

*Vulnerability and
Poverty Assessment II
2004*

REPUBLIC OF MALDIVES

Summary



Foreword

The Maldives witnessed rapid economic growth over the recent period averaging 8 per cent during the last decade. The country has also achieved many of the MDG targets for social development. However, despite high economic growth and social progress the Maldives continues to face major development challenges such as the vulnerability of the island population and the wide disparities in income and access to social services and infrastructure, particularly between the capital, Male', and the outer atolls.

This is the second Vulnerability and Poverty Assessment study conducted by the Government. The first study was undertaken in 1997/8. The purpose of this study is to assess the progress in poverty reduction over the period 1997-2004. The findings of VPA-2 show that considerable progress has been made in this regard over the past seven years. During this period average household income in Maldives as a whole, increased at an average annual growth rate of over 6 per cent per capita, with 7.7 per cent in Male', and 4.6 per cent in the atolls. Overall, both income and non-income poverty has declined significantly throughout the country.

In recognition of the importance of island-specific information, the study was conducted on all of the country's inhabited islands, and provides the most comprehensive assessment to date, both in terms of geographical coverage and range of development concerns, needs and priorities from the perspective of the people themselves. The assessment presents a Vulnerability Index especially tailored for the Maldives, where large distances exist between remote islands and the nearest economic centre and where vulnerability of the island population is extremely critical to overall development.

Part of VPA-2 is a "panel" survey (same households, with similar questions seven years later). The results collected from the panel households in the VPA-2 with the Vulnerability and Poverty Survey conducted in 1997 enabled the comparison of poverty profiles. This unique analysis provides valuable insights in to poverty dynamics in the country, including those who escaped poverty and others who fell back in to it, or new entrants.

The tsunami of 26 December 2004 was an unexpected blow to the country's economy. It affected the livelihoods of a third of the population and destroyed key infrastructure such as harbours, jetties and roads and social service facilities such as health posts, schools and administrative buildings. Since the tragedy occurred just after the completion of VPA 2, its effects on development are not taken in to account in the present study. A separate Tsunami Impact Assessment study is now underway, based on the sample frame of the VPA study.

The analysis and findings of VPA-2 will be valuable in all development planning exercises including the formulation of the 7th National development Plan and in tracking progress towards the further achievement of MDG goals and targets.

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Summary

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Introduction

The Republic of Maldives has now carried out two Vulnerability and Poverty Assessments. The first (VPA-1) in 1997/98; the second (VPA-2) in 2004. Each was based on a large-scale sample survey of households on all 200 inhabited islands.

The full report for VPA-2 is a substantial volume and is accompanied by a CD-ROM that includes a database of the results. This booklet summarizes some of its main findings.

The VPAs provide a socio-economic snapshot of the situation at the time of each survey. But following the second survey it is now possible to track changes over time; the two surveys had similar coverage and asked, broadly speaking, the same questions so their results can be compared to indicate trends. In addition, because around half the sample for VPA-2 consisted of households that had also participated in the first survey, forming a 'panel', it was possible to track changes in the fortunes of individual households.

Although both VPAs covered 200 islands, this does not mean they can offer results down to the island level. As with any sample survey, there are limits to their statistical validity. Tests on the data have shown that the results can be considered statistically significant for the Maldives as a whole, for the atolls taken together, and for Male'. They also allow for accurate overall comparisons of urban and rural areas. However, for lower levels of analysis – for regions or for atolls – the degree of significance varies considerably from one indicator to another. And at the island level, the number of households sampled usually makes it difficult to arrive at reliable conclusions.

Since the survey for VPA-2 was carried out prior to the tsunami of December 26, 2004, it does not necessarily reflect the current situation. Nevertheless, some of the basic indicators will not have changed greatly. And the survey has already proved its worth in that its results were used extensively in the response to the tsunami, both for the situation assessment and for emergency planning. The following sections summarize the results for the main dimensions of poverty and vulnerability.

