed in the present report, particularly in respect of staffing of the Social Statistics Division, CSO, office space, data processing and UNFPA inputs.

1. Staffing situation of the Social Statistics Division, CSO

The Social Statistics Division at CSO will play the role of a central census office for the 1990 census. It is divided into the following sections: Geography, Population and Housing, Labour and National Remuneration Board (HRB), Education and Youth, Tourism, Consumer Price Index and Women's Rights and Social Security. The first three sections have direct responsibility for the conduct of the 1990 census, under the general supervision of the Director of Statistics, who is the Census Commissioner, and the technical and administrative direction of the Chief, Social Statistics Division, Chief of the Census Operations. The present staffing situation of the three sections is as follows:


<table>
<thead>
<tr>
<th>Section</th>
<th>Statisticians</th>
<th>Senior statistical assistants</th>
<th>Statistical assistants</th>
<th>Statistical clerks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography Section</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Population and Housing Section</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Labour and URB Section</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4</strong></td>
<td><strong>6</strong></td>
<td><strong>13</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Following a comparison with the staff requirements included in the project budget covering contribution by the Government of Mauritius (see draft project document), it will be necessary to allocate one additional statistical assistant and one statistical clerk to the Geography Section. There is also the need to assign to the census work 5 statistical clerks from other sections of CSO, particularly the Social Statistics Division, since 10 staff members of this category will be required, especially in 1990 and 1991.

But the most important problem which arose during the mission was that the Chief of the Labour and URB Section had received an offer to join the National University as a lecturer. No firm decision had been taken both by CSO and the staff member concerned when the mission left Mauritius. However, if the past referred to above becomes vacant, it is urgent that the Director of CSO takes the necessary measures to redeploy the existing CSO staff or to recruit a qualified candidate to fill the vacancy.

As in the past specific tasks will be assigned to other sections/units of CSO, including the Finance and Stores Section and the Administration Section, as the needs arise in order to ensure the successful implementation of the census project. Temporary staff, particularly field staff, will also be recruited for the conduct of the census.

2. **Office space**

It has already been indicated that CSO is located at Rose hill, in two separate buildings about 200 meters apart. The fact that all the Ministries are established in Port Louis makes it more difficult for CSO to ensure the necessary consultations with data users, specialized government departments and administrative and financial authorities. Moreover, CSO has presently an office space of about 8,000 square feet which is not enough even for the current work.
For the above reasons and in view of the forthcoming census, the Government has decided to transfer CSO to Port Louis where two buildings under construction (Chancery House and Toorawa) have already been identified. The Chancery House, which will be completed by January 1989, has an office space of 12,000 square feet in one floor. CSO could move into this building and eventually keep one building at Rose Hill as headquarters of the census field staff and storage for the census documents. The Toorawa building, which will be completed by April 1989, has an office space of 15,000 square feet distributed amongst different floors, except the ground floor. The mission had the opportunity to visit the two buildings and found both of them suitable for CSO. It is however the personal view of the mission that the Chancery House is more convenient in view of the quietness of its location.

The mission, together with the Director of Statistics and the Chief, Social Statistics Division, CSO, paid a visit to the Permanent Secretary of the Prime Minister's Office to discuss the issue of office accommodation for CSO. At the end of the discussions, the Permanent Secretary instructed his colleagues to contact the owners of the two buildings referred to above and the Government valuers in order to finalize the necessary arrangements for the allocation of office space to CSO in one of the two buildings. The Ministry of Finance will also be involved in the process, on the financial aspects, before the final decision is taken by the Government.

3. Data Processing

The number of workstations required for keying the census data for one year in two shifts is estimated to be 9. The Government will be responsible for the purchase of the relevant equipment and may consider increasing their number in order to cut down the time required to complete the work. The Government has already approved funds for the purchase of 5 micro-computers as part of the equipment for census data entry. However, in order to build up the long-term data processing capability of CSO, consideration is being given to the acquisition of micro-computers with hard disk and appropriate peripherals which can be used for statistical work after the census data entry operation. The remaining equipment for data entry could be simple micro-computers. CSO envisions to acquire the first batch of micro-computers with the following specifications:

Processor: Intel 8086 or better
Memory: 640KB
Monochrome monitor
QWERTY keyboard of 102 keys
1 Diskette drive 3.5" with minimum 720KB
1 Hard disk of at least 20MB.

The following software packages will also be acquired:

RODE/PC, CONCOR, CENTS/PC and SPSS/PC. Other software packages and utilities will also be used, particularly for graphics, census cartography and demographic analysis.
Taking into account the availability of several models on the local market and the difficulty of choice due to cost considerations and possible compatibility problems, it was decided to send a cable to the United Nations Statistical Office (UNSO), with a copy to ECA, to seek for advice on this matter. The reply from UNSO, which was received in Addis Ababa at the time of writing the present report, asked for further clarification about the strategy for processing the 1990 census data of Mauritius. The relevant information was sent by telex to the Director of UNSO, copy to the UNDP Office Mauritius, with further indication that advance information on this subject was transmitted to UNFPA through a consultant who left Mauritius on 8 October 1988.

The Government requests UNFPA assistance under the present project in the provision of the necessary computer equipment for the actual processing of the 1990 census data. Three sufficiently powerful micro-computers with adequate memory, hard disk and back up tape storage will be required. One micro-computer will be used for the extraction of batch files, the second one for batch file editing and the third one for tables production. The specifications of the data processing equipment will be discussed in due course among the Government, DTCD and UNFPA.

One issue which should be discussed in the present report is whether the necessary computer equipment for data entry and for data processing should be purchased locally or imported. This issue is important since, as already indicated, several models are available on the local market but the local agents seem to be unable to offer good maintenance services. The mission was told that the latter have a tendency to be essentially salesmen. If the equipment is to be purchased locally (at least those to be acquired under the Government finance), it will be crucial that the selected agents sign a contract for full and efficient maintenance services. This involves recruitment of qualified staff and/or additional training of their existing staff to enable them to offer the services required.

If the equipment is to be imported, the maintenance services should be an integral part of the sale agreement package so that the parent companies will have to assign qualified staff to provide the services required.

The mission recommends that the above issue should receive urgent attention from the Government, UNFPA and DTCD.

4. UNFPA inputs

As stated earlier, the Government requests UNFPA assistance in the provision of 3 micro-computers and the necessary peripheral equipment for the actual processing of the 1990 census data. A provision of US dollars 60,500 has been included in the project budget covering UNFPA contribution for this purpose. The mission worked out this figure on the basis of the average costs of such equipment in Europe and the United States of America. However, it will be necessary for DTCD to identify, in consultation with the Government, the equipment required and obtain the actual costs of such equipment. Adjustments may be necessary on the UNFPA budget following this exercise.
Training is the major component of the UNFPA inputs although it is mainly in the form of recruitment of consultants to provide intensive on-the-job training in the field of data processing. Provision has been made in the UNFPA budget for the recruitment of 4 consultants for one month each and one data processing expert for 6 months as well as for mission costs for the participation of UN Headquarters staff in the Training Programme and the Tripartite Review meetings. Taking into account the tentative figure given to the mission concerning the possible level of UNFPA assistance, the cost of missions by ECA regional advisers for training and technical backstopping has not been included in the UNFPA budget. If the recent guidelines on this issue have to be followed, a provision of US dollars 20,000 should be added to the UNFPA inputs to finance 6 missions by the ECA regional advisers, including four advisory missions in the field of data processing (one of which of one month's duration should be for training on operating system and RODE/PC), one mission on census cartography and one mission on data analysis.

IV. CONCLUSIONS AND RECOMMENDATIONS

The mission recommends, inter alia the following actions to be taken by the various parties concerned in order to ensure the successful implementation of the 1990 census project of Mauritius:

Government

(i) The draft project request for the 1990 census should be submitted as soon as possible to UNFPA through the local UNDP Office;

(ii) The Government should take the necessary measures to put into effect the actual transfer of the Central Statistical Office (CSO) from Rose Hill to Port Louis by May 1989 at the latest;

(iii) The first delivery of data processing equipment (6 micro-computers, including one for census cartography, and peripherals) and software packages to be acquired under the Government budget should take place by mid-January 1989 at the latest to enable the training programme to start on time. The remaining equipment should be delivered by July 1989;

(iv) The necessary financial provision for the 1990 census should be voted as soon as possible in order to ensure the smooth implementation of the project activities;

(v) The post of Chief, Labour and National Remuneration Board Section, at CSO should be filled urgently if the incumbent of the post decides to join the National University.

(vi) CSO should find ways and means of improving the quality of data in respect of questions on employment and unemployment and on marriage and fertility which were answered with some difficulty during the 1983 census.
UNFPA

(i) The request of the Government of Mauritius for the 1990 Census should be approved to the extent possible by the end of December 1988 to enable the project activities to start in February 1989 as planned.

(ii) The issue concerning the costs of data processing equipment and ECA technical backstopping missions should receive due consideration and the necessary amendments to the UNFPA contribution should be reflected in the final project document.

