

Mission Report

**GDDS2 MODULE ON POPULATION DATA ANALYSIS
SEYCHELLES**

THIRD POPULATION MISSION

9 February – 20 February 2009

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GDDS2 MODULE ON POPULATION DATA ANALYSIS (THIRD MISSION) REPORT ON EXPERT VISIT TO SEYCHELLES

1. Summary of Mission Purpose

The third GDDS2 expert mission (Population Data Analysis) to Seychelles took place over two weeks, 9th – 20th February 2009. The purpose of this mission was to assist in plans for the upcoming 2010 Census of Seychelles, specifically the consideration of a new definition of resident (*de jure*) and total (*de facto*) population and to plan for post-censal estimates and projections at the national and district level. An additional task performed at the NSB's request was assistance in writing and design of the district-level population projections publication of the projections performed during the second population mission in August-September 2008. And, as specified by the National Statistics Bureau (NSB) in Priority 3 at the GDDS2 Launch Workshop in Mombasa, Kenya in June 2007, consideration of more detailed analysis of the demographic and socioeconomic data from 2010 Census than was performed following the 2002 Census was a priority.

The discussions of the *de facto* and *de jure* population were quite complex given the many aspects of residence status and migration involved so that a brief synopsis would be useful.

The *de jure* population is intended to represent the long-term resident population of Seychelles which would, first, be defined in the census, and, second, be *consistently updated* in the annual post-census estimates. The largest single consideration is the data on immigration and emigration of residents between the censuses, which cannot be adequately determined from immigration data collected at the airport which was never designed to provide information of a "demographic" nature, i.e., who comes to Seychelles intending long-term residence and which current residents leave for long periods. "Long-term" was defined as one year during discussions.

The *de facto* population would simply consist of the *de jure* plus the increased number of temporary workers in recent years who arrive for a specific purpose, primarily resort construction, and are housed separately from the general population.

A related consideration is the growth of vacation home ownership and how part-time residents should be treated.

2. Agenda and Meetings Held

Date	Persons Attending	Topic/Activity
Monday, 9 February	Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	Review purpose and discuss plans for the mission.

Tuesday, 10 February	Mr. Jude Padayachy, NSB CEO and Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB	<p>Review purpose and discuss plans for the mission with the CEO. The NSB's Consideration of treatment of the large number of temporary workers being treated as part of the <i>de facto</i> population but not <i>de jure</i>; looking into the possibility of clarifying migration data to identify actual new long-term immigrants intending permanent residence as opposed to short-term migrants; consideration of new questions for the 2010 Census in the light of interest in producing more detailed analyses; consideration of a publication explaining census data and results to a wide audience; and identifying software to process the census data quickly and easily and, in particular, to produce more detailed analytical tables efficiently.</p> <p>After this meeting, Mr. Padayachy would be unavailable for the duration of the mission. Ms. Helena De Letourdis, Principal Statistician (Census& Surveys) was designated as Acting CEO. During the week of 9 – 13 February, Ms. De Letourdis was attending the SADC census meetings in Angola.</p>
Wednesday, 11 February – Friday, 13 February	Work at NSB with Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	
Saturday, 14 February	Site visit	The consultant visited the housing construction project at Ile Perseverance to observe the design and layout of the 2,000 housing units under construction, the living arrangements of the temporary workers, and the progress made thus far on this major project. We were allowed in by the Sri Lankan superintendent who unfortunately spoke no English but were able to observe that, while the majority of the structures were built and partially finished, current economic difficulties have caused a halt to construction and most workers have left the country for the time being. New investors are being sought.
Monday, 16 February	Ms. Helena De Letourdis, Principal Statistician (Census& Surveys), NSB; Mrs. Therese Gopal, GDDS2 Module	Ms. De Letourdis, whose position is responsible for the content, conduct, and analysis of census data was briefed on the specific tasks of the mission and brought up to date on progress thus far. Software to be

	Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	used for efficient processing of census data is a high priority with Ms. De Letourdis. The software CPro, developed by the U.S. Census Bureau, is the leading contender and discussion was held on how to provide for proper training in its use.
Tuesday, 17 February	Mr. Hendrick P. Gappy, Electoral Commissioner and Registrar of Political Parties; Mr. Anaclet Tirant, Chief Registration Officer, Electoral Commission; Ms. Helena De Letourdis, Principal Statistician (Census & Surveys), NSB; Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	A meeting was held in the Commissioner's office to discuss the impact of re-drawing electoral boundaries following the 2010 Census in preparations for elections scheduled for 2011. This is significant since Census districts and election districts are the same so that changes to election districts will have a significant effect upon post-census population estimates and projections.
Wednesday, 18 February	Mr. Ronald Fock-Tave, Director General, Immigration Division; Mr. Hendrick Andre, Programmer Analyst, Information Technology and Communication Department; Ms. Helena De Letourdis, Principal Statistician (Census & Surveys), NSB; Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB; and Ms. Josiane Marie, Statistical Officer (Tourism and Migration), NSB	A meeting was held in the Director-General's office to discuss ways in which ambiguities in the way in which immigration data are collected and published. Mr. Fock-Tave provided some very useful clarification on the data collection procedures and the manner in which different groups arriving in the country were treated in the Division database. Issues regarding the classification of departing residents with a view to determining net immigration were also discussed.
Thursday, 19 February	Ms. Helena De Letourdis, Principal Statistician (Census & Surveys), NSB; Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and	A discussion was held regarding (1) new questions that might be added to the 2010 Census (2) questions that might be eliminated as no longer useful (3) recoding of response categories to allow more detailed data analysis without adding some questions to the

	Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	census form itself.
Friday, 20 February	Ms. Helena De Letourdis, Principal Statistician (Census & Surveys), NSB; Mrs. Therese Gopal, GDDS2 Module Coordinator, NSB; and Ms. Linda Gerry, Statistical Officer/GDDS Committee Member, NSB	A concluding meeting was held and the topics covered during the mission reviewed. Topics of the most concern were the items to be asked on the census itself, the software used for census data processing, definition of the census population, and the dissemination of results using more detailed tabulations and a publication for a general, country-wide audience.

3. Brief summary of topics

Topic Areas	Issues discussed	Outcomes
Status of Planning for the 2010 Census of Population and Housing	Situation in February 2010	As of February 2009, the census questionnaire had not been finalized since meetings will be held later this year with data users from national and local government, parastatal organizations and business interests to discuss data items to be included on the census form. The date has not been finally determined but the 2002 Census had been conducted in August. The National Cabinet of Ministers is also consulted and census plans are approved by Parliament. Final decision-making on census content, however, rests with the NSB.
Rebasing of 2010 Census	<i>De facto</i> and <i>de jure</i> population	Consideration of re-defining population into the usually resident (<i>de jure</i>) and total (<i>de facto</i>), i.e., including temporary workers for large construction projects was a key issue for this mission. The national population often contains relatively large numbers of foreign workers, numerically quite significant in a country as small as Seychelles, particularly at the district level. This is a serious consideration given the local autonomy recently given district Administrators.
Post-census estimates	Method and sources of data	The current method of carrying forward each age and sex group by single year of age using annual births and deaths is

		highly satisfactory. Further consideration, however, is being given to the migration component, both international migration figures and intra-district trends. Information provided on immigration cards collected at the airport do not currently permit an accurate accounting of resident immigration and emigration although the actual net balance of migration is believed to be relatively low.
Post-census National and District Projections	Location of new housing estates before and after 2010 and effect on internal migration and boundary changes for elections	Population projections for districts were prepared during the second population mission in August/September 2008. Current plans call for repeating the exercise as soon as practicable following the 2010 Census. Shifts in population distribution as new housing is constructed as well as district boundary changes for the 2011 election are significant issues.
Population Projection Publication	Technical assistance	Consultant was requested to assist in writing text and preparing graphics such as population pyramids for the district-level projections performed during the 2008 mission. The consultant offered to continue to provide assistance and to be actively involved in production after the mission as needed.
Review of the National Population Database and the Immigration Database	Suitability of databases to estimate net migration	Both databases were obtained as a part of the mission. Both were found to be inadequate in providing a basis for migration estimates and projections in their present form.
Training/ Technical Assistance	Projection software	Refresher training in the use of the FIVFIV projection program was provided to Mrs. Gopal.
Detailed Analysis/ Special Reports from 2010 Census	Format and content of such reports	No special reports or analyses were performed following the 2002 Census. Sample detailed outlines/table shells were prepared for consideration. However, given the relatively small number of census questions, the available data for detailed analyses are small in number.
Ability to	Process by	The possibility of using CSPro software to

