



# Vanuatu

Household Income and Expenditure Survey (HIES)

2010



**Survey Operation Report**

**Table of Contents**

**EXECUTIVE SUMMARY..... 3**

**FINANCIAL SUMMARY..... 3**

**INTRODUCTION..... 4**

**PURPOSE..... 4**

**PLANNING AND BUDGET ..... 4**

**USER COMMITTEE ..... 5**

**QUESTIONNAIRE DESIGN..... 5**

**PILOT TESTING..... 7**

**SAMPLE DESIGN ..... 8**

    ALLOCATION TO “TARGET AREAS” ..... 9

    STRATIFICATION ..... 10

    EXCLUDED AREAS ..... 10

    SAMPLE SELECTION TECHNIQUE ..... 11

    VANUATU HIES SAMPLE – MCC REQUIREMENTS ..... 11

    FINAL SAMPLE SIZE ..... 11

**FIELD MATERIALS .....12**

**PRINTING .....13**

**TRAINING OF TRAINERS.....14**

**RECRUITMENT OF ENUMERATORS AND SUPERVISORS.....14**

**TRAINING OF ENUMERATORS/SUPERVISOR .....14**

**TRAINING VENUE .....15**

**MEALS AND ACCOMMODATION.....16**

**CONTRACTS/SECURITY.....16**

**FIELD ENUMERATION .....16**

**PUBLICITY.....17**

**COMMUNICATION AND FREIGHT .....17**

    COMMUNICATION ..... 17

    FREIGHT ..... 18

**FIELD WORK MONITORING STRATEGY.....18**

**FIELD OPERATION PROBLEMS.....19**

    TRANSPORT..... 19

    ENUMERATOR/SUPERVISOR..... 20

**DATA COLLECTION.....20**

**DATA PROCESSING .....21**

**CODING.....22**

<b>MANUAL DATA ENTRY</b> .....	<b>23</b>
<b>SCANNING AND VERIFICATION</b> .....	<b>23</b>
<b>INPUT DATA EDITING OR MICRO-EDITING</b> .....	<b>23</b>
EDITING PRIOR TO DATA ENTRY .....	23
DATA QUALITY CHECKS.....	25
INTERACTIVE EDITING WHILE DOING DATA ENTRY/BATCH EDITING.....	26
<b>CONCLUSION</b> .....	<b>27</b>
ANNEX 1. TENTATIVE WORK PLAN.....	28
ANNEX 2. FINAL BUDGET .....	29

**Executive Summary**

*The whole purpose of the 2010 Household Income and Expenditure Survey is to obtain information on the income, consumption pattern, incidence of poverty, and saving propensities of different groups of urban and rural population in Vanuatu, for guiding policy makers in framing socio-economic developmental policies and in initiating financial measures for improving economic conditions of the people and the data for MCA-Vanuatu.*

*The 2010 Household Income and Expenditure Survey has highlighted some very important points to be considered and to improve from when conducting future surveys and make no exception; the HIES. While further full editing of the survey will continue to actually see where other problems may arise in the questionnaire or how the survey was contacted, it is very important to note that most of the recommendations outlined in this report were based on the assessment made during coding, report from the field supervisors and enumerators and also based on the specific edited data for the MCA selected area Efate Rural and East of Santo.*

*The overall outcome of the survey is much better compared to 2006 Household Income and Expenditure Survey in terms of the design of the questionnaires, longer period on Training of trainers, training of enumerator and supervisor, better monitoring, control and most importantly TA recommendations.*

**Financial Summary**

*The main agencies who funded the 2010 Household income and Expenditure Survey are Millennium Challenge Account (MCA) and the Vanuatu Government. Millennium Challenge Account (MCA) contributed over, 54 million Vatu while Vanuatu Government contributed, over 4 million Vatu making a total of over 58 million Vatu. The summary of the financial contribution is as follows;*

Figure 1. Major Donor Contributions

MCA	Vanuatu Government	Total
54,000,886 VT	4,711,043 VT	58,711,910

## Introduction

This report highlights the overall survey operations right from the start to the end. The whole survey undertaken was based on the guidelines, recommendations and documentations from the 2006 Household Income and Expenditure Survey; in which VNSO took into consideration to improve its 2010 Household Income and Expenditure Survey data collection in particular the design of the questionnaire, steps undertaken to improve data collection quality by putting more emphasis on field monitoring and as well as data processing recommendations.

## Purpose

The purpose of the survey was to obtain information on the income, consumption pattern, incidence of poverty, and saving propensities of different groups of urban and rural population in Vanuatu, for guiding policy makers in framing socio-economic developmental policies and in initiating financial measures for improving economic conditions of the people and also collect data for MCA-Vanuatu.

### Main objectives

- ✓ To obtain expenditure weights and other useful data for the revision of consumer price indices;
- ✓ To supplement the data available for use in compiling official estimates of household accounts in the systems of national accounts;
- ✓ To supply basic data needed for policy making in connection with social and economic planning;
- ✓ To provide data for assessing the impact on household living conditions of existing or proposed economic and social measures, particularly changes in the structure of household expenditures and in household consumption;
- ✓ To provide information on particular aspects of living conditions of the population such as those relating to food consumption, housing and health; and
- ✓ To gather information on poverty lines and incidence of poverty for determining nutritional level of people.

### Justification

In 1985 the National Statistics Office conducted the first HIES survey in the country followed by the second in 1997 and the third survey in 2006. The 2006 survey was to supplement the data available for use in compiling official estimates of household sector production in the system of national accounts and subsequent estimates of Gross Domestic Product (GDP); to supply benchmark data need for assessment for Millennium Challenge Account, Vanuatu (MCA) infrastructure projects; to provide data for assessing the impact on household living conditions of existing and proposed economic and social policies and programs. The 2010 survey is to measure the change since the implementation of the MCA project; to supply basic data needed for policy making in connection with social and economic planning.

## Planning and Budget

The initial planning and budget for the 2010 Household Income and Expenditure Survey (HIES) was carried out in early 2010 when the need arise for the survey to be conducted a year earlier than its 5

year interval. A total of around 58 Million Vatu was estimated for the 12 month duration of the survey. The initial tentative work plan briefly outlines the major survey activities and the duration for each activity. The deliverables were based on the time line as required. One particular activity of the survey took a little bit longer than expected and that is data processing. It was delayed due to forms not returned as expected and the delay in the last dispatch of fund. The update tentative work plan can be found in Annex 1.