Incomes and Poverty

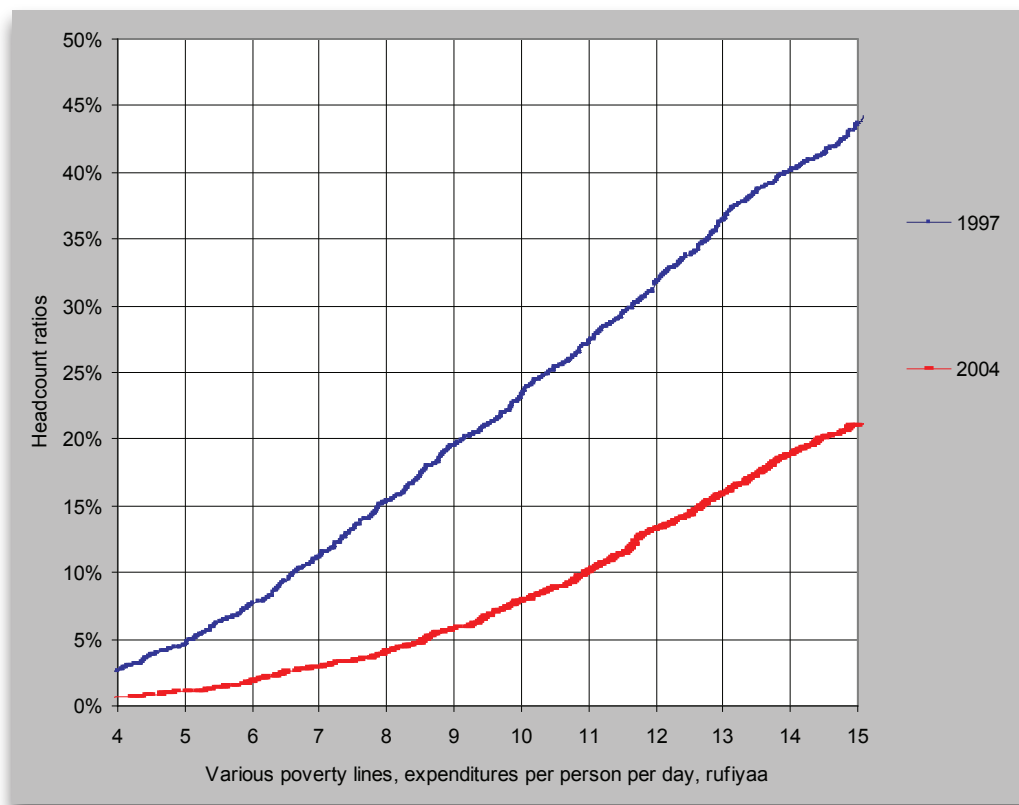
Over the period 1997-2004 the Maldives has made considerable progress in increasing incomes. This is shown in Table 1 which divides the population into ten equal parts (deciles) from poorest to richest. Because of the difficulties in measuring incomes, especially for people working in informal occupations, incomes are assumed to be the same as expenditures. This table shows that between the two surveys per capita income increased for every decile. For the poorer deciles of the atoll population the increase was about 50 percent while the incomes of the poorer deciles in Male' almost doubled.

Table 1 – Expenditure in the Maldives, in Male' and the atolls, by decile, in rufiyaa per person per day, 1997 and 2004

	Maldives		Male'		Atolls	
	1997	2004	1997	2004	1997	2004
Poorest 10%	5	8	8	16	4	7
Decile 2	8	13	13	24	7	11
Decile 3	10	16	17	30	9	14
Decile 4	13	20	20	37	11	17
Decile 5	15	23	24	44	13	19
Decile 6	18	28	28	53	16	22
Decile 7	23	34	34	62	19	26
Decile 8	28	44	41	74	23	31
Decile 9	38	59	55	91	31	39
Richest 10%	74	106	105	136	59	73
Average	23	35	34	57	19	26

As incomes in every decile have increased there has also been a reduction in income poverty. The indicator commonly used to measure poverty is the headcount ratio – the proportion of the population with income below a certain poverty line. However, the choice of a poverty line can be arbitrary and subjective, and moving the line only slightly can significantly change the poverty incidence. Therefore, instead of searching for a single poverty line for the Maldives, this report takes an approach based on the theory of 'poverty dominance' which gives a much more detailed picture by showing what proportion of the population falls below a spectrum of possible poverty lines.

Figure 1 - Headcount ratios for all reasonable poverty lines, Maldives, 1997 and 2004



This is illustrated here for income poverty in Figure 1. The horizontal axis shows a range of possible poverty lines from 4 to 15 rufiyaa per person per day; the left axis shows the percentage of the population below each of these income levels. Thus, in 1997 (the blue line) the proportion of the population with less than Rf. 10 per person per day was a little more than 20 percent, whereas in 2004 (the red line) it had come down to slightly less than 10 percent. Similarly, in 1997 the proportion of the population having less than Rf. 15 per person per day was around 45 percent, while by 2004 it had come down to around 20 percent.

Table 2 shows some of the data for this figure, but it also includes headcount ratios for Male' and the atolls. Thus, even at a poverty line of Rf. 15 per day only 3% of the population in Male' are classified as poor. This table also shows for four poverty lines the equivalent in purchasing power parity (PPP) dollars – US dollars adjusted for differences in purchasing power between different countries. The international poverty line for developing countries, and the one used for assessing progress towards the Millennium Development Goals (MDGs), is \$1 PPP per day. On this basis in 2004, less than 1% of the population, around 2,000 people, lived in poverty.

Table 2 -- Headcount ratios for various poverty lines, Maldives, Male' and the atolls, 1997 and 2004.