DTCD (including UN Statistical Office)

(i) The list of computer equipment to be acquired under the UNFPA budget for the actual processing of the 1990 census data of Mauritius should be finalized as soon as possible and the relevant costs should be worked out to enable revisions to the project budget to be made;

(ii) Advice on the type of data processing equipment to be acquired under the Government budget should be sent urgently to Mauritius through the local UNDP Office, copy to ECA;

(iii) The issue of maintenance services of the computer equipment in Mauritius should be discussed with the parent companies and the Government should be advised on the relevant action to be taken;

(iv) The recruitment of consultants under the project should be done according to the work plan in order to ensure the successful implementation of the project activities;

(v) The UN Statistical Office is urged to make available the services of one technical adviser in data processing in June 1989 for one month to provide on-the-job training on data editing software package (CONCOR).

ECA

ECA should make available the services of its regional advisers to provide timely technical backstopping to the 1990 census activities of Mauritius, particularly with respect to data processing.

V. OTHER BUSINESS

The mission was requested by the Director of Planning to convey a message to the Socio-Economic Research and Planning Division, ECA, about the follow-up action on the Social Accounting Matrix (SAM) project, and to the Pan-African Documentation and Information System (PADIS) concerning the computerization of the documentation of the Ministry of Economic Planning and Development. The mission delivered the message to the departments concerned as requested.
VI. ACKNOWLEDGEMENT

The mission wishes to express its deep appreciation to Mr. D. Zmanay, Director of the Central Statistical Office and his colleagues for their valuable co-operation and help. Without their active participation, it would have been an impossible task for a one man team to formulate a draft project request for the 1990 census of Mauritius within the time available. Special thanks go to Mr. H. Bundhoo, Chief, Social Statistics Division, and his professional staff, for their willing and kind assistance throughout the mission, and to the secretarial staff of CSO who worked hard to get the draft project request typed in time.

The mission is also thankful to the Hon. Minister for Rodrigues and the other Government officials met as they made themselves available for discussions on the 1990 census of Mauritius despite their busy schedule and showed a great interest in the project.

Finally, the mission expresses its gratitude to the UNDP/UNFPA Office in Port Louis, especially to Mrs. A. Smedler, Deputy Resident Representative, and Ms. F. Bozelle, UNFPA Programme Assistant a.i., for their helpful assistance and advice.
ANNEX J

LIST OF PERSONNEL

Ministry for Rodrigues
- The Hon. Louis Serge Clair, Minister
- Mr. Simonet

Prime Minister's Office
- Mr. Jacques Lo Chartier, Permanent Secretary
- Mrs. L. Suteoram

Ministry of Finance
- Mr. M. Baguant, Financial Secretary

Ministry of Economic Planning and Development
- Mr. R. Bhocrick, Director of Planning
- Mr. Wong So, Deputy Director of Planning

Central Statistical Office
- Mr. D. Zamanay, Director of Statistics
- Mr. S. Basant Rai, Deputy Director of Statistics
- Mr. H. Bundhoo, Chief, Social Statistics Division
- Mr. R. Wong Man Wan, Statistician, Co-responsible for the Population and Housing Section
- Mr. H. Kalasopatan, Chief, Labour and HNB Section
- Mr. L.J. G. Clarisse, Chief, Geography Section
- Mr. H. Kadaloo, Chief, Economic Statistics Division

UNDP/UNFPA
- Mrs. Ase Smedler, Deputy Resident Representative
- Ms. Françoise Bozelle, Programme Assistant a.i., UNFPA Office
ANNEX III

LIST OF CSO PUBLICATIONS

A. Regular reports

1. Annual Digest of Statistics

2. International Travel and Tourism Statistics

3. National Accounts of Mauritius

4. Digest of Educational Statistics

5. Digest of Agricultural Statistics

6. Digest of Industrial Statistics

7. Digest of Road Transport Statistics

8. External trade Statistics

9. Statistical Summary
   - Yearly latest issue: 1987

10. Bi-annual Survey of Employment and Earnings
    - Bi-annual. Latest issue: September 1987

11. Digest of Demographic Statistics

12. Digest of Public Finance Statistics

B. Occasional reports

1. 1983 Housing and Population Census
   (a) Results
      Vol. I - Methodological Report
      Vol. II - Demographic Characteristics
      (Island of Mauritius)
Vol. III - Geographical and Migration Characteristics  
(Island of Mauritius)

Vol. IV - Housing and Living Conditions  
(Island of Mauritius)

Vol. V - Housing and Population Census Results  
(Island of Rodrigues)

Vol. VI - Households  
(Island of Mauritius)

(b) Analytical reports

Vol. I - Evaluation of Data

Vol. II - Education: Characteristics, Prospects  
& Some Implications

Vol. III - Households and Housing Needs:  
Estimates and Implications

Vol. IV - Economic Activity: Characteristics  
& Prospects

Vol. V - Population Distribution and Migration

Vol. VI - Health, Morbidity & Mortality

2. 1985 - 1986 Collection of Statistics of Economic  
Activities - Vol. I (Small Establishments)

Vol. I - Methodological Report
PROJECT BUDGET COVERING UNFPA CONTRIBUTION

(US Dollars)

Country: Mauritius
Project Number: MAR/88/
Title: 1990 Housing and Population Census

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<td>US $</td>
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10. PROJECT PERSONNEL

11. UN International Personnel

11 - 01 Consultant in graphics software and mapping software 1.0 12,000 1.0 12,000
11 - 02 Consultant in tabulation software 1.0 12,000 1.0 12,000
11 - 03 Consultant in statistical analysis software 1.0 12,500 1.0 12,500
11 - 04 Consultant in demographic analysis software 1.0 12,500 1.0 12,500
11 - 05 Data processing Expert 6.0 66,000 6.0 66,000
11 - 99 Sub-Total 2.0 24,000 7.0 78,500 1.0 12,500 10.0 115,000

15. Travel Costs

15 - 02 Mission costs 7,000 5,000 - 5,000 17,000

19. Component Total 31,000 83,500 12,500 5,000 132,000
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<td><strong>Study Tour</strong></td>
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<td><strong>Component Total</strong></td>
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<td>34</td>
<td>Study Tour</td>
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<td>34-01</td>
<td>Study tour in Europe - use of microcomputers for census cartography</td>
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<td>39</td>
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<td>40</td>
<td>EQUIPMENT</td>
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<td>42</td>
<td>Non-expendable Equipment</td>
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<td>42-01</td>
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<td>60,500</td>
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<td>49</td>
<td>Component Total</td>
<td>60,500</td>
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<td>50</td>
<td>MISCELLANEOUS</td>
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<td>53</td>
<td>Sundry</td>
<td>369</td>
<td>1,455</td>
<td>126</td>
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<td>59</td>
<td>Component Total</td>
<td>369</td>
<td>1,455</td>
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<tr>
<td>99</td>
<td>GRAND TOTAL</td>
<td>36,869</td>
<td>145,455</td>
<td>12,626</td>
<td>5,050</td>
</tr>
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</table>
# Project Budget Covering Contribution by the Government of Mauritius

*(in Mauritian Rupees)*

## 1. Permanent Staff

<table>
<thead>
<tr>
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<td></td>
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<tr>
<td>1 Census Commissioner: Rs 13,700 p.m.</td>
<td>6</td>
<td>82,200</td>
<td>-</td>
<td>-</td>
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<tr>
<td>1 Principal Statistician: Rs 10,500 p.m.</td>
<td>25</td>
<td>262,500</td>
<td>1</td>
<td>10,500</td>
<td>6</td>
<td>63,000</td>
<td>10</td>
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<tr>
<td><strong>Population and Housing Section</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2 Statisticians: Rs 6,000 p.m.</td>
<td>124</td>
<td>744,000</td>
<td>4</td>
<td>24,000</td>
<td>24</td>
<td>144,000</td>
<td>24</td>
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<tr>
<td>2 Senior Statistical Assistants: Rs 5,500 p.m.</td>
<td>124</td>
<td>682,000</td>
<td>4</td>
<td>20,000</td>
<td>24</td>
<td>132,000</td>
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<td><strong>Geography Section</strong></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>1 Statistician: Rs 6,000 p.m.</td>
<td>42</td>
<td>252,000</td>
<td>12</td>
<td>72,000</td>
<td>12</td>
<td>72,000</td>
<td>12</td>
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<tr>
<td>1 Senior Statistical Assistant: Rs 5,500 p.m.</td>
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<td>231,000</td>
<td>12</td>
<td>66,000</td>
<td>12</td>
<td>66,000</td>
<td>12</td>
</tr>
<tr>
<td>7 Statistical Assistants: Rs 4,000 p.m.</td>
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<td>1,176,000</td>
<td>84</td>
<td>336,000</td>
<td>84</td>
<td>336,000</td>
<td>84</td>
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<tr>
<td>1 Statistical Clerk: Rs 2,500 p.m.</td>
<td>42</td>
<td>105,000</td>
<td>12</td>
<td>30,000</td>
<td>12</td>
<td>30,000</td>
<td>12</td>
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<tr>
<td><strong>Sub-total: Permanent Staff</strong></td>
<td>(3,534,700)</td>
<td>(560,500)</td>
<td>(870,400)</td>
<td>(939,800)</td>
<td>(570,000)</td>
<td>(297,000)</td>
<td>(297,000)</td>
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### 2. TEMPORARY STAFF