To run a survey it is better to finalize and secure the appropriate budget to go in line with the planning of activities that is going to take place. For this survey a clear budget narrative does really explains how each plan of initial activity is cost. This can be seen in a separate document that will come along with this report. The final budget can be found in Annex 2.

## User Committee

A Users Committee was appointed by the Director General of the Ministry of Finance and Economic Management on 2<sup>nd</sup> July, 2010. The committee was made up of a representative from the Reserve Bank of Vanuatu, Department of Treasury, Department of Agriculture, Department of Education, Department of Provincial Affaires, Vanuatu Chamber of Commerce and MCA Vanuatu who are the main users.

The setting up of the committee was purposely to meet on regular basis but this was never the case because of their respective work commitment. The committee met only 2 times to finalize the questionnaire. It is recommended that for the next HIES the Users Committee appointed should be actively involved in the survey from the start to the end.

The following were the tasks;

### ***Responsibility of the committee***

The User Committee was to assist the NSO:

- By providing their comments to the Household Income and Expenditure Survey questionnaires in line with each agency's priority both in government and private sector;
- By reviewing the work plan;
- By providing training for enumerators, supervisors and coordinators;
- By providing their comments to the Household Income and Expenditure Survey draft report according to their respective priorities.

## Questionnaire design

The design of the questionnaire was more or less the same to the 2006 HIES, except that there was slight modification on few questions based on the TA recommendations on some of the specific questions and after the pres-testing. Most of the questions were left as it is for comparison purposes.

There are a number of questionnaire design issues still exist and it is sometimes difficult for the respondents to respond. Some of the reasons are it takes too long and tiring for the respondents especially the Household Questionnaire Form (HQF). They are asking for information in a way that is

probably not familiar to them. This is likely to be the case for subsistence households in the rural areas and sometimes in the urban areas as well. Timing was another issue where there was not enough time given to the main data users to give their comments and feedbacks.

It is recommended that generally the HIES questionnaires should be developed in a way that will help the respondents to understand why and respond correctly. It is important that the enumerators are able to convey this message also, and help respondents who are having difficulty understanding what is required of them. Another recommendation is to have separate questions for rural and urban; for example questions like loan, maybe irrelevant to majority of the subsistence households in the rural areas. One other possible solution is may be time allow enough time for comments and feedback before finalize.

Below are the specific questionnaires, comments and recommendations based on the completed forms that the coders went through and identified.

Type of Questionnaire Form	Question number	Comments	Recommendation
Household Control Form (HCF)	C5:date of birth	Still few problems during coding with the date of birth especially in the rural areas, the elderly and sometimes children. It is a common problem in previous surveys and censuses	It is difficult to fix, but it is hope that with the project of the field registration of Births from Civil Status department will minimize this.
	C6:Age last birthday	Age not stated for respondents from the rural area.	It is a common problem but it may need special training to address this.
Household Questionnaire Form (HQF)	Section A .Part II. Health Facilities and Sanitation H13. What is the main source of water	Even though there was clear explanation in the manual there are minor confusion with this question in relation to Well and underground water tank. Some household refer to underground tank as Well and we have seen with some of the forms returned from the rural areas during coding. The assumption is as soon as the enumerator ask the question the household Head would answer straight away Well because it is quite commonly use and enumerator did not both to check.	Enumerators need to do extra work, check physically if it is actually well or the underground water tank.
	Section B. Part II. Mortgages and loans for purchase of dwelling. H46	There are few cases where the respondent answered yes they have a loan for the purchase of dwelling then the value is not filled in or sometimes the value recorded is low. The assumption maybe the question is too sensitive and they don't want to respond. It is still a common problem in the previous survey and this one especially in the urban areas.	Not sure how to address this questions but maybe sometimes in the future respondents may realize the importance of the questions.  Maybe a separate urban and Rural. Not sure how the questions should be asked for the rural.
	Section B. Part III. Insurance Policy for dwelling and contents. H47.	Same as above	Same as above
	Section B. Part IV. Construction of New Dwellings. H50	Same as above	Same as above
	Section B. Part VII. Transportation. H62	Same as above	Same as above
	Section B. Part VIII. Domestic and Overseas Travel. H66	There are few cases where member of the household travel more than 3 times. These comments were taken from the field work by	Maybe increase the column of the number of trip to maybe to 5 the maximum.

		enumerators and it is hard also to recall the amount they spent on travelling.	Maybe reduce reference period from last 12 months to 6 months.
	Section B. Part VIII. Domestic and Overseas Travel. H67	Same as above	Same as above
	Section B. Part X. Loans. H70. What was the purpose of the loan	There are few cases where they answered yes they have loan but the values are left blank or the amount recorded is low. Maybe again it is the assumption that the question is sensitive. These were spotted during coding process.	More emphasis on how enumerator should be trained on how they should ask the question so that the respondent have some feeling of ownership.
	Section C: Income and Production. Part I Agriculture, Livestock, Fish and Other Sake. H76. Has any member of your household sole any of the following cash or root crops in the last 30 days?	There are some cases where there is high unusual value of sale of copra, cocoa and kava. Maybe some were recorded as business transaction instead of household produce and sale. The estimated expense is huge resulting in Net Income very low which it does not make sense or sometime negative income. These were spotted during coding process	It is recommended that the rewording of the questions should read <b>"Has any member of your household produce and sold any of the following cash or root crops in the last 30 day?"</b>  This should distinguish people who doing business of buy copra, cocoa and kava.
<b>Person Questionnaire Form (PQF)</b>	Section C: Economic Activity (Income) Q28, Q29, Q30, Q31 and Q32.	It has been spotted during coding process that few persons who report that they received wages and salaries did not report the value of the payments they received. However, they did mostly report industry, occupation and other details of their employment. Because this item was collected in interview rather than in the diary, it would seem that non-reporting here was due to refusal, perhaps because of the sensitivity of the item, rather than lack of understanding.	Maybe to resolve the issue enumerators should be aware during the training the importance of the questions.
<b>Household Diary Form (HDF)</b>	Section: Household Consumption of own production	Some households which stated that they are subsistence farmers in the person questionnaire on economic activity but reported nothing in the sections of their diaries which asked about their consumption of own production. Some diaries only the first week were filled but the second week was left blank.	The 2010 HIES introduced the system of having members of the household 18 years, still there are few problems.  It is recommended that apart from the enumerator doing the interviewing maybe the office can hire an extra person full time just to monitor closely the diaries on full pay like enumerator.
	Section: Household Purchased items	Some households had reported small purchases in the cash expenditure part of their diaries during the coding process.	It is recommended that apart from the enumerator doing the interviewing maybe the office can hire an extra person full time just to monitor closely the diaries.