Poverty Line		Maldives		Male'		Atolls	
Rufiyaa	PPPS	1997	2004	1997	2004	1997	2004
4.34	1	3%	1%	1%	0%	4%	1%
7.5	1.7	13%	3%	5%	0%	16%	5%
10	2.3	23%	8%	8%	0%	28%	11%
15	3.5	44%	21%	19%	3%	52%	28%

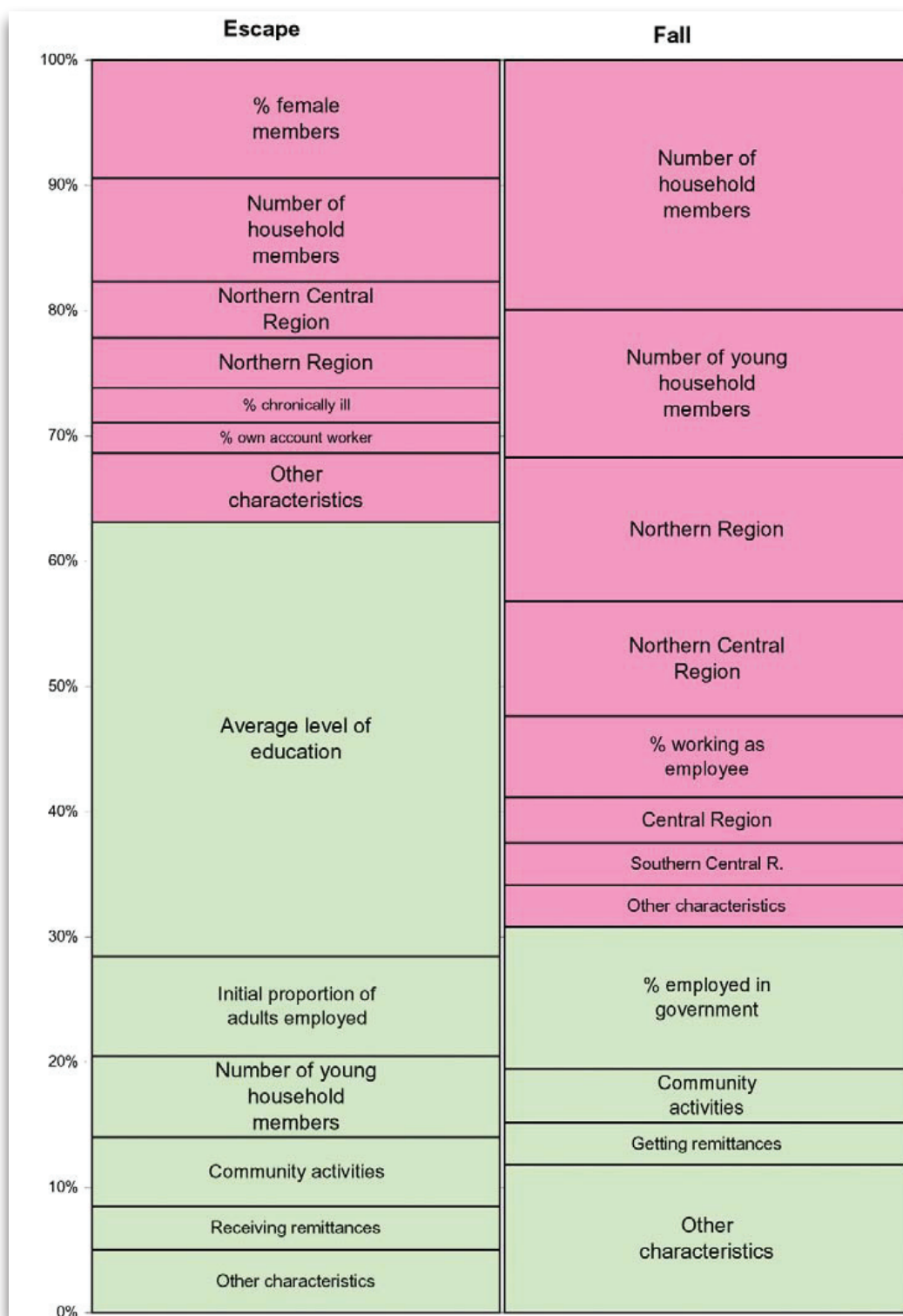
A further measure of income poverty is the poverty gap ratio, which indicates not only how many people are poor, but also how poor they are – by how much their incomes fall below the poverty line. Here too there have been considerable improvements in all regions of the country. However, for both income poverty and the poverty gap ratio, it is clear that some parts of the country perform better than others. Income levels tend to rise, and poverty lines tend to fall, when travelling from north to south.

The survey also presents a profile of poor households. Compared with the non-poor ones, they live in larger households. They are also likely to have a higher proportion of people with bad health, and a larger share of women – and household members are likely to have less education. They are also more likely to be poor if they are female headed. The poorest households tend to be those in which fewer household members are employed and which do not receive remittances from family members working in resorts or in Male'. The probability of belonging to the poorest households is higher when engaged in agriculture, fishing and local manufacturing and lower when working in tourism, trade and transport, or government. The poor households also participated less in voluntary community activities than the non-poor. As might be expected, they also made fewer investments. And there are fewer poor households in the South region than elsewhere.