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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Office Staff</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1 Statistician: Rs 6,000 p.m.</td>
<td>54</td>
<td>324,000</td>
<td>-</td>
<td>6</td>
<td>36,000</td>
<td>12</td>
<td>72,000</td>
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<tr>
<td>2 Senior Statistical Assistant: Rs 5,500 p.m.</td>
<td>60</td>
<td>330,000</td>
<td>-</td>
<td>12</td>
<td>66,000</td>
<td>24</td>
<td>132,000</td>
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<tr>
<td>7 Statistical Assistants: Rs 4,000 p.m.</td>
<td>168</td>
<td>672,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>84</td>
<td>336,000</td>
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<tr>
<td>10 Statistical Clerks: Rs 2,500 p.m.</td>
<td>240</td>
<td>600,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>120</td>
<td>300,000</td>
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<td>1 Executive Officer: Rs 4,000 p.m.</td>
<td>24</td>
<td>96,000</td>
<td>-</td>
<td>6</td>
<td>24,000</td>
<td>12</td>
<td>48,000</td>
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<tr>
<td>1 Accounts Clerk: Rs 4,000 p.m.</td>
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<td>96,000</td>
<td>-</td>
<td>6</td>
<td>24,000</td>
<td>12</td>
<td>48,000</td>
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<tr>
<td>50 Editing and Coding Clerks: Rs 2,400 p.m.</td>
<td>800</td>
<td>1,920,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>500</td>
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<tr>
<td>2 Typists: Rs 2,100 p.m.</td>
<td>96</td>
<td>201,600</td>
<td>-</td>
<td>12</td>
<td>25,200</td>
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<td>50,400</td>
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<tr>
<td>2 Messengers: Rs 2,000 p.m.</td>
<td>48</td>
<td>96,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>48,000</td>
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<td>2 Casual labourers/Cleaners: Rs 1,550 p.m.</td>
<td>48</td>
<td>74,400</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>37,200</td>
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<td>1 Driver: Rs 2,200 p.m.</td>
<td>12</td>
<td>26,400</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>26,400</td>
</tr>
<tr>
<td><strong>Sub-total: Temporary office staff</strong></td>
<td></td>
<td>4,436,400</td>
<td>(-)</td>
<td>(175,200)</td>
<td>(2,298,000)</td>
<td>(1,743,600)</td>
<td>(122,400)</td>
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### Project Budget Covering Contribution by the Government of Mauritius (Cont'd)

#### (in Mauritian Rupees)

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<tr>
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<tr>
<td>Man-Months</td>
<td>Rupees</td>
<td>Man-Months</td>
<td>Rupees</td>
<td>Man-Months</td>
<td>Rupees</td>
<td>Man-Months</td>
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<td><strong>(b) Field Staff</strong></td>
<td></td>
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<tr>
<td>1 Chief Supervisor/Instruction: Rs 2,000 p.m.</td>
<td>9</td>
<td>18,000</td>
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<td>-</td>
<td>-</td>
<td>9</td>
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<tr>
<td>1 Deputy Chief Supervisor: 1,900 p.m.</td>
<td>9</td>
<td>17,100</td>
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<tr>
<td>10 Senior Supervisors: Rs 1,700 p.m.</td>
<td>90</td>
<td>153,000</td>
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<td>100 Supervisors: Rs 1,300 p.m.</td>
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<td>1,040,000</td>
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<td>800</td>
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<tr>
<td>650 Chief Enumerators: Rs 5,000</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>3,800 Enumerators: Rs 1,500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>70 Spare Chief Enumerators: Rs 400</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>150 Spare Enumerators: Rs 200</td>
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<td>-</td>
<td>-</td>
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<tr>
<td><strong>Sub-total: Temporary field staff</strong></td>
<td>(10,236,100)</td>
<td>(-)</td>
<td>(-)</td>
<td>(10,236,100)</td>
<td>(-)</td>
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<td><strong>PERSONNEL TOTAL</strong></td>
<td>18,207,200</td>
<td>560,500</td>
<td>1,045,600</td>
<td>13,473,900</td>
<td>2,313,600</td>
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<td>3. Office accommodation (3,000 sq ft x Rs 10 p.m.)</td>
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<td>900,000</td>
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<td>180,000</td>
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<td>4. Electricity, water, telephone: Rs 7,000 p.m.</td>
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<td>210,000</td>
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<td>42,000</td>
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<td>5. Furniture</td>
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<td>100,000</td>
<td>-</td>
<td>-</td>
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<td>25,000</td>
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<td>6. Stationery and other office supplies</td>
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<td>500,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>150,000</td>
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<tr>
<td>7. Cartographic equipment &amp; materials</td>
<td>-</td>
<td>500,000</td>
<td>-</td>
<td>300,000</td>
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<td>100,000</td>
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<td>8. Travelling and transport</td>
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<td>600,000</td>
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<td>9. Printing</td>
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<td>10. Publicity</td>
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<td>11. Data Processing</td>
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<td>3,000,000</td>
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<td>300,000</td>
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<td>1,500,000</td>
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<td>12. Rodrigues missions</td>
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<td><strong>NON-PERSONNEL TOTAL</strong></td>
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<td>2,149,000</td>
<td>394,000</td>
<td>300,000</td>
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<td><strong>CONTINGENCIES</strong></td>
<td>2,032,800</td>
<td>89,500</td>
<td>237,400</td>
<td>1,277,100</td>
<td>232,300</td>
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<td><strong>GRAND TOTAL</strong></td>
<td>27,000,000</td>
<td>1,100,000</td>
<td>3,600,000</td>
<td>16,000,000</td>
<td>3,500,000</td>
<td>800,000</td>
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</tbody>
</table>
ANNEX II

List of Equipment Available

A. CARTOGRAPHIC EQUIPMENT

1. One Plan-Variograph
   An optical projection instrument for enlarging and reducing maps, plans and drawings, i.e. an optical pantograph.

2. Two VEMCO V-Track drafting machines with tables.

3. One photocopier machine - Minolta EP710 with only one fixed set of reduction/magnification capability.

4. One diazo printer - OCE semi-dry printer (now used as an ammonia diazo printer with separate developing ammonia chamber).

5. One Kroy 80 lettering machine.

B. DATA PROCESSING EQUIPMENT

1. 1 IBM PC AT (512kb, Hard disk 30 mb, floppy disk 5½” with capacity 1.2 mb, 360kb) with colour monitor.

2. 2 IBM PS/2 Model 8560-071 (2048kb, Hard disk 70 mb, floppy disk 3½” with capacity 1.44 mb).

3. 1 External disk drive 5½”.

4. 1 UPS, 500 VA, type 2005, Standard model.

5. 1 Epson Printer LQ 1000.

6. 2 Printers EPSON LQ 2500+ with bin feeder and tractor unit.

7. Softwares available

   (i) Lotus 123
   (ii) D-base III - plus
   (iii) Symphony
   (iv) Volkswriter
ANNEX III

JOB DESCRIPTION

POST TITLE: EXPERT IN POPULATION AND HOUSING CENSUS DATA PROCESSING (CONSULTANT)

DURATION: SIX MONTHS

DATE REQUIRED: 1 MAY 1990

DUTY STATION: PORT LOUIS

DUTIES:

THE EXPERT WILL BE ASSIGNED TO THE CENTRAL STATISTICAL OFFICE (CSO) AND WILL WORK IN CLOSE COLLABORATION WITH THE PERSONNEL ATTACHED TO THE CENSUS PROJECT. THE EXPERT WILL ASSIST THE GOVERNMENT IN PROCESSING THE DATA FROM THE 1990 HOUSING AND POPULATION CENSUS ON MICRO-COMPUTERS. IN PARTICULAR, THE EXPERT WILL:

(A) PREPARE AND DESIGN THE NECESSARY DATA ENTRY PROCEDURES AND PROGRAMMES, DEVELOP THE COMPUTER EDITING RULES AND FINALIZE THE PROGRAMME FOR TABULATION (TABULATION SOFTWARE TESTED AND READY)

(B) ENSURE THE CONSISTENCY OF THE CODING PROCEDURES OF THE HOUSING AND POPULATION CENSUS QUESTIONNAIRES

(C) INITIATE THE DATA KEYING AND COMPUTER EDITING OPERATIONS

(D) INITIATE THE TABULATION OF HOUSING AND POPULATION CENSUS DATA

(E) TRAIN THE NATIONAL PERSONNEL ON VALIDATION AND UPDATE OF CENSUS DATA FILES

(F) PERFORM ANY OTHER WORK PERTAINING TO THE CENSUS DATA PROCESSING AS MAY BE REQUIRED IN THE INTEREST OF THE PROJECT

(G) PREPARE A FINAL REPORT, SETTING OUT THE FINDINGS OF HIS ASSIGNMENT AND HIS RECOMMENDATIONS TO THE GOVERNMENT ON FURTHER ACTIONS WHICH SHOULD BE TAKEN.

QUALIFICATIONS: ADVANCE UNIVERSITY DEGREE IN COMPUTER SCIENCE OR IN STATISTICS, DEMOGRAPHY OR SOCIOLOGY WITH FURTHER TRAINING IN DATA PROCESSING, EXTENSIVE EXPERIENCE IN PROCESSING OF HOUSING AND POPULATION CENSUS DATA ON MICRO-COMPUTERS, PREFERABLY UNDER AFRICAN CONDITIONS. VERY GOOD KNOWLEDGE OF RODE/PC, CONCOR AND CENTS 4 SOFTWARE PACKAGES.