## Pilot Testing

Due to time constraint the pilot test was only done on Shefa Province on the island of Efate in the rural in one of the villages in the north of the island, Urban and two areas of Peri-urban of Port Vila on the 12<sup>th</sup> to 14<sup>th</sup> of August 2010. These three particular sites were chosen to represent the rural, urban and peri-urban characteristics. The initial sites (in Santo) had to be cancelled with the assumption of some homogenous characteristics in the MCA are of interest, not to mention that the questionnaire was



tested already in 2006. The expected sample of the pilot testing was 120 households in total, 30 households for Urban, 30 for Peri Urban and 60 for Rural.

Before the pilot testing was contacted, the office trained four experience enumerators with four Vanuatu Statistics Office Staff went through two days intensive training to familiarize with the questionnaires before moving out to the field.

Because the pilot test was only for three days one of the questionnaire forms that that was not tested was the diary form because the timing was impossible. Another issue is the place of the pilot testing is more or less like a peri-urban, the standard of living is quite different to the actual rural areas because they have access to most of the main infrastructure. Another issue is that design and layout is just the same compared to the HIES 2006.

It is recommended that the duration of the pilot testing should be at least two weeks to gather for the two weeks diary questions to actually see what items households are selling and purchasing to get some idea if what is expected from the actual data collection. Pilot testing should be contacted twice to allow more time to fine tune questionnaires and should be at least two month apart. It should be contacted in three different areas; the urban, peri-urban, and rural in different islands to actually get a good feedback.

## Sample design

The 2010 HIES sample design, Vanuatu National Statistics Office (VNSO) followed the same procedure as 2006 HIES.

In determining an appropriate sample size for a survey of this nature, numerous factors come into the equation. These include:

- The degree of accuracy required for key estimates
- The population size of the country
- The manner in which the sample is selected
- Cost or staffing constraints which may exist
- Whether or not estimates are required for sub-populations
- The level of variability in the data being collected

Each of these factors had different magnitudes of importance, but the major priority should always be on selecting a sample big enough to produce results of suitable accuracy. Many of these issues are generally known as well - for instance:

- A user group may pre-specify what level of accuracy they may wish to achieve for the survey
- The population of a country can normally be estimated to a reasonable level of accuracy
- The sample selection technique adopted is known
- Cost and staff constraints are generally known, and
- A user group can once again provide information on whether estimates for sub-populations are required.

The one thing that normally isn't known is the degree of variability in the data being collected – this information comes after the survey. This factor is important because if there is not much variability in the data for key estimates, then the sample size does not need to be as large, and vice versa.

Without this sort of information, determining the appropriate sample size for a survey can often involve a bit of guess work. For that reason, based on previous survey experience in other Pacific Island countries, a sample of 10 per cent was considered more than sufficient for Vanuatu. Normally an allowance for sample loss would be made when determining the sample size, but given the 10 per cent sample was already generous, this was not considered necessary for this survey.

As a result, a sample size of 4,737 households (10 per cent of 47,373 2009 private household from census) was adopted for the survey. Once the allocation of the sample had taken place, top-ups in areas of interest to the targeted projects of the Millennium Corporate Challenge took place and in this case there was no additional enumeration areas selected in the sample, resulting in an overall sample of 4,737 households.

#### ***Allocation to "Target Areas"***

For the Vanuatu HIES, eight target areas were identified as sub-populations for which estimates would be desirable. These eight areas are:

- Port Vila
- Luganville
- Rest of Shefa
- Rest of Sanma
- Penama
- Malampa
- Tafea
- Torba

Once the sample size of 4,737 household had been determined, the next step was determining how the sample should be allocated to each of these target areas in order to produce the required level of accuracy for each area. In order to achieve this, different allocations were produced, and accuracy levels estimated, to determine which allocation would produce estimates of similar level accuracy for each target area. The result was the sample was allocated proportional to  $N^{1/6}$ .

The resulting sample allocation can be found in the table below;

Table 1. Sample Allocations

PROVINCE/AREA	Households	Sample
Pt Vila	9,055	646
Luganville	2,553	523
Malampa	8,137	635
Penama	6,569	613
Sanma	6,660	614
Shefa	6,875	617
Tafea	5,852	601
Torba	1,672	488
<b>TOTAL</b>	<b>47,373</b>	<b>4737</b>

### Stratification

Within each target area, further stratification was adopted in order to enhance suitable representation within each of the different area types. Strata were determined by allocating Area Councils to area types based on the Area Council's accessibility. As a result, 20 strata were created, consisting of the following Area Councils:

Figure 2. Stratification Summary

#	Region	Province	Area Council 1	Area Council 2	Area Council 3	Area Council 4	Area Council 5	Area Council 6
1	Urba	Shef	Port Vila					
2	Urba	Sanm	Luganville					
3	Rura	Torba *	Vanua Lava	Mota Lava	Gau			
4								
5	Rura	Sanm	Canal-Fanafo					
6	Rura	Sanm	South Santo	South-East Santo				
7	Rura	Sanm	West Malo	East Malo	East Santo			
8	Rura	Sanm	West Santo	North Santo	North West Santo			
9	Rura	Penam	West Ambae	East Ambae				
1	Rura	Penam	Central Pentecost 1	South Pentecost				
1	Rura	Penam	North Ambae	Central Pentecost 2	South Maewo	South Ambae	North Pentecost	North Maewo
1	Rura	Malamp	Central Malekula					
1	Rura	Malamp	West	South East Malekula	North East Malekula			
1	Rura	Malamp	South Malekula	North West Malekula	South West Malekula	North Ambrym	South East Ambrym	Paam
1	Rura	Shef	Erako	Pango	Ifir	Mel		
1	Rura	Shef	North	Eto	Eratap	Malorua		
1	Rura	Shef	Vermal	Ema	Nguna	Makimae		
1	Rura	Shef	Varisu	Vermau	Yarsu	North Tongoa	Tongariki	
1	Rura	Tafe	West Tanna	Middle Bush Tanna	South West Tanna			
2	Rura	Tafe	Whitesands	Aniw	Futuna	Aneityu		
2	Rura	Tafe	North Erromango	South Erromango	North Tanna	South Tanna		