VPA-2 also confirmed that the poor are not a static group. The analysis of the panel households – those interviewed in both 1997 and 2004 – showed that in the intervening period the majority of the poor on the islands had escaped poverty. Nevertheless over the same period a considerable proportion of the non-poor had fallen into poverty: of the people classified as poor in 2004, using a Rf. 10 poverty line, two-thirds had been above the line in 1997; using a Rf. 15 line, the proportion was around one-third.

VPA-2 was also able to analyse the household panel data to determine the most important factors affecting whether people escaped from, or fell into, poverty. These are illustrated in Figure 2. This indicates that the most important determinant of escaping from poverty is the level of education. In the case of falling into poverty, among the most important factors were having a large number of household members – and particularly young ones. Regional factors were also important; people were more likely to fall into poverty if they lived in the North or North Central regions.

Figure 2 -- Factors affecting escaping from, and falling into, poverty



Disparities & Inequalities

Compared with neighbouring countries, income distribution in the Maldives is relatively unequal. And over the period 1997-2004 there has been a significant increase in inequality between Male' and the atolls. However there have been some declines in inequality – within Male', within the atolls and within the regions.

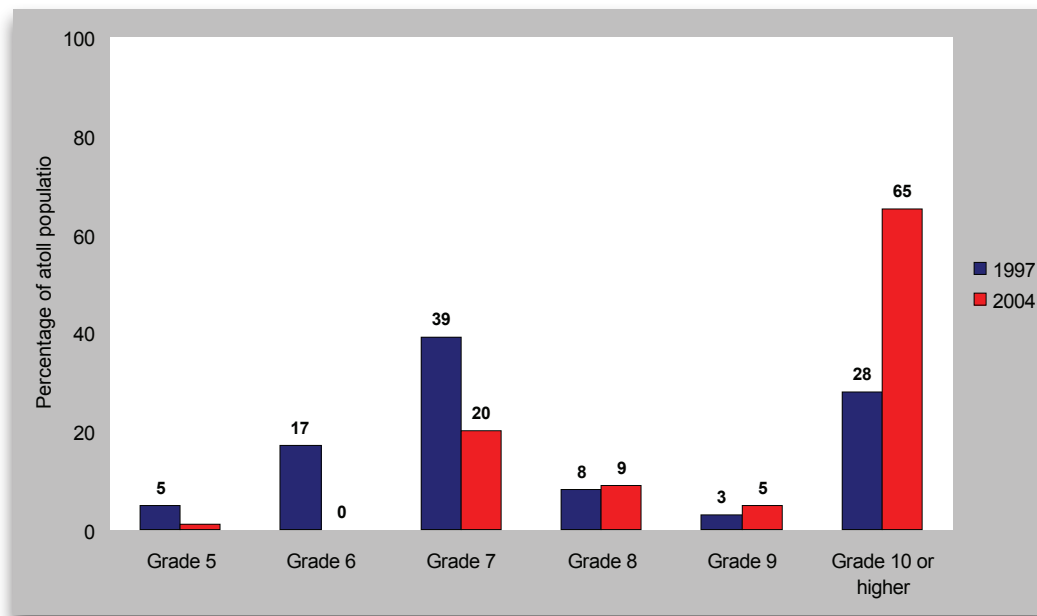
Inequality is measured using the Gini-coefficient which varies from 0 (absolute equality) to 1 (one person owns everything). Within Male', income inequalities have declined significantly: between 1997 and 2004, the Gini coefficient came down from 0.39 to 0.33. They have also come down within the atoll population, with a reduction from 0.40 to 0.36. However, over the same period there was an increase in inequality between Male' and the atolls – with the Gini rising from 0.12 to 0.18. And the average (median) per capita household income in Male' was 2.3 times the average atoll income in 2004, up from 1.7 times in 1997. As a result of these two opposing effects, overall income inequality in the Maldives has remained about the same – with a Gini coefficient of 0.41. This level is similar to those in a number of other countries, for example, 0.41 in the USA, and 0.43 in Singapore, but notably higher than those in neighbouring countries: 0.34 in Sri Lanka and 0.33 in India.

What effect will these inequalities have on migration from the islands to Male'? This is difficult to predict. The fact that the island population is now better off might reduce their need to migrate; on the other hand, rising inequality might act as an incentive, and the higher incomes could enable people to finance their migration.

Education

Educational services in the atolls showed substantial improvements. Between 1997 and 2004 the proportion of the atoll population living on islands with schooling available up to grade 10 increased from around one-quarter to two-thirds (Figure 3).