Produce Special Census Reports	which reports can be prepared	ease the preparation of such reports was discussed favorably.
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4. Background Observations with Possible Impact on the NSB's Programs

Economic difficulties required missions from the IMF to impose a variety of austerity programs to bolster the national economy. Among these was the requirement that the Seychelles rupee (SR) float on currency markets. As a result, since the second population mission in August-September 2008, the rupee (SR) was de-valued from approximately SR 7.5 to the U.S. dollar in September 2008 to SR15.8 by February 2009 and 17.2 in March 2009. Since many items must be imported, the weakened rupee has resulted in at least 60 percent domestic inflation, affecting the purchase of most necessities as well as government and parastatal budgets. This can also be expected to place some budgetary constraints on government/parastatal operations, including the 2010 Census, although the exact impact is not yet known. For the average consumer, the situation has become quite difficult at best.

5. MAIN REPORT

The following report provides detail on (1) the Terms of Reference and (2) the Country Work Plan, Priority 3. Two items, although not part of (1) or (2) above, were discussions held on the software to be used to actually process data from the 2010 Census and technical assistance with writing the publication for the population projections produced during the second mission. The consultant had received a request for advice on census data processing prior to this mission from NSB and had looked into the matter. This was considered of great importance since custom-written software using Foxpro for the 2002 Census had not been user-friendly for those entering data from the census forms and had proven difficult and time-consuming in producing tabulations. This issue has a high priority at NBS.

5.1 Terms of Reference

5.11 Issue to Be Addressed: Rebasings of population estimates on the upcoming 2010 Census; consideration of a *de facto* and *de jure* Census population.

5.12 Background Census Issues

(Facsimiles of the 2002 Census questionnaires are given in Annexes 3 and 4 as Attachments.)

The 2002 Census enumerated a *de jure* population, counting all of those resident in the island for at least 3 months. In Seychelles, visitors are granted visas for a stay of up to 90 days after which a visa extension must be obtained. This definition worked reasonably well during the 2002 Census given the fact that no more than 150 foreign temporary workers were believed to be in the country. But the definition also included

persons who simply wished to extend their stay for tourist or business reasons and would not properly be considered part of the usually resident population. These distinctions assume considerable importance as Seychelles has an unusually high number of visitors compared to the country's small population size.

By 2009, foreign temporary workers gained in significance as their numbers increased. Currently, it is believed that there are about 8,000 foreign workers in the islands for special, one-time construction projects. Examples are construction of a resort in Port Glaud district with 1,200 workers, primarily from Sri Lanka; Vijay Construction has 1,000 workers employed building a Raffles resort on Praslin Island; about 1,600 workers, also Sri Lankan, are constructing 2,000 new housing units (a housing "estate") on Isle Perseverance near Anse Etoile district north of the capital, Victoria; and an unknown number of workers are constructing a new Parliament building, with funding from China. It should be noted that large groups of temporary workers normally live in dormitory situations and have most of their needs taken care of by their employer and are not a direct concern to district governments.

Such large numbers of temporary workers, possibly accounting for about 10 percent of the population, have a significant effect upon the population of the country and especially on the affected districts. In addition, these groups have an effect upon birth and death rates as they inflate the denominator of rates while experiencing little or no births and deaths in their own group as well as population growth rates. The NSB desires to differentiate between such relatively short-term residents and regular, long-term residents.

For the 2010 Census, the definition of two different populations is being considered. The *de facto* population might be those present in Seychelles for more than 90 days, others are currently considered visitors. The *de jure* population would be those whose usual, long-term, place of residence is Seychelles. This objective can be accomplished by more detailed questions on type of residence on the census form or by a separate census form for group quarters. It should be noted that large groups of temporary workers live in dormitory situations and have most of their needs taken care of by their employer and are not a direct concern to district governments. There are any number of ways in which a usually resident population could be distinguished from a *de facto* population and two are given below:

5.13 Population Definitions under Consideration

Definition 1.