LANGUAGE: ENGLISH, ADDITIONAL WORKING KNOWLEDGE OF FRENCH IS AN ADVANTAGE
DRAFT PROJECT REQUEST

FROM

THE GOVERNMENT OF MAURITIUS

TO

UNITED NATIONS POPULATION FUND

Country: Mauritius

Project Number: MAR/88/

Project Title: 1990 Housing and Population Census

Date of Submission:

UNFPA Work Plan Categories: 110 Census

Requester: Ministry of Economic Planning and Development

Implementing Agency: Central Statistical Office

Executing Agency: United Nations Department of Technical Co-operation for Development (DTCD)

Project Duration: Three years

Starting Date: February 1989

UNFPA Contribution (US Dollars): 200,000

Government Contribution (Mauritian Rupees): 27 million

Signed: ........................................... ........................................... Date

On behalf of the Government

On behalf of the Executing Agency

On behalf of the United Nations Population Fund
1. PROJECT SUMMARY

1.1 Background and Justification

The last housing and population census of Mauritius was carried out in 1983, i.e. one year after the date originally scheduled due to parliamentary elections in 1982. It provided useful information on the distribution and socio-economic characteristics of the population and on housing conditions. However, a number of requests for disaggregated data at the regional and locality levels could not be satisfied owing to problems encountered at the data processing stage, particularly within the Data Processing Division, Ministry of Finance, which was responsible for this operation.

Taking into account the emerging demographic and socio-economic changes in Mauritius and the urgent need for up-to-date and detailed relevant data, particularly on employment and unemployment, the government has approved in principle the conduct of the next housing and population census in 1990 which will be the sixteenth one in the history of the country. Another consideration is that the next parliamentary elections are normally due in 1992.

The government is requesting the UNFPA support in order to ensure the successful completion of the 1990 housing and population census of Mauritius, especially in respect of the census data processing which will be handled this time by the Central Statistical Office itself.

1.2 Objectives

a) Long range: To have contributed to the strengthening of the country’s capability in producing timely and reliable demographic and socio-economic data required for development plans, policies and programmes.

b) Immediate: To have contributed to the success of the 1990 housing and population census of Mauritius and, in particular, to the building up of the data processing capability of the Central Statistical Office (CSO)

1.3 Strategy

It is expected that the Central Statistical Office, which is the government implementing agency for the project, will move from Rose Hill to Port Louis by May 1989 and will have adequate office space to enable it to carry out smoothly the various census preparatory activities. Consultants will be recruited under the project to train the CSO staff on the use of the software packages required for processing the census data on micro-computers. Assistance will also be provided by ECA and the United Nations Statistical Office in this area. Three micro-computers with appropriate peripherals equipment and one Math co-processor are proposed to be financed by the
project to speed up the processing of the census data. The Government from its part, will provide 9 micro-computers/workstations for keying the census data and one micro-computer with appropriate peripherals for census cartography. Finally, a data processing expert will be recruited for 6 months to assist in the actual processing of the data, including the finalization of the data entry and the computer edit procedures as well as the tabulation programmes. Monitoring and backstopping missions by the ECA regional advisers and the UN Headquarters technical advisers will also be organized as necessary. The success of the project will be measured in terms of the timely completion of the census enumeration, data processing, evaluation and analysis, and the dissemination of the results, with particular emphasis on data processing.

1.4 Summary Budget

UNFPA is requested to fund the following (in US Dollars):

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</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>31,000</td>
<td>83,500</td>
<td>12,500</td>
<td>5,000</td>
<td>132,000</td>
</tr>
<tr>
<td>Training</td>
<td>5,500</td>
<td>5,500</td>
<td></td>
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<td>5,500</td>
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<tr>
<td>Equipment</td>
<td>60,500</td>
<td>60,500</td>
<td></td>
<td></td>
<td>60,500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>369</td>
<td>1,455</td>
<td>126</td>
<td>50</td>
<td>2,000</td>
</tr>
<tr>
<td>Grand Total</td>
<td>36,869</td>
<td>145,455</td>
<td>12,626</td>
<td>5,050</td>
<td>200,000</td>
</tr>
</tbody>
</table>

The government contribution will amount to Mauritian Rupees 27 million for the period 1988-93 and will cover the costs of local personnel, office accommodation, supplies and enumeration materials, training of field staff, printing, data processing equipment, transportation and maintenance of equipment.

2. Objectives

The 1990 housing and population census aims at providing current and disaggregated data on housing conditions and on the distribution and socio-economic characteristics of the country's population with particular emphasis on employment and unemployment. It will thus provide data which will assist the Government in reviewing and implementing its population policy which is basically tuned to meet the objective of improving the quality of life of the present and future generations, and generally in formulating, monitoring and evaluating the country's development plans, policies and programmes.
2.1 Long-range objectives

The long-range objective of the project is to have further developed the country's capability, particularly data processing capability, in producing a series of timely and reliable demographic and socio-economic data required for policy formulation, development planning, research and administration.

2.2 Immediate objectives

The immediate objectives of the project are:

A. Pre-enumeration phase

- To have completed by early 1990 the demarcation of all enumeration areas as part of the census preparatory activities.
- To have completed all other essential preparatory activities of the census, including the questionnaire design, the legal framework, the preparation of instructions and coding manuals, the tabulation programme, the recruitment and training of staff and the census publicity.

B. Census enumeration phase

- To have conducted the housing census field work
- To have conducted the population census field work

C. Post-enumeration phase

- To have successfully completed the preparatory work for, and the processing of, the housing and population census data, and hence, developed the capability of CSO in this area.
- To have carried out the analysis and evaluation of the census data and completed the publication and dissemination of the results.

3. BACKGROUND AND JUSTIFICATION FOR THE PROJECT

Situated in the middle of the Indian Ocean, about 1,900Km from the East Coast of Africa, Mauritius is an island group consisting of the islands of Mauritius (1,865 sq.km), Rodrigues (104 sq.km), Agalega (70 sq.km) and St. Brandon (1.3 sq.km). Census taking in Mauritius dates back to the 18th Century; however the first census report to be printed was probably that of 1846 which was followed by that of 1851. Since then, censuses have been taken every ten years up to 1931. The following census which was planned for 1941 was postponed to 1944 as a result of the Second World War. The ten-yearly census programme was resumed in 1952. However, the last census, which was originally planned for 1982, had to be postponed to 1983 due to parliamentary elections.
It is the intention of the government to maintain the programme of decennial censuses. The need to advance the next census to 1990 has been dictated by recent changes in the labour market as a result of rapid industrialisation and the urgent demands from the various ministries concerned, particularly the Ministry of Economic Planning and Development and the Ministry of Housing, Lands and the Environment for up-to-date and reliable disaggregated demographic and socio-economic data, with a special reference to employment and unemployment. The government is conscious of the emerging demographic and socio-economic changes taking place in the country. In this connection, it was pointed out at the Ministry of Economic Planning and Development that the current development plan of Mauritius, covering the period 1988-1990, puts emphasis on social aspects of development.

The 1983 census has been generally a success. The following volumes have been published:

(a) Results

Vol. I - Methodological Report
Vol. II - Demographic Characteristics
   (Island of Mauritius)
Vol. III - Geographical and Migration Characteristics
   (Island of Mauritius)
Vol. IV - Housing and Living Conditions
   (Island of Mauritius)
Vol. V - Housing and Population Census Results
   (Island of Rodrigues)
Vol. VI - Households (Island of Mauritius)

(b) Analytical Reports

Vol. I - Evaluation of Data
Vol. II - Education: Characteristics
   Prospects & Some Implications
Vol. III - Households and Housing Needs:
   Estimates and Implications
Vol. IV - Economic Activity Characteristics
   and Prospects
Vol. V - Population Distribution and Migration
Vol. VI - Health, Morbidity and Mortality

An analysis report on fertility will be published before the end of this year. Given the specificity of Rodrigues, the analysis of the demographic and socio-economic data for the island will be published in a separate volume by the end of October this year.

In spite of the large volume of data analysed and published, the UNFPA Sectoral Review and Programme Development Mission undertaken in Mauritius in November/December 1987 pointed out a number of problems encountered in processing the census data, particularly the low priority accorded to this work and the high turnover of the staff of the Data Processing Division, Ministry of Finance. These problems led to considerable delay in the editing of data and the production of
The 1990 census will put emphasis on the building up of the data processing capability of the Central Statistical Office (CSO) to overcome the problems indicated above.

The present project has been formulated with the active participation of the CSO staff, particularly the Chief and the professional staff of the Social Statistics Division which will be responsible for the census operations. Guidance has been received from the Director of CSO who has also provided information on the government's position concerning the 1990 Census and the actions already taken or envisaged. Issues relating to the 1990 census have also been discussed with the Hon. Minister for Rodrigues, the Permanent Secretary of the Prime Minister's Office, the Director and the Deputy Director of the Ministry of Economic Planning and Development, and the Financial Secretary, Ministry of Finance. All these personalities have expressed their active support to the 1990 Census. Finally, tentative figures have been given to the mission by the UNDP/UNFPA Office in Port Louis on the possible level of UNFPA assistance relating to "data collection and analysis" on the population country programme which is under consideration.