Figure 3 – Highest school grade in the atolls (percentage of atoll population)

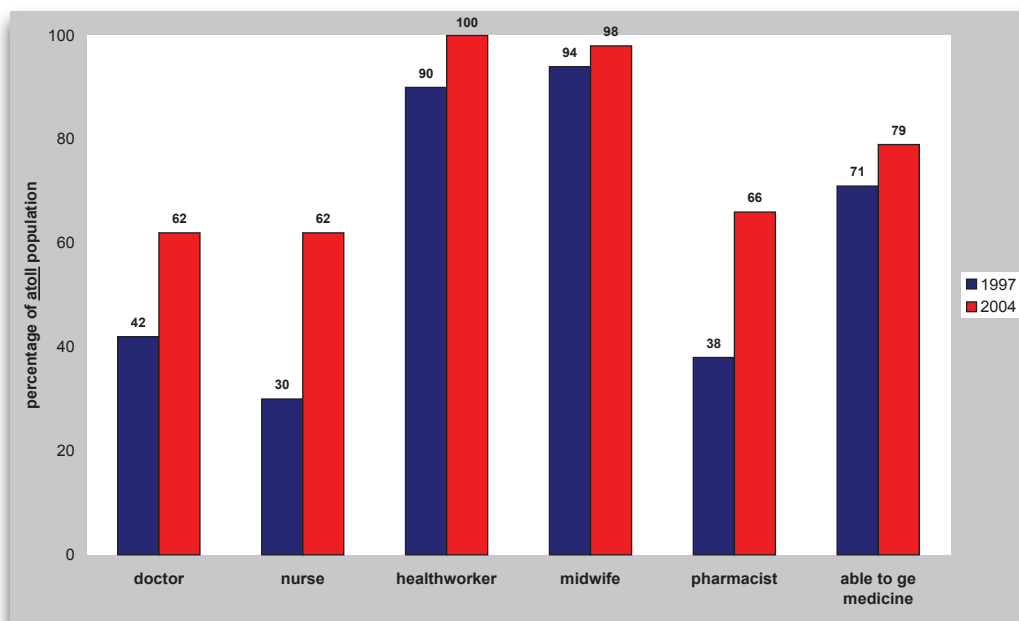


And nowadays only 20 percent of the atoll population are living on islands that do not offer education up to grade 7. The survey looked at the availability of libraries, drinking water and toilet facilities in the island schools, as well as at the numbers of qualified teachers and nurseries, all of which have improved. The major concern now is not about the quantity of education but its quality.

Health

The atolls have also seen significant improvements in health. Many more islands now have clinics and health centres, and medical staff are being stationed further afield. Figure 4 shows, for example, that between 1997 and 2004 the proportion of the atoll population that had ready access to a doctor rose from 42 to 62 percent.

Figure 4 -- Health personnel on the atolls



Nonetheless, many of the smaller island communities still have significant problems. Typically they only have one health person, who is not usually replaced during periods of absence. Moreover, one-fifth of the island population cannot always obtain medicines when required – not primarily because of a lack of drugs but because there is no-one to prescribe them.

Better health services have contributed to rising health standards. Between 1997 and 2004, life expectancy at birth increased from 62 to 68 years. Improvements in the atolls were of the same order of magnitude – and in Male’ life expectancy currently stands at 70 years.

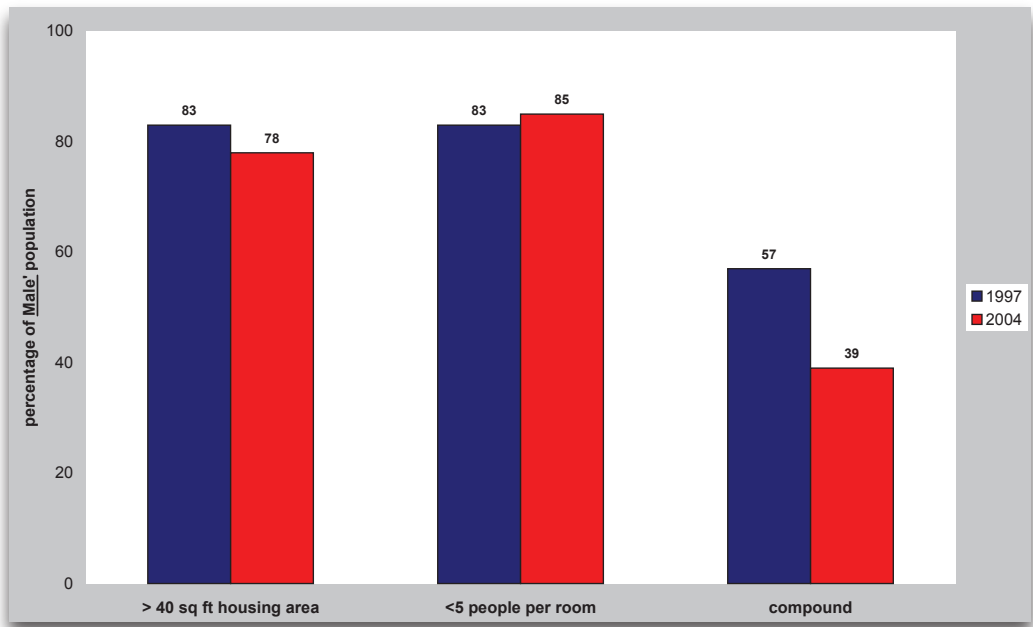
Much of this improvement is due to a reduction in infant mortality. Because there are conflicting data from different sources on infant mortality rates, the report attempts to reconcile these to come up with plausible estimates. It concludes that between 1997 and 2004 the overall infant mortality rate came down from 62 to 37 deaths per thousand live births. Moreover, the difference between Male’ and the atolls decreased, with the rate for the atolls coming down from 69 to 42.