De jure population:

- a. Persons with their usual, long-term residence in Seychelles including those temporarily absent for short periods, such as less than 90 days.
- b. In addition to long-term residents, this would include those who remain in the country beyond the 90 day visitor visa *and* have been registered in the National Population Database (NPD), therefore receiving a national identity card. The most common example of this group is persons who arrive in Seychelles on a contract basis, often several years. Their "place of usual residence" would be

considered Seychelles. It would also be necessary for them to have registered in the NPD in order to work, conduct banking business, etc.

- c. A third group to be considered part of the *de jure* population is workers whose individual residence in Seychelles may be temporary but whose job position is long-term. One example is the 300 workers at the Indian Ocean Tuna factory in Victoria. These jobs are largely occupied by foreign temporary workers who themselves may come and go but there are always 300 workers present. This is in direct contrast to construction workers who work on a specific, one-time project, such as resort construction, and then leave.

De facto population:

This population would simply consist of the *de jure* population plus those present in the country for temporary projects, even for long periods, but who live apart from the resident population in group quarters. These do not place a significant burden on district administration.

Definition 2.

It may be that a simpler method, based on possession of a national identity card will suffice:

De jure population:

Those who have a national I.D. at the time of the census and are physically present or who are identified as being usually resident but absent from the country for a period, such as less than one year, would be counted in the *de jure* population. This definition would require a census question on persons who are temporarily absent and, if temporarily absent, where they are and for how long.

De facto population

This would simply be the *de jure* as defined above plus all others present and enumerated in the census

5 Additional Considerations

In addition to the increase in the number of temporary workers, the number of persons owning vacation homes in Seychelles has been on the increase. The most recent example, and the largest development, of second homes is on Eden Island near Victoria. This development of 500 homes is partially completed and sales have begun. Census planning will have to evaluate how such part-time residents will be treated as the numerical effect on population, particularly on that of districts, is growing.

During the mission, a number of possibilities were discussed, such as classifying homes in the census as primary or secondary residences, determining the number of months such housing units are occupied, etc. This would require some additional

census questions. Another possibility would be to enlist the assistance of the developer/property manager in canvassing their residents and assisting in having census forms delivered and returned. During the mission, the consultant and NSB staff paid a visit to Eden Island and discussed such issues with the management who expressed willingness to assist in the census process.

5.2 Strategic Objective: Defining a method for post-census estimates and projections at the national and district level.

5.21 Methodology

The method used to produce annual population estimates was reviewed and found to be completely satisfactory. The population is carried forward for 12 months each year by single year of age and sex by subtracting reported deaths and filling in the youngest age group (0-1) with the number of births reported for the year (minus a small amount for reported infant deaths). The process is similar for migration although defining who should be considered an immigrant or an emigrant is difficult in most countries. For this reason, examination of the National Population Database and immigration records were a part of this mission.

The method for projecting the national and district population, the cohort-component method as utilized in projection programs such as the Population Council's FIVFIV, which was used for the purpose during the August-September mission is unchanged. Some modifications to the FIVFIV input file for newly-created districts by the Electoral Commission following the 2010 Census will likely have to be made but these are quite minor.

Immigration data at points of entry (almost exclusively the international airport) collected are useful but not specifically intended to measure net "demographic" immigration *per se*. These figures do not readily differentiate between persons arriving or departing for long-term residence or as temporary workers as described in detail above. Currently, annual immigration figures excepting the large number of tourist/business visitors are used to update the population. For that reason, the NSB has been holding discussions with the Immigration Division on ways data collected by immigration officials at the airport might be made more useful for population estimates.

5.31 **Activities Required:** Review of National Population Database (NPD), migration data collected from embarkation/disembarkation cards; identification of temporary workers; consideration of a census question on internal migration.

5.32 **Action Taken.** Requests were made to the Information Technology and Communications (ITC) Department by Mrs. Gopal prior to the mission for computer files from both the NPD and from immigration cards prior to the mission.