4. PROJECT ACTIVITIES

4.1 Strategy

A. Pre-enumeration phase

(a) Legal basis

The 1990 Housing and Population Census will be conducted according to the Statistics Act of 1951 whose purpose is "To provide for the taking of censuses and for the collection, compilation, analysis and publication of certain statistical information and for other matters relating thereto". The Act allows the Governor-General to make regulations "prescribing the particulars and information to be furnished on the taking of a census..." and "the manner and form in which, the times and places at which, and the persons by whom, such particulars and information shall be furnished". The CSO has already obtained Government approval for the census and will ensure that the necessary legal framework is set up and that the necessary regulations are published in time.

(b) Cartographic preparations

The CSO already has considerable experience in census cartography and no major problems are expected in this field at the next census. In fact the Geography Section has almost completed the inventory and acquisition of resource maps. The fieldwork to update base maps is going hand in hand with the
actual preparation of the EA and SA maps to be used for the next census.

As in 1983, there will be about 2,500 EA's with an average size of about 80 households in rural areas and 100 in urban areas. At the Housing Census, each Chief Enumerator will canvas a number of EA's with a total of about 300 to 400 households, the workload depending on the physical size of the EA's, the difficulty of the terrain and ease of access. The Chief Enumerator will have a detailed map for each of his EA's together with a less detailed location map covering all his EA's. As part of his duties the Chief Enumerator will compile a list of buildings and households within his EA's and this list will serve as basis for the enumeration of the population by Enumerators at the Population Census. It is expected that the workload for Enumerators will be about 50 households in rural areas and about 60 to 70 in urban areas.

A bottleneck encountered at the last census was the enormous amount of time spent in drafting and lettering the maps with the help of conventional equipment only. There is therefore a need for speeding up the map preparation and production activities with the introduction of automated cartographic equipment. The use of Computer Aided Drafting (CAD) equipment will not only greatly ease the pre-enumeration map updating and reproduction activities, but will also open wide possibilities for the preparation and drafting of publication maps which have so far being restricted to a few density maps.

It is therefore proposed to acquire a micro-computer with the necessary peripherals and software to speed up pre-enumeration mapping activities and to enhance the capability of CSO to produce a variety of statistical and other maps for publication purposes. CSO is expected to purchase the equipment by December 1988 so that training of cartographic personnel in the use of the micro-computer and mapping software can be completed by April 1989.

(c) Questionnaire design

The topics to be covered at the next census are expected to be more or less the same as in 1983, but some of the questions, particularly those on economic activity, will be framed differently in order to ensure reliability of response on activity and employment status, occupation and industry. Although no pilot survey is envisaged, the experience of the past censuses and surveys will guide discussions and decisions of the technical committee responsible for the design of the questionnaires. In particular, the design of that part of the questionnaire dealing with economic activity will draw extensively from the experience gathered at the 1986 Labour Force Sample Survey (not fully processed).

It is expected that the following topics will be included:
Housing Census

- Location of building
- Type of building (residential, commercial, etc.)
- Age of building
- Materials of construction
- Ownership and occupancy status of living quarters
- Amenities available (water, electricity, toilet, bathroom, kitchen, refuse disposal)
- Number and type of households in living quarters
- Number of persons by sex in each household
- Principal fuel used for cooking
- Monthly rent for tenants.

Population Census

- Relationship to head of household
- Sex
- Date of birth/age
- Marital Status
- Nationality
- Religion
- Linguistic group
- Internal migration
- School attendance
- Level of education
- Type of activity
- Occupation
- Industry
- Employment status
- Fertility (live births)
- Mortality (children dead)

The final choice of topics and questions will be made after discussions with data users and will be submitted to Government in March 1989 for approval.

(d) Preparation of instruction and coding manuals

Preparation of all census manuals are expected to be completed by May 1989. These will include: instructions on use and update of maps; instructions for field supervisors, Chief Enumerators and enumerators; field control guide for supervisors; codes lists and editing and coding instructions tabulation and publication programmes. Given the data processing problems encountered after the last census particular attention will be given to preparing a tabulation programme that gives precedence to priority tables required by data users, many of which are simple one-way tabulations at the locality level.

(e) Census field staff

The deployment of field staff will follow the same pattern as in 1983. The twenty-one electoral constituencies (including Rodrigues) will form the census districts to be used as basis for sub-division of the country.
The housing census fieldwork will be done by Chief Enumerators who will also compile lists of buildings and households in their allotted areas. These lists will be used to allocate workloads to enumerators at the population census. The Chief Enumerators will also supervise the work of about 6 enumerators at the population census. The categories and numbers of field staff is expected to be as follows:

- 10 Senior Supervisors
- 100 Supervisors
- 650 Chief Enumerators
- 3,800 Enumerators

The recruitment and training of supervisory staff will be done in February 1990, that of Chief Enumerators during February and March, and Enumerators will be recruited in May and trained during May and June 1990.

(f) Publicity
The publicity campaign will attempt to sensitize all sections of the population throughout the country. This will be done not only through the media but also by enlisting the co-operation of political parties, socio-religious groups, community leaders and other voluntary organisations.

B. Enumeration phase
The census will be conducted in two rounds. The first round will be the housing census to be followed by the population census at the second round.

(a) Housing Census
The housing census fieldwork will stretch from mid-March to mid-May 1990. It will involve collection of information on characteristics of all non-agricultural buildings and amenities provided by housing units in residential and partly residential buildings. The housing census questionnaire will be distinct from the population census questionnaire, but will also provide for the enumeration and listing of all households to serve as basis for the population census. This exercise will be done by the Chief Enumerator who will have to cover between 300 to 400 households.

(b) Population Census
After completing the housing census enumeration, each Chief Enumerator will assign workloads for each of the 6
enumerators who will conduct the population census in his area and under his supervision. He will prepare a list of households and their addresses for each of the enumerators to cover at the population census. The list will also include the addresses of vacant buildings or housing units as well as buildings under construction at the time of the housing census.

The population questionnaires will be distributed by the enumerators to households between one to four days preceding census night. The questionnaires will be completed by heads of households excepting that part covering economic characteristics. The completed questionnaires will be collected as from the day following census night. Enumerators will have to check the entries made by households and also complete the items on economic characteristics, or the whole questionnaire in case the household might not have been able to do so. It is expected that the collection of the census questionnaires will be completed during the seven days following census night.

C. Post-enumeration phase

(a) Data processing

It is expected that the 1990 census data will be processed on micro-computers at the Central Statistical Office (CSO).

It may be recalled that the processing of the 1983 census data, like the 1972 Census, was done at the Data Processing Division (DPD), Ministry of Finance, which has an ICL ME 29-37 computer. In view of the experience acquired during the 1972 Census, measures were taken to strengthen the equipment available at DPD. In particular, 2 workstations, one 256k bytes store module and one asynchronous multi-line communications coupler were acquired under Project MAR/82/PO1 financed by the United Nations Population Fund (UNFPA). No provision was made for training in this field since DPD was considered to have the necessary expertise. However, a number of problems arose in the actual work. One of the main bottlenecks was that the census was accorded low priority compared with other government applications such as payroll, income tax collection system, telephone billing system, sales tax ledger system, Local Government rates system and national pension system. Also the software package used was obsolete and no longer maintained by the suppliers. Another problem was the high turnover of the DPD staff involved in the census work. Finally, the communication between DPD and CSO was relatively poor as a result of the latter problem and also due to the distance (about 7 miles) between the two offices which were located at Port Louis and Rose Hill respectively. Consequently, the completion of the work was delayed and only a limited number of tables could be produced. A number of requests for specific tables and for disaggregated data at the regional and locality levels have not been satisfied so far.
Therefore, the Government has decided to build up the capability of the CSO to enable it to undertake the timely and complete processing of the 1990 census data. At present, CSO has only 3 micro-computers: one IBM (PC/AT) acquired in March 1987 under the UNDP-financed project MAR/85/003 – Economic and Social Development, and two IBM PS/2 Model 8560 - 071 acquired in August 1988 with Government finance under the computerisation programme of the Ministry of Finance.

The Government has also approved in principle the acquisition by CSO of 5 additional micro-computers which will be part of the equipment to be used for processing the 1990 Census data and 1 micro-computer with appropriate peripherals for census cartographic work (production of Enumeration Area maps and also charts, thematic and other publication maps). A provision of Mauritian rupees 900,000 has been earmarked for this purpose in the 1988/89 financial year budget.

It is expected that the questionnaires to be used for the 1990 census will be similar to those for the 1983 census, with slight amendments. Therefore the CSO estimates the volume of data to be processed as follows:

<table>
<thead>
<tr>
<th>Population Census</th>
<th>Keystrokes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of population: 1,050,000</td>
<td>28</td>
<td>29,400,000</td>
</tr>
<tr>
<td>Number of households: 220,000</td>
<td>22</td>
<td>4,840,000</td>
</tr>
<tr>
<td>Population aged 2 years and above (97%)</td>
<td>4</td>
<td>4,074,000</td>
</tr>
<tr>
<td>Population aged 12 years and above (77%)</td>
<td>36</td>
<td>29,106,000</td>
</tr>
<tr>
<td>Women aged 12 to 54 years (30%)</td>
<td>12</td>
<td>3,780,000</td>
</tr>
<tr>
<td>Housing Census</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of households: 220,000</td>
<td>72</td>
<td>15,840,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>87,040,000</strong></td>
</tr>
</tbody>
</table>

Assuming that there will be 20 per cent of keying verification, the volume of data keying for the census will be:

\[87,040,000 \times 1.20 = 104,448,000\]

The following assumptions have also been made to determine the number of workstations to be used:

- Key rates per hour: 5,000
- Number of keying hours per day: 5
- Number of working days per month: 20
- Number of months for completion of the keying work: 12
- Number of shifts: 2
Thus the number of workstations required for keying the census 104,448,000 data is \(\frac{104,448,000}{5,000 \times 5 \times 20 \times 12 \times 2} = 9\).