Most deaths now take place within the first week after birth. Further improvements will thus be difficult to achieve, since preventing these deaths will require more advanced facilities, such as intensive

Housing & Urbanization

The Maldives is facing rapid urbanization. During the period 1997-2004, the proportion of the population living in Male' increased from 25 to 30 percent, and Male', with around 500 persons per hectare, is becoming overcrowded. Figure 5 shows that between 1997 and 2004 the proportion of people in Male' living in houses with 40 square feet or less of housing area per person increased from 17 to 22 percent. Over the same period, the percentage of houses with a compound decreased from 57 to 39 percent. Hopefully, the newly developed island of Hulhumale' will in the future provide some relief.

Figure 5 - Household characteristics in Male', 1997 and 2004

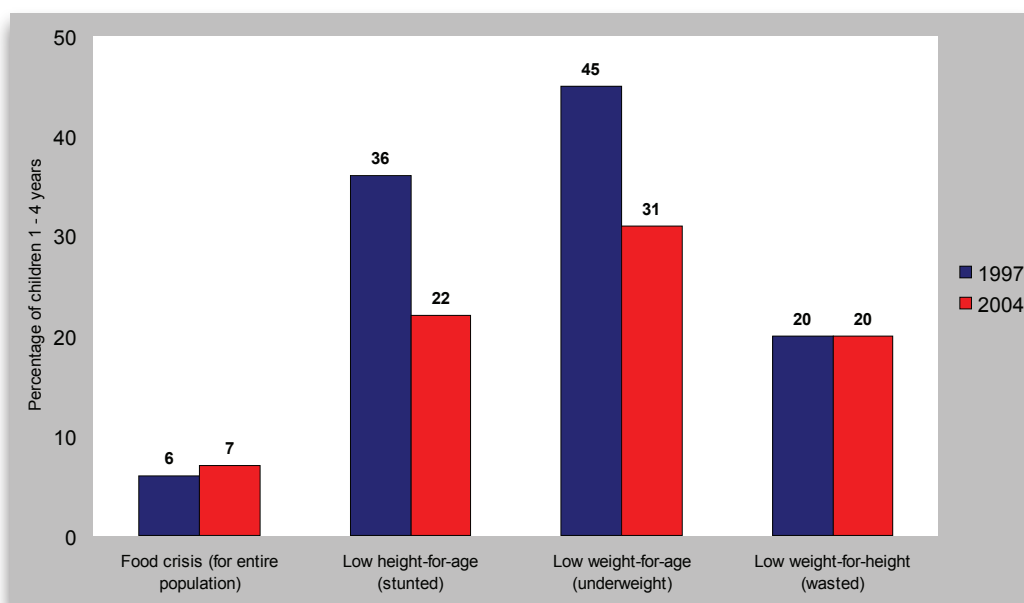


On the other hand, the housing situation on the islands has improved: scarcely anyone now lives in a house with thatched walls or a sand floor.

Food Security & Nutrition

There have been few changes in food security. In the atolls, around seven percent of the population report some problems, though these generally reflect a shortage of money rather than a lack of supply (Figure 6). In Malé the situation seems to have deteriorated somewhat, but again due to the shortage of funds to purchase food. Many households reported more frequent shortages, but on average these did not last as long.