**NB: For Torba, rather than group by Area Councils, groupings are done by Island**

**NB2: Due to it being too difficult to get to any Islands in Stratum 4, it has been merged with Stratum 3**

### Excluded Areas

Although it would be desirable to cover all of Vanuatu for this survey, due to cost and time constraints some EAs were excluded from the frame before the selections were made. The impact on sub-population estimates will differ, as some areas have had larger scope reductions. The estimated number of households removed from scope of the survey, with the percentage remaining, can be found in the

Table 2. Percentage of households in scope for the survey

PROVINCE/AREA	# Households	In scope	Out-of-scope	% In scope
Port Vila	9055	9055	0	100.0%
Luganville	2553	2553	0	100.0%
Malampa	8137	6939	1198	85.3%
Penama	6569	6282	287	95.6%
Sanma	6660	6091	569	91.5%
Shefa	6875	6120	755	89.0%
Tafea	5852	5049	803	86.3%
Torba	1672	1238	434	74.0%
<b>TOTAL</b>	<b>47373</b>	<b>43327</b>	<b>4046</b>	<b>91.5%</b>

### **Sample selection technique**

The sampling method adopted for the survey was a two-stage approach. The first stage involved the selection of Enumeration Areas (EA) using probability proportional to size (PPS) sampling. The size measure was the number of expected households in the EA, based on the recently conducted 2009 Population and Housing Census.

The second stage of sampling adopted systematic sampling from a list of all households contained in the Enumeration Area.

#### **Vanuatu HIES sample – MCC requirements**

##### **➤ Project 1 – Efate Ring Road**

Excluding the Pt Vila area, approximately 18 enumerations areas were selected on Efate. These areas provide very good representation of each of the areas all around the island of Efate. No top-up sample should be required for this project.

##### **➤ Project 2 – Santo-East Coast Road**

Excluding the Luganville area, approximately 21 enumerations areas were selected between Port Olry and Luganville. These areas provide very good representation of each of the areas between these two locations. No top-up sample should be required for this project.

#### **Final sample size**

The final sample sizes for each stratum were as follows;

Table3. Final Sample Size

#	Region	Province	Sample Size
1	Urban	Shefa	646
2	Urban	Sanma	523
3	Rural	Torba *	488
5	Rural	Sanma	75
6	Rural	Sanma	195
7	Rural	Sanma	195
8	Rural	Sanma	135
9	Rural	Penama	150
10	Rural	Penama	120
11	Rural	Penama	360
12	Rural	Malampa	90
13	Rural	Malampa	225
14	Rural	Malampa	345
15	Rural	Shefa	165
16	Rural	Shefa	210
17	Rural	Shefa	105
18	Rural	Shefa	120
19	Rural	Tafea	285
20	Rural	Tafea	180
21	Rural	Tafea	135
<b>Total</b>			<b>4737</b>

Note: NB: Due to it being too difficult to get to any Islands in Stratum 4, it has been merged with Stratum 3

## Field materials

### ➤ Field Materials

The main materials used for the survey;

#### ✓ Questionnaires

The questionnaires used for the survey were Household Control Form (HCF), Household Questionnaire form (HQF), Person Questionnaire Form (PQF) and Household Diary Form (HDF).

#### ✓ Manual

The manuals used for the survey were Field Instruction Manual, Questionnaire Instruction Manual, Interviewer's Instruction Manual, Supervisor's Instruction Manual and Field Monitoring Strategy Manual.

#### ✓ Supervisor/Enumerator Control sheet

The Supervisor and Enumerator Control Sheet were basically to monitor day to day activity on what they have been doing and recording.

✓ **Maps**

Maps were used to identify the selected boundary (EA) of the survey

✓ **GPS**

The GPS was used basically to collect way points of basic services in each EA

➤ **Check List**

In any survey, it is very important to have the materials ready prior to fieldwork. A logistic check list of all the materials was provided to trainers. The check list contained all the materials that the trainers, enumerators and supervisors need. The purpose of the check list was to make sure that everything was accounted for and ready for training and actual survey. A similar check was provided upon return of field materials. A staff was assigned specifically to check all the training materials for each training sites to they are accounted for. Other materials used as well are handbag, pen, clipboard and waterproof plastic bag.

Considering the questionnaire and manual as two of the important tools of the survey, sometimes enumerators and supervisors find it hard to understand some of the terminology used and interpret. There were not enough examples used to help enumerators and supervisors understand more better the questions. Sometimes enumerator and supervisors find it hard to translate the actual meaning of the question to their own language and maybe how they translated is different that is why the respondent may give the wrong answer. Some of the enumerators and supervisors the office have been using even though they have experience but don't have good education background.

It is recommended that questionnaires and manuals be developed in a way that enumerators and supervisor can read and understand, maybe simply some of the terms used in simple language. For a complicated survey like HIES it is very important also to hire enumerators and supervisors who have high level of qualifications so that they can understand and interpret or have simple questions that everyone can understand.

## Printing

It was decided that the printing of the questionnaire done in country due to time constraint. Offset printing was done for this purpose. A local printery Company was hired to print the questionnaire forms as they were in specialized format for scanning purposes. The same company was given the similar job for the 2009 Census and has proved capable of carrying out the printing according to the required standard.

Even though the printer company has proved to be capable but there were still not reliable in terms of printing the number of required forms even though enough time was given and assurance they gave to the Vanuatu National Statistics Office (VNSO), but still there were few problems in printing the required number of forms. The manuals and the main questionnaire forms were printed on time as required but it took over one month to print the complete set of diary forms. Even though this problem was faced but the forms were sent in the required time needed for the survey.

It is recommended that for any future survey or census the office might consider doing printing in-house which means the office maybe thinking of purchasing a printer which can do the same job because if there is any errors in the question it can be corrected straight away. One other option is maybe to hire two printing companies and again cost maybe consider before any final decision is made.

## **Training of Trainers**

The training of trainers (TOT) was conducted on the 13<sup>th</sup> to 17<sup>th</sup> of September at the Ex-parliament chamber, in Vila. It was attended by Provincial Statistics Officers, Senior and Assistant Statisticians from the Vanuatu National Statistics Office. It was important to note that the training of trainers duration has doubled from five half days to five full days.

The purpose of the training was to rehearse and equip trainers in familiarizing them with the process including the materials used. It also served as an opportunity to finalize the questionnaires and the manual ready for the actual training which took place on the 27<sup>th</sup> September to 8<sup>th</sup> October 2010.