The ECA Regional Adviser in data processing recommended the use, to the extent possible, of micro-computers with hard disk for the census data entry in view of their further utilization for statistical processing, thus strengthening the capability of CSO in this area. The government will be responsible for the data entry equipment.

As for the data processing itself, a minimum of 3 micro-computers will be required: one for the extraction of batch files, the second one for batch file editing and the third one for tables production. One Maths co-processor will also be needed. UNFPA assistance will be required in this area.

Based on the above recommendation, the CSO envisages to acquire micro-computers with the following specifications for both keying and processing the census data:

- Processor: Intel 8086 or better
- Memory: 640 KB
- Monochrome monitor
- QWERTY Keyboard of 102 keys
- 1 Diskette drive 3.5" with minimum 720KB
- 1 Hard disk of at least 20 MB

There is also the need to acquire appropriate peripheral equipment including printers, power conditioning and data storage equipment. CSO has already 3 printers. A minimum of 4 additional printers will be required for the census work, of which 2 should be Laser printers for the publications.

The following software packages will also be required:
- RODE/PC (or CENTRY) for data entry
- CONCOR for data editing
- CENTS 5.0 or CENTS 4.2 for tabulation; and
- SPSS/PC + for statistical analysis

Other software packages and utilities will also be used, particularly for graphics, census cartographic work and demographic analysis. The specifications of such software packages will be investigated in due course.

In addition to the provision of adequate computer equipment for the processing of the 1990 census data, it will also be necessary to ensure that the CSO staff, particularly those in the Social Statistics Division, receive intensive training in the use of the various software packages required. So far, only three secretaries/typists had followed a short-term training course organised by UNDP on VOLKSWRITER. Some other staff members who are presently using the 2 PS/2 micro-computers have undertaken self-training by reading the relevant
manuals and practising on-the-job. Ad hoc assistance has been provided from time to time by a consultant from the National University. In some cases, the staff members concerned had made personal arrangements for private tuition.

In view of the above consideration, it will be necessary to organise at CSO intensive on-the-job training programmes as follows:

<table>
<thead>
<tr>
<th>Subject of the Training</th>
<th>Duration</th>
<th>Level of Training</th>
<th>Number of CSO Trainees</th>
<th>Number of Staff Directly Involved in Training</th>
<th>Number of Other CSO Staff Who Are Expected to Contribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>1.5 week</td>
<td>Principal Statistics</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Data Entry Software</td>
<td>2.5 weeks</td>
<td>Principal Statistics</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senior Statistical Assistants</td>
<td>5</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>7</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Editing Software</td>
<td>4.0 weeks</td>
<td>Principal Statistics</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tabulation Software</td>
<td>4.0 weeks</td>
<td>Principal Statistics</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Statistical Analysis</td>
<td>4.0 weeks</td>
<td>Principal Statistics</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>3</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Demographic Analysis</td>
<td>4.0 weeks</td>
<td>Principal Statistics</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>3</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Graphics Production</td>
<td>1.5 week</td>
<td>Principal Statistics</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senior Statistical Assistants</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Mapping and Other Cartographic Software</td>
<td>2.5 weeks</td>
<td>Principal Statistics</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senior Statistical Assistants</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical Assistants</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>
It is suggested that the training should be organised in 6 modules of one month duration each as follows:

- **Module 1**: Operating system and Data entry software
- **Module 2**: Editing software
- **Module 3**: Tabulation software
- **Module 4**: Statistical analysis software
- **Module 5**: Demographic analysis software
- **Module 6**: Graphic production software and Mapping software.

It is further suggested that ECA should provide assistance for module 1 and the United Nations Statistical Office for module 2. Consultants should be recruited under the UNFPA budget to provide training on the remaining modules. The timing of the relevant missions is indicated in the work plan. In addition, 6 man-months of consultant will be needed to assist in the launching of the census data processing activities, particularly in finalizing the data entry and the computer edit procedures as well as the tabulation programmes.

(b) Evaluation and analysis of results

CSO will undertake a programme of evaluation and analysis of the census data in line with regional and international recommendations. A team of CSO staff has already been trained in this field by ECA during the past few years in the context of UNFPA/ECA assistance in connection with the 1983 census. Analysis reports are expected to be completed during 1992 and 1993 and will cover topics such as content error evaluation, education, economic activity, migration, housing, households and marriage.

(c) Publication and dissemination of census results

The publication of tabulation reports is expected to start in January 1992 whilst that of analysis reports in January 1993. However advance priority tables will be made available to data users within Government as soon as they are prepared. The exact number and content of tabulation and analysis reports is not known but the 1983 Census reports give an indication of the possibilities.

4.2 The Work Plan

<table>
<thead>
<tr>
<th>Objective/Activity</th>
<th>Place</th>
<th>Project Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Census Taking</td>
<td></td>
<td>(Duration)</td>
</tr>
</tbody>
</table>
A. Pre-enumeration phase

1. To have completed by early 1990 the demarcation of all enumeration areas as part of the census preparatory activities.

(i) Inventory of existing maps and acquisition of resource maps, aerial photos and top sheets from Ministry of Housing and local authorities

**Responsible:** Geography Section, CSO

**Output:** Copies of maps

(ii) Preparation of rural and urban base maps on appropriate scales for census

**Responsible:** Geography Section, CSO

**Output:** Copies of base maps

(iii) Cartographic fieldwork for updating base maps

**Responsible:** Geography Section, CSO

**Output:** Copies of updated base maps

(iv) Acquisition of cartographic equipment (micro-computer), software and materials for production of maps

**Responsible:** Government

**Output:** Relevant equipment installed

(v) Study tour on use of micro-computer for census cartography

**Responsible:** DTCD, CSO

**Output:** Chief of the Geography section, CSO, well informed of new developments in the use of micro-computers for census cartography

**European Country**

**Output:** Chief of the Geography section, CSO, well informed of new developments in the use of micro-computers for census cartography

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**Port Louis**

**Output:** Chief of the Geography section, CSO, well informed of new developments in the use of micro-computers for census cartography

**Jan 88 - Dec. 88 (12 months)**
(vi) Training of cartographic personnel in the use of micro-computer and mapping software

**Responsible:** DTCD

**Output:** Trained personnel in the use of mapping software

(vii) Preparation and reproduction of enumeration area (EA) and supervision area (SA) maps showing EA and SA boundaries and ground features including structures.

**Responsible:** Geography Section, CSO

**Output:** Copies of EA and SA maps

(viii) Writing instructions for use and updating of EA and SA maps by field staff

**Responsible:** Geography Section, CSO

**Output:** Instructions for inclusion in enumerator's and supervisor's manuals

2. To have completed all other essential preparatory activities of the census, including the questionnaire design, the recruitment and training of staff and the census publicity.

(i) Questionnaire design

(a) Discuss data needs with Ministries and then select topics for inclusion at housing & population censuses

**Responsible:** Population & Housing section (PHS), CSO

**Output:** List of census topics
(b) Prepare first draft of housing and population questionnaires for discussion at CSO and with Ministries. Responsible: PHS, CSO. Output: First draft of questionnaires.

(c) Prepare final draft of housing and population questionnaires for submission to Govt. Responsible: PHS, CSO. Output: Final draft of housing and population questionnaires.

(ii) Legal framework
Prepared and published regulations to provide legal basis for census. Responsible: PHS, CSO & Solicitor General. Output: Legal instruments and framework for the census.

(iii) Preparation of instruction and coding manuals
(a) Preparation of instruction manuals for supervisors, Chief Enumerators and Enumerators. Responsible: PHS, CSO. Output: Instruction manuals.

(b) Preparation of coding procedures, codes lists and coding instructions. Responsible: PHS, CSO. Output: Codes lists and coding instructions.