5.33 National Population Database

It was hoped that the NPD detailed database might provide information on Seychelles residents abroad to assist in preparing annual post-census population estimates. Persons arriving at the airport are all given automatic 90 day visas. After 90 days, a resident permit must be obtained and, if the person wishes to conduct business, such as banking, or work for pay, a national I.D. card is required. All native-born Seychellois have I.D. cards. The NPD database (which contains a record for each person with an official national I.D. card) listed 118,836 living Seychellois (native born and naturalized) but was not able to provide information on current residence, i.e. whether in Seychelles or overseas in the form the database was received. This was the main intent in obtaining the database. With an estimated population of 87,000, the NPD obviously contains a larger number of names than the actual resident population.

In our meeting with Mr. Gappy, the Electoral Commissioner, it was brought to light that other information on items such as nationality and residence status were available in the NPD. This was previously unknown to NSB. NSB will pursue the matter further to see if these items can be obtained from ITC. Confidentiality is an issue in obtaining individual record databases, leading to some reluctance to provide data. NSB did make quite a point that the provision of names was unnecessary and that names could be deleted even though NBS does have the right to such databases and is a sworn agency as far as confidentiality is concerned.

5.34 Immigration Database

The immigration database was obtained in order to ascertain if more detail could be gleaned on the exact status of those arriving and departing, i.e., if these persons were actual long-term immigrants, temporary workers, or some other category. This is essential if a true level of the immigration and emigration of residents is to be established. The immigration database contains information taken directly from the arrival/departure cards collected at the airport. It should be mentioned that accurate migration data and estimates are among the most elusive of demographic data with many countries, including developed countries. Seychelles is in the unusual position of having a complete record of every arrival and departure given its geographic situation. In our meeting with Mr. Ronald Fock-Tave, Director General, Immigration Division, we learned that immigration data are input directly into the database at the airport. It was also pointed out by NSB that the database we received was some 4,000 records short.

One group of interest regarding migration (as contrasted with the large numbers of holiday visitors) are those referred to as "short-term migrants," those leaving for a period of less than one year and those returning after an absence of less than one year. It was assumed that nearly all of these persons, whose movements in and out of the total nearly 100,000, come and go on holidays and to visit relatives for short periods and should not be considered migrants.

Groups who can be considered as emigrants are (1) those who indicate on their disembarkation card that they will be gone for more than one year. This group largely includes students, travelling to such countries as France, India, and the UK for higher education and Seychellois leaving to work on contracts overseas; (2) those who indicate

that their departure is permanent. This group consists of both Seychellois and non-Seychellois (a Seychellois is someone who holds a national I.D. card).

Immigration data in Table 1, compiled by NSB from information collected at the Immigration division, provides a good summary of movements into and out of the country. The current thinking is that the “short-term” migrants need not be considered when estimating the amount of net immigration since the vast majority of those gone for less than 1 year are for short periods such as holidays and that can be seen in the immigration database. Of the long-term migrants, it is clear that all groups can be considered to be immigrants/emigrants, using the period of one year as a criterion. Only the group “new immigrants” is in doubt. It is unclear how many of these are temporary workers who should be excluded from the *de jure* population. However, most temporary workers are males in the construction trades and the preponderance of “new immigrants” in Table 1 are male. Some new immigrants are those arriving to take up residence and it would be useful to be able to identify that group. That would require some re-wording of the questions on the disembarkation card. Mr. Fock-Tave said that that could be looked into, but that the number of new immigrants coming to Seychelles for permanent residence, in his opinion, was actually quite small, perhaps 30 or 40 per year. He also pointed out that some counted as new immigrants are crews of tuna fishing boats who arrive at the airport and proceed directly to their ships, not actually taking up residence in Seychelles. It would be useful if the Immigration Division and NSB, working together, could arrive at a systematic way to arrive at that figure.