Figure 6 -- Incidence of food crises and malnutrition



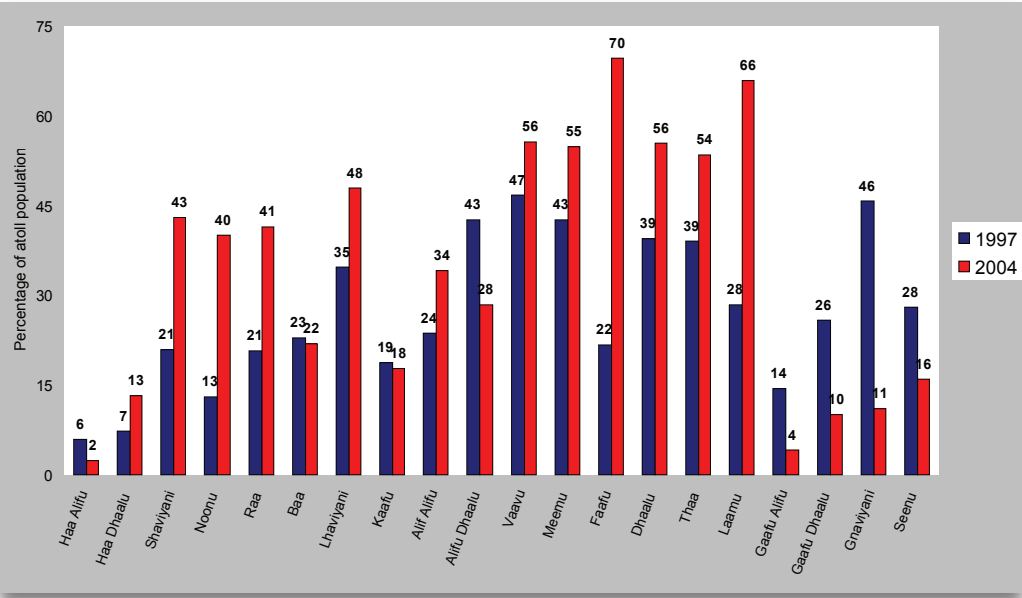
The picture for malnutrition has improved – though this remains a serious problem. Between 1997 and 2004, the proportion of under-five children who were stunted came down from 36 to 22 percent, though the proportion wasted remained the same at around 20 percent. Most of the improvements have been in the atolls; the situation in Malé remains unchanged. Another encouraging sign is that previous differences in the atolls in the nutritional status of boys and girls now seem to have disappeared.

Physical Infrastructure

The physical infrastructure on the islands has continued to improve at a fast pace. In 1997 on two-thirds of the islands electricity supply was limited to less than six hours per day; now a 24- hour electricity supply is available to nearly all islands.

Population growth has, however, put pressure on water supplies. Many households have installed rainwater collection systems, nevertheless a large proportion of the island population still report insufficient supplies (Figure 7). Most people in the atolls report the use of untreated, and potentially unsafe, water for drinking.

Figure 7 -- Water shortages reported in the previous year, by atoll, 1997 and 2004

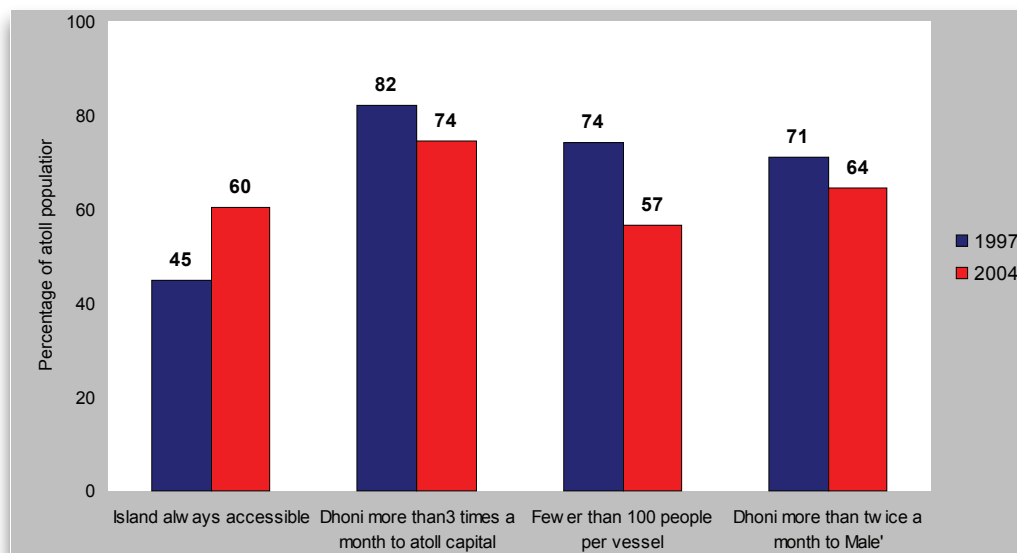


Transport & Communications

Access to the islands has improved. Following the construction of new harbours and jetties, two-thirds of the island population now live on islands that are always accessible.

On the other hand, the frequency of *dhonis* from islands to the atoll capitals and Male' has been reduced: in some cases there are only a few sailings per month, though often in larger boats (Figure 8). However, the reduction in the frequency of *dhonis* may be a result of falling demand since people can now get more health and other services locally. There are also other travel options, including safari vessels, speed boats (launches), sea planes and regular aeroplanes – though these are beyond the resources of the poor.