During the training the office had the opportunity to have Mr. Richard G (MCC) and Juliette K (MCA) who came to observe the training especially during the diary session which they spent at least two hours.

## **Recruitment of enumerators and Supervisors**

The selection of enumerators was identified based on their applications. The selection criteria were mainly based on;

- Experience during previous surveys
- Qualifications (minimum year 10 leaving certificate)
- Enumeration Areas (EA) which in which they came from

Around 242 trainees were recruited, of whom 73 were selected as supervisors.

Trainees were expected to do display some level of understanding and it was hoped that the 2 weeks was sufficient. In-house practical exercise was designed for training to ensure that there was sufficient understanding and skills to be required gathering those required information. Part of the process was to be able to assist in identifying the Supervisors who should be doing the consistent monitoring checks.

As the development of the questionnaire may continue for future HIES and as well as the collection of good quality data, it is recommended that recruitment of enumerators and supervisors must be Year 12 and above.

## **Training of Enumerators/Supervisor**

Training of enumerators and supervisors commenced, on the 27<sup>th</sup> September to 10<sup>th</sup> October, 2010. All trainees were expected to travel to training venues in time for training and returned immediately for field work. The duration of the training was for 2 weeks and a total of over 242 enumerators and

supervisors were trained. Out of the total there were 190 male and 52 female. The Vanuatu National Statistics Office invited the Provincial Secretaries to officially open and close training and in this way they feel that they are part of it and take ownership of it as well.

As part of the practical training, a community was chosen for practical exercise. This exercise was basically to equip the enumerators and supervisors to actually ask the questions and fill in the questionnaires. After practical they were given a chance to comment on how they felt when they were out in the field. One of the objectives of the practical is to observe how the respondents react to questions and how they respond if whether they understand or not.

Out from this training that a supervisor is chosen based on his/her performance. A two days special training session was held to train them. Their training covered mainly;

1. Go through the supervisor manual.
2. How to use GPS
3. Their role in the field as supervisors
4. What is expected from them

It was important to note that the duration of training of enumerators and supervisors was doubled from five days to ten days.

Following is the list of training sites and number of trainers and enumerators;

Training Venue	Participants	# HH Sample	Cluster size	#EA Selection	# Enumerators.	# Supervisor	Trainers
Luganville	Luganville,	523	10	52	16	8	3
	Santo Rural	614	10	61	27	14	
Saratamata	Penama	613	10	61	24	11	3
Lakatoro	Malekula	635	10	63	22	11	3
Rovo Bay, Epi	Sheperds, Epi, Ambrym						2
Port Vila	Port Vila	646	10	65	22	7	4
	Shefa	617	10	62	21	8	
Sola	Torba	488	10	49	16	6	2
Lenakel	Tafea	601	10	60	27	14	2

## Training Venue

7 sites selected were based on the selection and cost reduction. These sites identified were;

- Torba (Mota Lava)
- Sanma/Luganville (Luganville)
- Penama (Saratamata)
- Malekula (Lakatoro)
- Ambrym, Epi, Tongoa, Emae (Rovo bay)
- Shefa/Port Vila (Port Vila)



➤ Tafea (Lenakel)

Each training sites had at least 2 to 3 trainers and were identified for each training sites with a team leader which were actually the Senior Staff. The purpose of the having 2 to 3 was to increase the quality of data collection which was strongly recommended.

One of the training venues in a particular province has to be relocated in the last minute to a different island in the same province due to the temporary closure of the airport for maintenance. Most of the enumerators and supervisors had to be rebooked.

Most of the training venues had enough spaces, enough tables and chairs to accommodate the enumerator and supervisors except for two training sites where tables were not provided. The participants had to use clipboards to write, otherwise it was overall good.

## **Meals and accommodation**

During the two weeks training enumerators were given daily allowances to cover for their meals. Provincial officers arranged for the village communities to cook the participant's meals, except for Port Vila and Luganville where it was easy to have access to food stalls.

Accommodation was provided for all the participants during the two weeks training and it was advice that the participants should stay together for the training. Enumerators were advice to bring their own beddings as most of the training sites did not have all the facilities.

## **Contracts/Secrecy**

As required by the Vanuatu Statistics Office Act, enumerators and supervisors had to sign contracts. The terms and conditions were stated clear on the contracts and participants had to read them carefully before signing them. MCA also gave contract in the IEA

Apart from the contracts they also signed Secrecy Act which stated that all information collected was confidential. In it, it was stated clear that any disclosure of information by enumerators will be penalized.

## **Field enumeration**

The field enumeration began on the 11<sup>th</sup> October 2010 to 2<sup>nd</sup> week of January 2011. During the first week of enumeration enumerators and supervisors were asked to report on major problem so that the office can deal with as early as possible. Most of them were in their respective areas of work on time before the enumeration, except one or two cases where they arrived two days later due to bad weather and delay of flight.

The Provincial governments were very much involved in providing necessary way or means of support during the field enumeration because they saw the need of the survey and other government departments were also involved in one way or another.

It is recommended that the continuous relationship with the Provincial Governments should be maintained. There were cases where they were involved in solving issues especially refusal. They had to step in the field because they represent the Vanuatu Government.

## **Publicity**

For any survey or census it is a massive exercise so it requires a lot of publicity so that the population of Vanuatu knows exactly what is happening.

Publicity come in all forms and has different target groups. For HIES 2010, a script was provided, recorded and aired throughout the 3 months duration. Apart from these, the most effective way was the supervisors had the role to play in informing communities, churches and leaders in advance to expect enumerators on certain dates. This was regarded as the most convenient, effective and cheapest approach.

As Poster was also an effective way, more 1,000 copies were sent to all provinces for publicity. Primary Approach Letter (PAL) was also introduced to the entire household selected. The letter was signed by the Minister of Finance and Economic Management. The purpose of minister signing the letter is for the community to see that the Vanuatu Government and MCA made huge contribution and the benefit of the survey. The letter is asking basically the support and cooperation by means of providing the most reliable answers to the questions asked will be the most important factor to the success of this HIES, the objective and confidentiality of the survey.

## **Communication and Freight**

### ***Communication***

While mobile coverage throughout Vanuatu is over 80%, enumerators and supervisors were advice to have a mobile phone for easy access to communicate with each other. A refill card worth of 500 Vatu was given to each enumerator and supervisor. Close contact with each one was very important.