Table 1. 2008 Immigration Data, Males

	Migration Long Term 1 Year+	Migration Short Term < 1 Year
Total	5,644	26,397
Returning residents	933	23,389
New immigrants	4,711	3,008
Total	3,947	27,038
Permanent Leavers Seychellois	429	
Permanent Leavers non-Seychellois	2,957	1,603
Temporary Departure - ALL	561	25,435
Net Migrants	1,697	-641

Source: National Statistics Bureau from Immigration cards

Table 1. (con't) 2008 Immigration Data, Females

Migration Long Term 1 Year+	Migration Short Term < 1 Year
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Total	1,636	21,324
Returning residents	1,340	21,118
New immigrants	296	206
Total	1,925	21,169
Permanent Leavers Seychellois	613	
Permanent Leavers non-Seychellois	577	484
Temporary Departure - ALL	735	20,685
		155
Net Migrants	-289	

Source: National Statistics Bureau from Immigration cards

5.41 Input Required from International Sources

5.42 Technical Assistance, Training

Technical assistance was provided during the mission by reviewing population projections methods and the input that would be required for new projections, re-based on the 2010 Census. The new base population will be the most significant change to the projections. It is anticipated that assumptions on fertility and mortality trends will be very much the same as the projections performed during the second mission. The level of fertility appears to be stable at a total fertility rate of about 2.1 and the projections of life expectancy will most likely not need significant modification. Migration will remain a significant issue but it is hoped that more detailed information from the national immigration database and census data on internal migration will become available.

5.51 Own Preparation Required

(NSB) Collect data from the NPD and as detailed migration as possible from migration cards.

(Consultant) Review of past and existing practices in census definitions and population estimation.

These activities were performed as required and are described in the preceding sections, where relevant.

5.61 Output Planned and Changes anticipated

Revised definition of resident population as mentioned in 1 above; specific plan for post-census estimates and projections.

After internal discussions and discussions with other agencies as appropriate, NSB will decide upon a definition of both *de facto* and *de jure* population that will provide a satisfactory result for this census and comparability with future censuses.

Post-census estimates and projections have been discussed above. The only remaining issue is the migration component.

5.71 Linkages with Other Activities

Consistent definition and updating of resident population to assist national and district planners.

The definition of a consistent resident population, along with census measurement of internal migration, is intended to provide planners with the best population data possible. District administrators have already begun using the projections performed during the second mission.

During the mission, the consultant assisted with writing and content of the NSB publication featuring the projections, which will be distributed to users after printing.

5.81 Other Donors Supporting Topic

None

6. Country Priority 3 Population Data Analysis

6.1 Problem to Be Addressed: From the experience of the last census, there has been no detailed analysis on demographic and socioeconomic variables, including special reports based on the census.

The consultant discussed this issue with NSB, both making suggestions and drawing up possible table shells (Annex 5.) based on the census and pointing out that the number of questions on many censuses, including Seychelles is rather limited. NSB indicated a desire to produce some detailed analysis on such subjects as gender comparisons, social assistance, family structure, labor force, disability, parity, and orphanhood, among others. The consultant suggested that some priority be worked out for those subjects and consideration be given to adding questions to the census. Further, many such issues may not have much meaning at the local level and both for that and in the interest of not overburdening enumerators during the census, consider collecting data on some of those issues in one of the sample surveys taken by NSB.

Nonetheless, more analysis could be presented from the 2010 Census than was presented for the 2000 Census. For example, the 2000 Census had questions on both children ever born during a woman's lifetime and date of birth in the preceding 12 months. One table was given in the summary census report and one in the Appendices but did not show the average number of children born by age group of mother which would simplify analyzing changes in childbearing and family size across generations for the average user.

6.2 Strategic Objective: To be able to produce detailed reports on selected demographic and socio-economic variables.

Related to the discussion above, note was taken concerning the limited number of questions normally contained on a national census. In the case of socio-economic gender comparisons, data in the 2002 Census were limited to labor force participation data. These indicated near equality in labor force participation between men and women, although women were somewhat more likely to be employed part-time. A commonly-used measure to compare gender status is income. During discussions, the NSB has doubt whether an income question would be well received by the population, however. A possibility discussed is the inclusion of a question on household income, rather than individual income which could then be analysed for male and female-headed households.

The 2002 Census results were presented in a single volume, consisting of an introductory section summarizing findings on such population subjects such as age and sex, marital status, fertility, labor force, occupation and industry, employment status, and job seeking. The second section comprised population counts for districts and enumeration areas within districts (analogous to towns). The volume included a section on census history in Seychelles, how the census was conducted, a frank discussion on the difficulties encountered, such as inadequate training of enumerators, and a facsimile of the census questionnaire. These are all very useful inclusions and quite informative to the user.