(iv) Preparation of tabulation and publication programmes
Responsible: PHS, CSO. Output: List of tables & reports to be published.
(v) Recruitment and training of staff

(a) Recruitment of field supervisors, Chief Enumerators and Enumerators
Responsible: Director CSO and Public Service Commission
Output: Numbers and categories recruited

(b) Training of field staff
Responsible: PHS, CSO & various centres
Output: Trained field force

(c) Recruitment of editors and coders
Responsible: Establishment Division
Output: Numbers recruited

(d) Training of editors and coders
Responsible: PHS, CSO
Output: Trained editors and coders

(vi) Publicity

(a) Preparation of publicity campaign & materials
Responsible: PHS, Mauritius College of the Air, Ministry of Information and MBC TV.
Output: Posters, press releases, drafts of communiques, radio and TV clips, TV programmes

(b) Publicity campaign
Responsible: PHS, MBC TV, Newspapers
Output: Well-informed population

Islands of Mauritius & Rodrigues

(vii) Printing of census questionnaires
Responsible: Government Printer
Output: Printed housing and population questionnaires

Port Louis Oct 89 - Jan 90

B. Census enumeration phase

1. To have conducted the housing census fieldwork
(i) Allocation of enumeration areas to field staff
Responsible: PHS, and Geography section
Output: Workloads of Chief Enumerators
Port Louis February 1990 (2 weeks)

(ii) Distribution of census documents to field staff & various centres
Responsible: Field supervisors
Output: Field staff equipped for housing census
Port Louis March 1990 (2 weeks)

(iii) Housing census fieldwork
Responsible: PHS & all field staff
Output: Completed Housing census questionnaires
Islands of Mauritius & Rodrigues Mar.-May 1990 (2 months)

2. To have conducted the population census fieldwork

(i) Distribution of census documents to field staff & various centres
Responsible: Field supervisors
Output: Field staff equipped for population enumeration
Port Louis June 1990 (2 weeks)

(ii) Distribution of population census questionnaires to households
Responsible: PHS and all field staff
Output: Households equipped for self-enumeration
Islands of Mauritius & Rodrigues Last week of June 1990

(iii) Collection of population census questionnaires including checking and completion when necessary
Responsible: PHS & All field staff
Output: Completed population census questionnaires
Islands of Mauritius & Rodrigues 1st week of Jul. 1990

C. Post-enumeration phase

1. To have successfully completed the preparatory work for, and processing of, the census data, and hence, developed the capability of CSO in this area
(i) Acquisition of data processing equipment (micro-computers and peripherals) and software packages

- Under the Government budget
  First delivery
  Second delivery
- Under UNFPA budget

Responsible: Government & DTCD
Output: Micro-computers, peripherals and software delivered and installed

(ii) On-the-job training of data processing staff and census data analysts

(a) Training of data processing staff

- Course on operating system and data entry software package (ECA assistance)
  Rose Hill February 89 (1 month)

- Course on data editing software package (assistance of UN Statistical Office)
  Port Louis June 1989 (1 month)

- Course on tabulation software package (Consultant)
  Port Louis Sept. 1989 (1 month)

Responsible: CSO and DTCD (with ECA support)
Output: Trained personnel for census data processing and tabulation

(b) Training of census data analysts

- Course on statistical analysis software package (Consultant)
  Port Louis November 90 (1 month)

- Course on demographic analysis software package (Consultant)
  Port Louis February '91 (1 month)

Responsible: CSO & DTCD
Output: Trained personnel for census data analysis
(iii) Recruitment of a data processing expert

Responsible: DTCD, Government

Output: Data processing expert in post in May 1990 for 6 months

(iv) Preparation and design of testing and processing procedures

Responsible: PHS/CSO, DTCD, ECA

Output: Softwares and instructions for processing the census data

(v) Coding and verification of coding of housing & population census questionnaires

Responsible: PHS, CSO

Output: Edited and coded questionnaires

(vi) Keying and machine editing

Responsible: PHS, CSO

Output: Diskettes of census data

(vii) Validation and update of census data files

Responsible: PHS, CSO

Output: Clean data files

(vii) Tabulation of housing and population census data

- Priority tables

Responsible: PHS, CSO

Output: Tabulated data

2. To have carried out the analysis and evaluation of the census data and completed the publication and dissemination of the results

(i) Preparation and publication of methodological and tabulation reports

Responsible: PHS, CSO; Government Printer

Output: Published Census data
(ii) Analysis and evaluation of housing and population census data
   Responsible: Social Division, CSO
   Output: Draft analysis reports

(iii) Publication of analytical reports
   Responsible: PHS, CSO; Government Printer
   Output: Published analytical reports

II. Monitoring and Evaluation Activities

A. Project Progress Reports (PPRs)
   Responsible: Director of CSO & Chief, Social Statistics Division
   Output: PPR report

B. Field monitoring visits
   Responsible: DTCD and CSO
   Output: Mission reports

C. Tripartite Project Review Meeting (TPR)
   Responsible: UNFPA field Office
   Output: TPR report

D. Terminal Report
   Responsible: Director of CSO and Chief, Social Statistics Division
   Output: Terminal report

E. Final Tripartite Meeting
   Responsible: UNFPA field Office
   Output: Report of final TPR

4.4 Project monitoring and evaluation

(1) Overview

The Central Statistical Office (CSO) will prepare a six-monthly Project Progress Report (PPR) in order to assess on a continuing basis the progress being made in the implementation of the project activities, particularly as regards the timeliness and adequacy of planned activities, the
outputs and the delivery and use of inputs. The first PPR will be submitted in July 1989 for consideration by the government, UNFPA and DTCD. Copies of the PPR will also be forwarded to ECA.

Tripartite Project Review (TPR) meetings will be organised in September 1990 and January 1992, to review the overall project activities, identify any problems which may have been encountered and propose appropriate solutions. Representatives of the government, UNFPA and DTCD will participate in the TPR meetings. Advantage will be taken of these meetings to organise, say one week or ten days before, field monitoring visits by UN Headquarters Technical advisers, particularly in data processing.

Finally, a Terminal Report will be prepared at the end of the project.

(iii) Table

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Indicators of Progress</th>
<th>Means of verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability of CSO to process the housing &amp; population census data</td>
<td>CSO fully equipped with micro-computers and necessary peripherals &amp; staffed with a sufficient number of trained personnel in the use of the various software packages required</td>
<td>- Actual equipment delivery - Implementation of the training programme</td>
</tr>
<tr>
<td>Availability of demographic and socio-economic data for development plans, policies &amp; programmes</td>
<td>- Number of tables produced - Evaluation of census - Assessment of usefulness by policy-makers/planners</td>
<td>- Census reports - Technical report - National seminar on uses of the census data</td>
</tr>
</tbody>
</table>

5. RELATED ACTIVITIES

The census is considered as an essential element in the government's data collection programme which includes a series of surveys such as household budget survey and labour force sample survey during intercensal periods. The census results will provide the baseline data while the census enumeration areas will constitute the sampling frame for the surveys.

The coverage of the civil registration system of Mauritius is satisfactory, although some improvements are still needed especially as regards information on socio-economic characteristics of births and deaths. It is expected that records of the civil registration system will be used to evaluate the 1990 housing and population census.
Finally, census data will be essential inputs to ongoing UNFPA-assisted projects in their monitoring and evaluation programmes. These projects include among others the following: Population and Family Life Education in School and out-of-School, phase II (MAR/87/PO1), and Contraceptive Prevalence Survey (MAR/85/PO1). Other projects are also in the pipeline.

6. INSTITUTIONAL FRAMEWORK

As in the past, the 1990 housing and population census will be carried out by the Central Statistical Office under the Statistics Act of 7 April 1951. The purpose of this Act is "To provide for the taking of censuses and for the collection, compilation, analysis and publication of certain statistical information and for other matters relating thereto".

The government implementing agency for the present project is the Central Statistical Office (CSO) which is a department within the Ministry of Economic Planning and Development. It is headed by the Director of Statistics who is by law the Census Commissioner. The CSO, which has also a Deputy Director, consists of two main substantive divisions, namely the Economic Statistics Division and the Social Statistics Division. There is also a General Services Division. As shown in the management chart as at 1st July 1988 (see Annex 1), each division is divided into sections and units. Each section is headed by a statistician and each unit by a senior statistical assistant. It should be noted that all professional posts, including demographers, have been restyled as statisticians. The permanent staff of CSO is currently made up of 144 members out of which 23 are professional statisticians.

It should be pointed out that a number of units of CSO are physically located within relevant ministries and government departments. Such units exist at the Ministries of Agriculture, Co-operatives, Education, Finance, Trade and Shipping, Industry, Social Security, Housing, Works and Labour and at the departments of Customs and Excise, Income Tax and Tourism.

Within CSO, the Social Statistics Division has the responsibility for conducting a housing and population census. This Division will therefore play the role of a central census office for the planning and execution of the 1990 census of Mauritius.

The Social Statistics Division is headed by a principal statistician who has post-graduate training in demography and was responsible for the 1983 census. In addition to the Chief, the Division has 9 professional statisticians, 13 senior statistical assistants, 25 statistical assistants and 11 statistical clerks. However, one post of statistician, one post of statistical assistant and 3 posts of statistical clerks were vacant at the time of the mission. The Division is divided into the following sections: Geography section, Population and Housing section, Labour and National
The Remuneration Board (NRB) section, Education and Youth section, Tourism section, Consumer Price Index section and Women's Rights and Social Security section. The first three sections will be the principal arm for conducting the 1990 census. However, arrangements will be made, as in the past, to assign specific tasks to other sections/units of CSO as the needs arise.

Thus, the central team who will be responsible for the 1990 census will comprise:

- 1 Census Commissioner (The Director of Statistics)
- 1 Chief of census operations (the Chief of the Social Statistics Division)
- 3 Statisticians
- 1 Cartographic Supervisor (the Chief of the geography section)

This team will be jointly responsible for all census activities. However specific tasks will be assigned to each of them at every stage of the census operations. Such arrangements have worked quite well in the past censuses of the country. The supporting technical staff of CSO, particularly those in the Social Statistics Division, will also play an important role in the census taking.