Even though refill card were given to most enumerators and supervisors there were still problems with the mobile network coverage in some parts of the country. Some did not even have mobile phone making it harder for the office to get in contact. Some supervisors found it difficult to contact their enumerators.

It is recommended that the enumerators and supervisors must have a cell phone and for those who do not have on but must be in contact with the office regularly or at least provide a TVL land line number close to their area of work on daily updates on progress.

### **Freight**

All materials to the Provinces were shipped by air even though it was costly but quickest way for the materials to reach the enumerators on time. The office made the arrangements with Air Vanuatu for Freight Collect, which meant an advance payment was made for the forms to be sent once completed.

For the 2010 HIES, freight was considered to be most expensive compared to previous surveys. This is because the diary forms for the second and third workload were shipped later due to the delayed in printing. The enumerators had to travel with just enough for the first workload while for the remaining 2 workloads was sent later.

It is recommended all the printing materials be printed in good times and delivered to the enumerators and supervisors so that they travel with them to minimize cost.

### **Field Work Monitoring Strategy**

A key aspect of conducting any survey, census or sample survey, is the effective monitoring of all survey schedules throughout the field work. For a survey such as a HIES, which can often consist of numerous forms, this issue becomes more important.

It was being proposed for the 2010 Vanuatu HIES that the following survey schedules be adopted:

- Household control form
- Expenditure Questionnaire
- Income Questionnaire
- Health, Education and Labour Force Questionnaire
- Diary - Week 1
- Diary – Week 2

With this number of schedules per household, and an expected sample size nearing 4,737 households, it is extremely important to develop an effective strategy to monitor all survey materials. This was even more so the case given the fieldwork took place over the period of over 3 months, for two reasons.

- a) An effective plan was developed to ensure that the monitoring procedures did not taper off throughout the lengthy field work period
- b) With good monitoring of field work materials, any problem identified throughout the process can be quickly rectified, resulting in better procedure being applied as the field work progressed.

Numerous strategies can be applied to assist with monitoring field work practices. For this survey, eight strategies in particular were recommended:

- a) Use of household envelopes to secure all forms for each household, monitor the household progress, and determine the household's final reporting status,
- b) Use of field books for both enumerators and supervisors to assist with daily activities during the field work phase,

- c) Developed a sound plan of attack for the delivery and return of survey schedules,
- d) Use of an excel spreadsheet package to keep track of all selected households and provide summary information of the survey progress each month.
- e) Weekly Report (Form) – Questionnaire Completion at EA level
- f) Weekly Report (Form) – Household Response at Provincial level
- g) Assistant enumerator – purposely to assist household in make sure that their diaries are complet.
- h) First field visits by Trainers in the first week.

The outcome of the monitoring in this survey is much better Compared to the 2006 HIES. Most of the areas where the trainers visited during the first week of enumeration that if they spotted anything errors mistakes in the form then it may be corrected before the enumerators move further away. There were cases where the communities were interested so the elders and chiefs organized special meetings and asked trainers to briefly explain more and importance of the survey. Some individuals even ended up asking the trainers if they be given a diary form to fill. They were interested more in filling the diary to see their daily expenditure.

There may be some other areas where Vanuatu National Statistics Office may have overlooked or did not fully cover in terms of monitoring but may be considered in the future survey to improve the quality of the field monitoring. It is recommended that for the next HIES, the Vanuatu National Statistics Office may consider recruiting people whose job is to check on the diary forms.

## Field operation problems

### *Transport*

It is to be noted that transport is always a major component of any survey undertakings and is also a costly exercise when transporting enumerators and field materials. For two weeks training of enumerators most participants arrived by air and ship.

In Santo rural, few enumerators from the very remote areas arrived one week earlier due to access of transport and communication. For the Penama Province, Pentecost enumerators had to return back to their respective work places three days later due to in availability of flight. In Torba some enumerators had to go back to their respective places two days later due to in availability of field materials.

Transporting of materials to the field was another problem as all of them were shipped by air and sometimes caused delay because some islands don't have frequent flights. Sometimes it took 2 to 3 days before being shipped making it sometimes very difficult for enumerators and supervisor when they ran out of forms. Because we have only one airline operating in the country one of their policy is that all cargoes are shipped only if there is enough. Passengers travelling with their luggage are the priority and cargoes are their second. Even the HIES Project made advance payments for freight still these problems were faced. Another issue was that the enumeration was done during a period leading up to the Christmas festive season. The last remaining months of enumeration November and December is the

time where people are going on holiday especially students and people who work. So the airline is always full making it difficult for the materials to be sent.

It is recommended that the next HIES we may consider the time period of the enumeration so that these problems are not repeated. We may also consider that all materials are ready and shipped in good times to avoid situations like this.

***Enumerator/Supervisor***

There were few cases where two enumerators left to work in another Government department and one a private company and their supervisors had to step in to complete the remaining workloads. Another 3 enumerators left without informing their supervisors and later the office found out that they found it very difficult to do interview especially in urban areas. One supervisor was caught doing extra work with a government department so he was dismissed and the Provincial officer had to step in to do the supervisory role.

It is recommend that when recruiting the enumerators and supervisors the VNSO must make sure to find out from them if they did not make any other applications elsewhere. VNSO must be 100 percent sure that the enumerators and supervisors can last for the whole duration of the field work.

**Data Collection**

Field work was completed on 31 January, 2011. The following table summarizes the Selection of Household based on the Household Summary form that was entered on a separate database. The purpose of the Household Summary form entered was to keep track on the number of forms and EA’s that are coming for cross checking.

*Table 4. Number of household collected through the system*

Selected households	Alternative households	Total households received in the system
3,841	517	4,358

The selected household is based on the household listing provided using the 2009 Population and Housing Census where as the Alternative Household is when a household has moved elsewhere then the enumerator is advice to select another household close by to represent the one which has moved.

The overall response rate achieved based on the Household Summary database are subject to revision as they will also reconcile with the EAs entered during actual data entry. Out of the 4,737 households in the sample 4,358 were collected.

Table 5. Number of Household Collected by Province

Province	Total # of Expected Household	Total # of Household received	% household received
Torba	488	450	92%
Sanma	614	593	97%
Penama	613	610	100%
Malampa	635	585	92%
Shefa	617	539	87%
Tafea	601	526	88%
Luganville	523	491	94%
Port Vila	646	564	87%
<b>Total</b>	<b>4737</b>	<b>4358</b>	<b>92%</b>

The overall response rate was above 92%, with Penama 100% compared to the other provinces which are below 97%. The lowest is Shefa and Port Vila with 87 % each. The enumeration of these two areas was mostly affected by the fact that Vanuatu National Statistics Office took granted that everything was easy in Port Vila and the Shefa rural areas, and concentrated in other Provinces. These two areas always are difficult to enumerate because most of the respondents are working, tired when they returned from work and sometimes refuse to participate.