Even with the small number of questions asked in 2002, considerably more analysis could have been included. One possible scenario for 2010 would be a two-volume census, the first to include the census summary just described and the second, tables on detailed age and sex for the country and districts, and counts for enumeration areas.

In reviewing the 2002 Census volumes, the following observations might be made. The first section should include more tables showing analysis by age. In the case of children ever born, this was not done in 2002, in the summary section, although detail was shown by age in the Appendices in the back of the volume. However, a typical user would have difficulty interpreting the results as statistics such as the average number of children born to each age cohort is not shown. A similar observation for marital status can be made. In short, the summary section should tell a more complete and flowing census “story” based upon the data collected, with a selection of tables to tell the story, along with definitions clearly spelled out where needed. Detailed data can be relegated to the second volume.

6.3 Activities Required: Training, work-study

For this and all other aspects of the census, NSB should consider training on the CPro census package which includes data entry, consistency checking (males should not be recorded as having borne children), imputation of missing data, table building, and analysis. The package can be self-taught by use of tutorials but additional training should be considered. This could be accomplished at the U.S. Census Bureau if funds are available for travel expense. Nonetheless, software considerations should begin as soon as possible so that the software selected can be fully tested.

6.4 Input Required from International Sources: technical assistance.

After the questions to be included in the census have been finalized, technical assistance in the design of the census publications would be beneficial in no small part due to the small size of the NSB's staff who will be very busy with census operations and data processing.

6.5 Own Preparation Required: Make data available

All necessary data and materials for the mission were provided.

6.6 Output Planned: Development of detailed outlines and table shells for a series of reports to include methodological documentation and reports on social assistance, family structure, labor force, disability, life tables, parity, and orphanhood.

Sample table shells were prepared during the mission. However, much of the subject matter listed above is not covered in the census. In particular, some interest was shown in disability and orphanhood. For the former, census questions developed by the Washington Group, were obtained by the NSB. This would require adding 4 to 6 questions to the census. Some doubt was also expressed on the need for orphanhood data as the number of true orphans in Seychelles is not thought to be large. A possibility to include "social orphans" (children who do not live with their biological parents) was discussed. This would require some rewording of the question on family structure. Similarly, the derivation of life tables from the census would require a question on the number of deaths in the household in the past year. Given the complete registration of deaths in Seychelles, the value of such an exercise was questioned. Many of the new topics had been recommended by the SADC for consideration by member countries but not all would have particular value in Seychelles. Again the actual content of the 2010 Census will determine what can and cannot be done.

6.7 Changes Anticipated: ability to continue special report series in future censuses.

This topic was not discussed at length as it will depend upon the actual experience with the 2010 Census.

6.8 Linkages with Other Activities: Facilitate policy makers to make better developmental policies.

In connection with this issue, two possibilities were considered. First, the idea of a summary census volume which presents a very clear report on the census operation and a series of summary tables as mentioned above would greatly assist local planners' understanding of the census. Second, an additional, attractively-designed publication intended for a general audience such as students and teachers, policymakers and the public in general would go a long way towards educating users. Such a publication would also have a long shelf life, beyond the initial publication of census volumes and could be used for the entire period between censuses. The consultant offered to send some sample publications to the NSB such as "Census and You," published by the Registrar General of India. It was also suggested that all country members of the GDDS program might do the same, providing a tool for inter-country comparisons.

6.9 Other Donors Supporting this Project:

None

7. Consultant Recommendations:

1. Define a *de facto* and *de jure* population for the 2010 Census.
2. Update the *de jure* population to be consistent with the census definition. This population would then be used to calculate annual birth, death and migration rates.
3. For the 2010 Census, instruct enumerators to probe more deeply for the presence of young children (ages 0-4) in the household. This group appears to have been under-enumerated in 2002. The age group 0-4 in the 2002 Census was 6,373 despite the fact that there were 7,299 births from 1997 to 2001.
4. Discuss the possibility of changes to immigration cards with the Immigration Division to reflect the immigration/emigration of Seychelles residents.
5. Select and test software to be used to process 2010 Census data as soon as possible and test the software thoroughly prior to the census.
6. Decide the content of the 2010 Census questionnaire as soon as possible to enable plans for analysis and test data entry and analysis software.
7. Re-design the basic census volumes to provide more analysis of 2010 Census data.
8. Produce an attractive publication for a popular, general audience giving results of the census and one that can be used for many years by district administrators, policymakers, students and teachers, and the general public.
9. NSB should, within budgetary constraints add a demographer to the staff, at least for the time of census data collection and analysis.