As regards the census data processing, an intensive and functional on-the-job training programme on the uses of the various software packages required is envisaged in order to build up the long term capability of CSO in this area. This approach has been preferred to extensive training abroad as experience has shown a high turnover of highly trained data processing staff. Also, advances in software design and user interface have simplified significantly training in and use of micro-computers. The number and level of CSO staff to be trained are shown in section 4.1 on strategy, sub-section on census data processing. Again, the trained staff will be given specific assignments in connection with the census data processing. In addition, Statisticians will be assigned to supervise the editing and coding of the census data, the data keying operation and the computer processing operation.

The first delivery of the computer equipment (5 micro-computers plus one micro-computer with appropriate peripherals for census cartography) is expected to take place by early 1989 to enable the training programme to start in time.

The Central Statistical Office is presently accommodated in two separate buildings at Rose Hill. The total office space available is about 8,000 square feet, which is tight even for the current work of CSO. In view of the forthcoming census, the government has approved the transfer of CSO to Port Louis, the capital city, where most of the ministries are located. The office space required is estimated
to be 18,000 square feet, of which 3,000 square feet for the census. Two buildings under construction have been identified and considered as meeting the requirement. One building is expected to be completed by January 1989 and the other by April 1989. Arrangements are being made to allocate office space to CSO in one of these two buildings.

The attention of the government has been drawn to the fact that any delay in providing suitable office accommodation to CSO will affect the census taking which is a costly operation. It is therefore necessary that CSO moves to Port Louis not later than May 1989.

The idea of setting up a National Census Committee responsible for the overall co-ordination of the census activities has not been considered on the ground that it would often prove difficult to get the persons responsible for decision taking to sit on the Committee, thus leading to inevitable delays. As in the past censuses, it is envisaged that the implementing agency (the Central Statistical Office) will liaise directly with the ministries concerned on specific matters. At the same time, it is expected that the publicity campaign will give the census the image of a national exercise requiring the support and co-operation of all social groups. The following ministries and departments will be closely involved at both the planning and execution stages of the census:

(i) the Ministry of Economic Planning and Development, which is the parent ministry of Central Statistical Office (CSO), for administrative support;

(ii) the Government Printing Department for printing all questionnaires and publicity materials;

(iii) the Ministry of Finance for the budget;

(iv) the Attorney General’s Office for advice on legal and constitutional matters;

(v) the Ministry of Information, the Mauritius Broadcasting Corporation, the Mauritius College of the Air and the Department of Posts and Telegraphs for help and advice in connection with publicity;

(vi) the Establishment Division of the Prime Minister’s Office for advice on conditions of employment of field staff and for recruitment of temporary office staff;

(vii) the Public Service Commission for advice on recruitment procedures for field staff;

(viii) the Ministry for Rodrigues and Outer Islands and the Administration Office of Rodrigues for administrative back-up in connection with the census in the Island of Rodrigues;

(ix) the Police Force for facilitating communication between the field and the office;
(x) the Meteorological Department for enumeration in the Outer Islands of Agalega and St. Brandon.

Technical missions from ECA and UN Headquarters will be required mainly in the field of census data processing, and to a lesser extent in data evaluation and analysis. However it will also be useful to organise a visit of the ECA Regional Adviser in Census Cartography at the end of 1988 or beginning of 1989 to assess the cartographic preparations and offer any necessary advice in this field.

7. ADVANCE PREPARATIONS AND OBLIGATIONS

Before the project begins, the government will ensure that all the arrangements for the allocation of a suitable accommodation to CSO in Port Louis are finalized at the earliest possible to enable the office to actually move from Rose Hill by May 1989. The new accommodation will have two large rooms with air conditioning. One will contain 9 microcomputers/workstations for data entry and the other 3 microcomputers, one Maths co-processor and the necessary peripherals for data processing. A third large room will be used for coding and editing. Adequate space will also be provided for the storage of census documents.

The government will also ensure that the first delivery of data processing equipment (6 micro-computers of which one for census cartography), to be acquired under the national budget, takes place by December 1988 so that the training programme can start in February 1989 as planned.

The Central Statistical Office, which is the government implementing agency will make available all the statistical staff required for the census work.

8. GOVERNMENT FOLLOW-UP ACTIONS

The government of Mauritius will develop further the data processing capability of the Central Statistical Office. It will ensure the maintenance of the computer equipment acquired under the project and will provide additional equipment as the needs arise. The staff trained in the census data processing will in turn train other CSO staff in order to strengthen the long-term capability of CSO in producing on a continuing basis a series of demographic and socio-economic data for development plans, policies and programmes. It is expected that a data processing unit will be established at CSO at a later stage to ensure the optimal use of the computer facilities available.

9. FUTURE UNFPA ASSISTANCE

UNFPA assistance may be requested in carrying out an intercensal socio-demographic survey. However, no specific project proposals have been formulated at this stage.
10. DESCRIPTION AND JUSTIFICATION OF PROJECT INPUTS

10.1 UNFFA-sponsored inputs

BL 10 PROJECT PERSONNEL

BL 11 International Personnel

11-01 to 11-04 Consultants: Four missions of consultants, of one month each, will be needed to provide intensive on-the-job training to the CSO staff on the uses of the various software packages required for the census data processing to enable them to acquire the necessary skills in this area. The amounts of $12,000 per month for 1989 and $12,500 per month for 1990 and 1991 have been used in accordance with the instructions contained in UN/DTCD pro-forma costs, effective 1 January 1988.

11-05 Data processing expert: The services of a data processing expert will be required for 6 months (3 months before the start of the data processing activities and 3 months after) to assist in the finalization of the data entry and computer edit procedures as well as the tabulation programmes. This assistance is needed because CSO does not have any experienced staff in the field of data processing. The expert will also provide on-the-job training to his counterpart staff. The average cost per month is $11,000 and includes travel, per diem and honorarium.

BL 15 Travel costs

15-02 Mission costs: A UN Headquarters technical adviser in data processing is expected to provide on-the-job training for one month on the use of editing software package.

Costs: Travel $3,500
       DSA    $3,500

$7,000
In addition, UN Headquarters is expected to participate in the Tripartite Project Review (TPR) meetings to be held in 1990 and 1992. The cost is $5,000 for each mission:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel</td>
<td>$3,500</td>
</tr>
<tr>
<td>DSA</td>
<td>$1,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$5,000</strong></td>
</tr>
</tbody>
</table>

**BL 30 TRAINING**

BL 34 Study Tour: The Chief of the geography section, Social Statistics Division of CSO, is expected to undertake a 2-3 weeks study tour to Europe to observe the actual uses of micro-computers in the field of census cartography. This type of training is needed in view of the lack of experience in this specific area in the African region and the rapid development of the micro-computer technology.

<table>
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<tr>
<th>Item</th>
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<td>Travel</td>
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<tr>
<td>DSA</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$5,000</strong></td>
</tr>
</tbody>
</table>

**BL 40 EQUIPMENT**

42-01 Data processing: 3 micro-computers with the necessary peripheral equipment (printers, UPS, etc.) and 1 mathematical co-processor will be acquired under the UNFPA budget in order to supplement the government efforts in building up the data processing capability of CSO. This will help in speeding up the actual processing of the 1990 census data. A provision of $60,500 has been included for this purpose. The specifications of the equipment and their costs have to be worked out at the UN Headquarters, in consultation with the Government of Mauritius.

**BL 50 MISCELLANEOUS**

53. Sundry

Budgetary provision has been made under this budget line at a pro-forma percentage of 1 per cent of all other project costs.

10.2 Government-provided inputs

The government will be responsible for all the census costs not specifically assigned to UNFPA. The attached project budget covering the contribution by the government shows the estimates of direct and indirect costs by year. The description of government inputs is as follows:
Personnel

The government will be responsible for the salaries of the local personnel required for the project. The details are given in the budget under the sections "permanent staff" and "temporary staff". It should be noted that "temporary staff" includes the CSO staff who will work for the census on a part-time basis and staff who will be recruited on a temporary basis.

Office accommodation

The government will provide adequate office space for the census activities (about 3,000 square feet).

Electricity, water, telephone

Provision has been made in the government budget to cover this item.

Furniture

The government will provide the necessary furniture for the project.

Stationery and other office supplies

The government will also provide office stationery and other necessary materials.

Cartographic equipment and materials

The government intends to acquire modern cartographic equipment for CSO. These include one micro-computer with hard disk and two floppy disk drives, one multi pen flat-bed plotter, one digitiser, one scanner and one touch light pen.

Travelling and transport

Provision has been made in the government budget to cover travel and transportation expenses in connection with the census field work.

Printing

The government will be responsible for all costs in respect of the printing of census documents, including census publications.

Publicity

Provision has been made in the government budget to cover the cost of the publicity programme for the census.

Data processing

The government will be responsible for all the equipment required for keying the census data. It intends to
acquire in the near future for CSO 5 micro-computers with hard disk, which will be used for statistical processing following the census data entry operation, and the software packages required for the census. Four workstations or more and the necessary peripheral equipment for the micro-computers will also be acquired in due course. Provision has also been made in the government budget to cover the cost of data processing supplies and operation and maintenance of equipment.

Rodrigues missions

Provision has been made in the government budget for the cost of missions by CSO staff to Rodrigues to organise and supervise the census activities.

Contingencies

This provision has been included in the government budget to cover the cost of any miscellaneous items not listed above and unforeseen expenses.

11. OTHER SOURCES OF FUNDING

No request for funding the present project has been made to any source other than UNFPA.