## Data Processing

Having designed the questionnaire to be scanned, all the forms except for the diaries were scanned. This one approach was undertaken purposely to speed up the process of capturing data into digital format and at the same time maintaining the quality of the data. The diaries were however manually entered into an MS Access database system which was developed in-house. Again, this approach was taken purposely to speed up the data entry process as well as ensuring that manual coding of the items were done correctly. In doing so all items entered have the description displayed for the Data Entry operator to make a second check on the coded item. Further still, the diary forms were not designed to be scanned. The data capture process commenced on February 2011 and ended in April 2011.

The data processing should have commenced in November 2010 after the first workload but unfortunately the forms were not shipped back to the office on time as required. The reason being that the supervisors were checking different forms for 3 workloads; doing continues supervision considering the time required was not possible even though attempts were made to have the forms in the required time. Also that the office needed to recruit data processing operators who have had some knowledge of the questionnaire hence the delay of the data processing.

The Office paid for 3 extra Readsoft Verify licenses and 1 scanning license including the manager's license last year 2010 purposely to speed up the data processing in particular the scanning. Noting the

fast data capture processes, the office did not have the staff working overtime (after official hours) to carry out the data capturing process.

The Office employed 16 coders, scanners, verifiers and data entry operators. A half day training was organized on 17 January especially to go through the coding manuals and procedures to familiarize the data capturing operators know about the system in handling the flow of the forms from provincial officers, into the head office (Port Vila) and through the various Data capturing systems.

A system was put in place to control the flow of forms;

1. An EA check list log book was created to actually keep track on the forms that were coming in and the date they arrived.
2. Each A4 envelope was labeled with Province, Island, EA and enumerator/Supervisor ID and placed on the shelf ready for coding. As soon as the forms came in they were checked then put in this envelope.
3. A MS Access database system was created specifically for the capturing of the Household Summary forms. This process was carried out mainly to keep a record how many questionnaires forms being actually completed and returned, which we then reconcile with the EA's in the sample selection.
4. A log book was placed on the shelf purposely to keep track on the forms moving in and out. This is to keep track where the form is whether taken for coding, scanning, data entry or verify then signed when completed.
5. A form was placed in the data entry room to keep track on the scanning forms and has beginning and the ending date.

## Coding

A coding and editing manual was prepared to assist the Coders process the forms returned from the field in preparation for data entry. It contained the various classifications to be implemented by the coding staff. It also contained some guidelines for data editing and some data quality checks that should be implemented.

The occupation and industry codes were used for coding occupation and industry in the economic section of the person questionnaire form. The commodities classification for expenditure items was used for the classification of detail expenses from the Diary and Household Questionnaire Form.

The International classifications used are;

1. The International Standard Industrial Classification (ISIC 88)
2. The Standard Classification for Occupation (ISCO 88)

Coding of forms began on the 17<sup>th</sup> January. Majority of the coders were in fact enumerators and supervisors who were selected based on their performances in the field. Also, another criteria was based on their past data processing experience particularly in coding, data entry, scanning and verifying.

Even there is improvement in data collection, there are still some major issues in coding and checking the expenditure on Household Questionnaire Form (HQF) was not put back into appropriate part of questionnaire and others not coded. For example the household appliances are included in the household operations. Another issue is the household questionnaire was not coded. One reason is that the layout of the questionnaire did not have enough space to provide for the coding and considering the timing to adjust the questionnaire was another issue. For the diary there is some issue in relation to wrong item codes mixed. Example; home consumption includes store bought and goods given.

It is recommended that for the next HIES the design of the layout of Household Questionnaire Form (HQF) should provide space for coding.

## **Manual Data Entry**

The software used for manual data entry of all household diary forms was a Microsoft Access database system developed in-house. Data entry began on the 1<sup>st</sup> February involving seven data entry operators and over fifteen thousand diaries were entered in three months ending April 2011. Three extra office staff were involved in the Diary Data entry process along the way. Monitoring of the work done by each Data Entry operator is done with the Diary database system.

Quality checks were also done on a weekly basis to ensure no major erroneous information is entered into the system and then each entered diary has correct Geographical Identity.

## **Scanning and Verification**

With the experience that the office (VNSO) went through during the processing of the 2009 Population and Housing Census data using ReadSoft (Optical Character Recognition) software, it was agreed that the same process be used in the 2010 HIES. The ReadSoft software was used purposely for the scanning and verification of all Household Control forms, Household Questionnaire forms and Person forms. Verification was done purposely for re-validation of interpreted hand-written answers from the forms by the OCR System (ReadSoft).

There were three (3) verifiers and 1 scanning person involved in the entire Scanning and Verification process. The whole process took 3 months for scanning and verifying to be completed.

The ReadSoft (OCR) system has its built-in monitoring module which measures the output of each verifier and scanning person. The quality of work done by each verifier was done outside the OCR system after the data were transferred from the ReadSoft System.

## **Input data editing or micro-editing**

### ***Editing prior to data entry***

Initial data editing was done in conjunction with coding. However, the extent of the editing was relatively limited taking into account the urgency of the data processing and limited valid license period of the ReadSoft system. Corrections were made for the errors where interviewers or households had obviously entered data in the wrong field, entered quantity but the value of common items in the diary, used obviously wrong prices for calculating entries etc. Also, where data for only one week's diary was



obtained, that week was used to provide proxy data for the second week as well. There was little correction that is manually imputed for other missing or inconsistent values.

Tremendous time was spent editing the Geographical ID since these were not manually edited during the coding process. However, seeing that the sample size was only 10% of the total number of households in the 2009 census, it was manageable. This should be decided in the future if pre-printing of household reference information or VNSO still assigning codes.

Here is a specific guideline for data editing and in deciding on corrections to be made, these general principles should be observed:

- In making corrections, the data editing staff examined the record where errors were detected and examine the scanned image to rectify the error (NB. This only applies to the scanned forms like the Household Questionnaire forms, Household Control forms and Person forms). In regards the diaries, errors were cross-checked with the actual diary forms.