Annex 1.

List of Participants in GDDS2 Population Data Analysis Mission for Discussions and Data Contact

Participants	Designation	Place of Work
Mr Jude Padayachy	Chief Executive Officer	National Statistics Bureau
Mrs Therese Gopal	GDDS Coordinator/GIS Manager	National Statistics Bureau
Ms Helena De Letourdis	Principal Statistician (Census & Surveys)	National Statistics Bureau
Ms Linda Gerry	Statistical Officer/GDDS Committee Member	National Statistics Bureau
Mr Hendrick P Gappy	Electoral Commissioner and Registrar of Political Parties	Electoral Commission
Mr. Ronald Fock-Tave	Director General	Immigration Division
Mr Anaclet Tirant	Chief Registration Officer	Electoral Commission
Ms Josiane Marie	Statistical Officer (Tourism and Migration)	National Statistics Bureau
Mr Hendrick Andre	Programmer Analyst	Information Technology and Communication Department

Annex 2.

Consultant Pre-Mission Preparations

1. The consultant reviewed the 2002 Census volumes for suggestions on content preparation for the 2010 census.
2. The consultant reviewed immigration data available for the purpose of annual post-census estimates and projections.
3. The consultant reviewed immigration cards as possible sources of immigration data.
4. The consultant discussed plans with the GDDS module coordinator regarding the mission plans and agenda.
5. The consultant requested data files from the National Population Database and Immigration Database.

Annex 3. 2002 Census Questionnaires (Attachments)

Annex 4. Suggested Table Shells

Women by Age and Number of Children Ever Born (percent)

Age	Number of Children Ever Born								Total	Number of Women	Mean Number of CEB
	0	1	2	3	4	5	6	7+			
<15									100.0		
15-19									100.0		
20-24	15.0	35.0	25.0	15.0	5.0	3.0	2.0	0.0	100.0	3,967	1.9
25-29									100.0		
30-34									100.0		
35-39									100.0		
40-44									100.0		
45-49	10.0	15.0	20.0	33.0	10.0	5.0	5.0	2.0	100.0	3,215	2.8

Figures in table are illustrative examples only

Women by Education and Number of Children Ever Born

(percent)

Education Attained	Number of Children Ever Born						Total	Number of Women	Mean Number of CEB
	0	1	2	3	4	5+			
No schooling							100.0		
Primary incomplete							100.0		
Primary complete							100.0		
Secondary incomplete							100.0		
Secondary complete							100.0		
National Youth Service/5 years							100.0		
Polytechnic 1-2 years, Teacher Training							100.0		
Polytechnic 3-4 years, Form 6							100.0		
Pre-University							100.0		
Bachelor							100.0		
Graduate Degree (MA, MBA, PhD)							100.0		
Not Reported							100.0		

Women by Marital and Fertility Status in Past Year

(percent)

Marital Status	Fertility Status		Total	Number of Women
	Had a Birth	No Birth		
Never married			100.0	
Married			100.0	
Cohabiting			100.0	
Separated			100.0	
Divorced			100.0	

Widowed 100.0

Women by Age and Fertility Status in Past Year (percent)

Age	Fertility Status		Total	Number of Women
	Had a Birth	No Birth		
15-19			100.0	
20-24			100.0	
25-29			100.0	
30-34			100.0	
35-39			100.0	
40-44			100.0	
45-49			100.0	

Labour Force Participation Rates by Sex, 1994, 2002, and 2010 (percent)

Age	Males			Females			Females		
	1994	2002	2010	1994	2002	2010	1994	2002	2010
15-19									
20-24									
25-29									
30-34									
35-39									
40-44									
45-49									
50-54									
55-59									
60-64									
65+									
Total									

(See Table 5., 2002 Census)