***RULE: NEVER MAKE A CHANGE TO A RESPONSE WITHOUT REFERRING TO THE QUESTIONNAIRE***

- All pertinent questions in both the individual and household questionnaires must be examined before a decision is made as to the manner in which inconsistent responses will be corrected.

***RULE: ALWAYS REFER TO THE RELEVANT QUESTIONS IN OTHER QUESTIONNAIRES FOR THE HOUSEHOLD***

- Uniform rules must be followed in making decisions to change responses that are inconsistent. Editing decisions that are not covered by the following guidelines should be documented.

***RULE: ALWAYS BE CONSISTENT IN MAKING CHANGES AND DOCUMENT UNUSUAL CIRCUMSTANCES.***

- The editing staff should be careful to make changes only when there is evidence to support the new response. Again the chief rule of data editing must apply:

***RULE: UNDER NO CIRCUMSTANCES SHOULD AN ANSWER BE MADE UP.***

- In correcting inconsistencies, another basic editing rule is to change the fewest possible responses. Only specified changes should be made to responses.

***RULE: ONLY CHANGE THE RESPONSE IF THE CHANGE IS NECESSARY***

- All errors detected at this stage must be corrected in the questionnaire as well as on the screen. Corrections should be made in red pen so that they can be distinguished from those made at the field stage.

***RULE: ALWAYS WRITE A CORRECTION ON THE QUESTIONNAIRE BESIDE THE ORIGINAL RESPONSE.***

- The senior members of the survey staff should be consulted by the editing staff for assistance in resolving difficult problems.

**RULE: ALWAYS SEEKS ADVICE IF YOU DON'T KNOW WHAT THE CORRECT RESPONSE SHOULD BE.**

***Data Quality Checks***

**a. Household Control Form**

- The household identification code is correct
- Person numbers are sequenced in order
- Details for persons in the household have been correctly coded
- Ensure correct age is reported for date of birth
- Persons 15 years+ have marital status. (used ns codes if ns)
- Total persons equals number listed on form

**b. Person Form**

- The household identification code is correct
- Person number correspond person number in HCF
- Check all questions are answered following the sequence in Section 1 – Health
- Check age of all persons age **6 and over** in HCF who are eligible to answer Questions in Section 2 - Education
- Check person number are placed in the right column
- Check all questions are answered
- Check age of all persons age **10 and over** in HCF who are eligible to answer Questions in Section 3 – Economic Activity

**b. Expenditure Questionnaire**

- The household identification code is correct
- Dwelling characteristics are completed (blank if ns)
- Rent amount & period is stated where dwelling is rented
- All sections have been completed where YES is checked
- Codes have been entered for items not pre-coded
- Check education expenditure is stated if children in HH
- Check health expenditure (section 10) is present if stated in health module
- Check domestic travel expenses (sea fare) are stated for HH in outer provinces in sect. 9.
- Check telephone, electricity, water & gas expenses stated for HH with connections and against cooking, lighting & water sources.

**c. Income Questionnaire**

- The household identification code is correct
- Person number should match HCF and be 15 years+ and have YES for income questions
- Persons with own business or sell produce on HCF (codes 3 & 4) is consistent with entries on self-employment and own business.

- Occupation and activity (Industry) codes are provided
- Check total earnings equal gross earnings + in kind payments
- Check net earnings are equal to total gross pay – deductions.
- Check commercial activity code letter is correct for details given
- Check previous person no. is correct on HCF form
- All sections have been completed where YES is checked
- Codes have been entered for items not pre-coded
- Check payments in kind (section 1.2 & 4) for income are stated

**d. Health Questionnaire**

- The household identification code is correct
- The person number matches up with the person number on HCF
- All sections have been completed where YES is checked
- Not stated codes are 9 or 99 except for amounts which are blank

**e. Diary**

- The household identification code is correct
- Both diaries are accounted for and numbered 1 and 2
- Items are recorded for each day where tick is not in circle
- All items in section 2 have quantity, weights and price recorded
- Blank amounts for stated items are estimated from other diaries
- Large expenditure items are also entered on expenditure questionnaire

***Interactive editing while doing data entry/batch editing***

The data input system was programmed to have any interaction edits to check consistency and validity of the data entered. A number of edits have been hard-coded within the Visual Basic for Access environment.

To facilitate handling of forms and the management of data entry operators, data is managed in batches. Each Data Entry operator is assigned a single batch to work with on an instance of time.

It is recommended that MS Access: Use code lists and limit to list option in form design in future. For Scanning, it is still relatively new and lessons learnt include;

- Pre-printing of unique household identifiers
- Need to improve quality control system to eliminate duplicates scanning
- Need to evaluate alternative OCR Software as ReadSoft is very limited and labor intensive in terms of converting the output image files into databases.

## Conclusion

The Vanuatu National Statistics Office is continuing its effort to improve the quality and reliability of its household survey data, and the Household and Income Expenditure Survey is no exception. The introduction of a daily expenditure diary for household members 18 years and over, introducing assistant enumerators to make sure both first and second week is completed considerably reduced non-response. However diary where the response was partial (where a respondent will only complete one week of the two week cycle) was again a problem in 2010 especially for Efate Rural, Port Vila even though assistant enumerator was introduced as to make sure all diaries are completed.

The Office will continue to improve its data processing system with enhanced data checking and quality controls. While ReadSoft is being proved to be fast in processing of data in terms of scanning and verifying at the same time it is still new to the office. For future surveys the Office may consider training the office staff who are currently involve in the data processing to acquire further training to gain knowledge and skills of the current software or may look beyond to maybe introduce other software to accommodate for the current situation.

Finally, the office will continue to do full documentation while editing the remaining data set and anything that was missed out will be included.



**Annex 2. Final Budget**

	HIES 2010 Final budget	Vatu
1	Training	9,216,740
2	Field materials: questionnaires & manuals	8,781,000
3	Field materials: stationery, supplies	1,348,800
4	Field staff wages	17,190,000
5	Field work: Transport	276,000
6	VNSO staff overheads	6,997,795
7	Data processing	1,500,000
8	External Technical Assistance	2,020,000
9	Communications, Freight	3,994,713
10	Misc charges (fees etc)	71,819
11	Equipment	1,104,000
12	Publicity	1,500,000
	Total	<b>54,000,866</b>
13	VANGO contribution	2,011,000
	5% contingency	2,700,043
	<b>GRAND TOTAL</b>	<b>58,711,910</b>