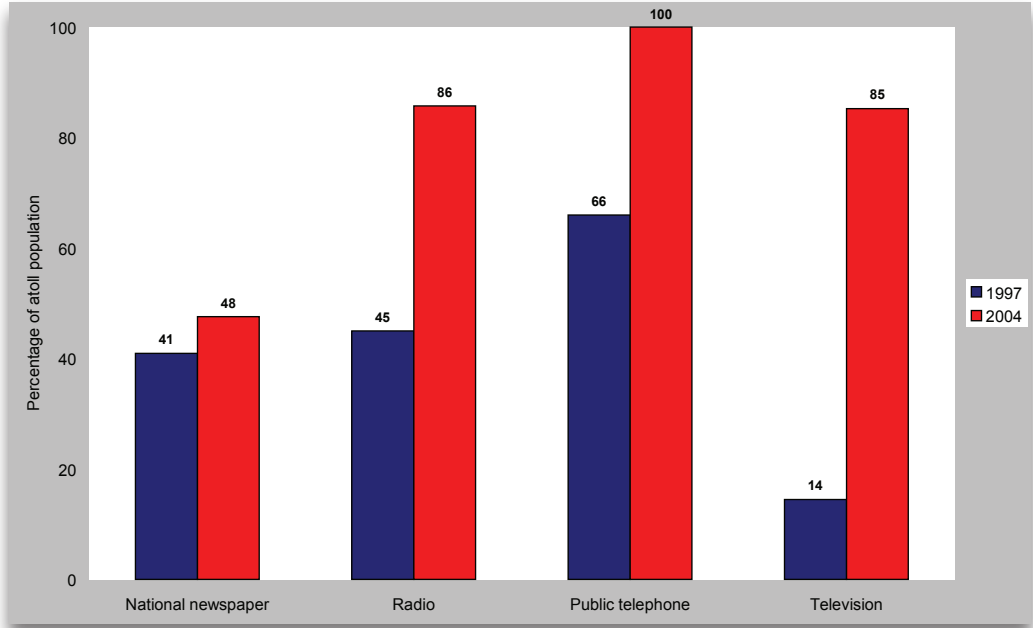
Figure 8 -- Accessibility of islands, and frequency of *dhonis*



Huge progress has been made in communication opportunities. Work on the national telephone system was already underway during the previous VPA, and since then, the system has been completed. Each island has at least one public telephone and there is now a mobile phone network. A second mobile phone operator is presently developing a network for launch in 2005.

As Figure 9 shows, between 1997 and 2004 the proportion of the island population with a TV set rose from 14 to 85 percent – a result partly of the improvement in electricity supplies and the introduction of cable and satellite TV. There has also been an increase in the ownership of other consumer durables.

Figure 9 -- Communications indicators at atoll level



Employment

Employment is the one dimension where the overall situation has deteriorated. The Maldives is finding it increasingly difficult to generate sufficient jobs. Labour force participation rates have increased but there are rising problems of unemployment, particularly among the youth both in Male' and in the atolls.

The VPA-2 considers a person to be unemployed if he or she is not studying and is unable to find suitable work, but willing to work and available to do so at short notice. On this basis the proportion of people unemployed increased between 1997 and 2004 from 10 to 14 percent.

Unemployment is one of the main causes of poverty. The poorest households tend to be those in which fewer members are employed and which do not receive remittances from family members working in resorts or in Male'. The probability of belonging to the poorest households is higher when employed in agriculture, fishing and local manufacturing and lower when working in tourism, trade and transport, or government.

One of the most worrying aspects of the current employment situation is the level of youth unemployment. Figure 10 for Male' and Figure 11 for the atolls show the increasing extent of the problem. The situation is acute in Male': the percentage of unemployed young adults has more than doubled during 1997 and 2004. Given the increasing labour force participation rates and a larger urban population, an even much larger number of about five thousand young adults is now out of work and no longer in school. But the problem is even worse in the atolls: almost half of young women and a quarter of young men, are without work.

Figure 10 – Male, unemployment by age group and sex, 1997 and 2004

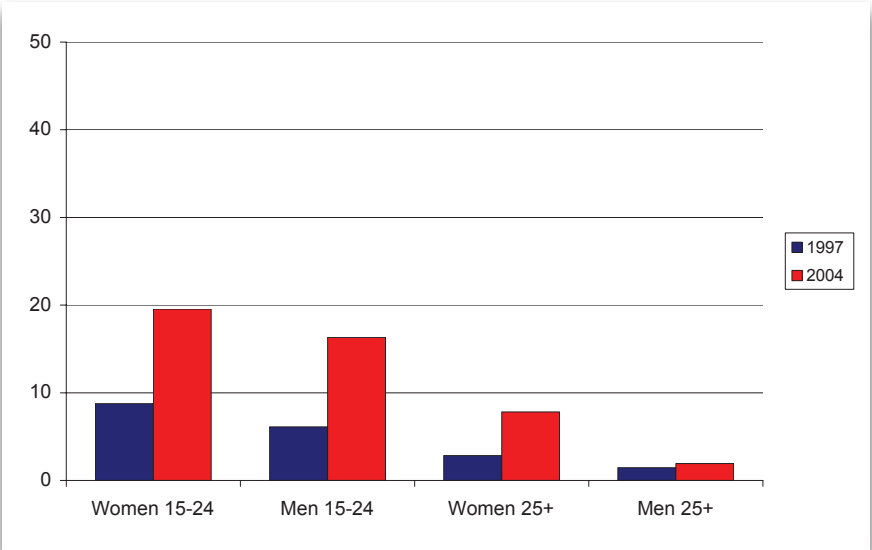
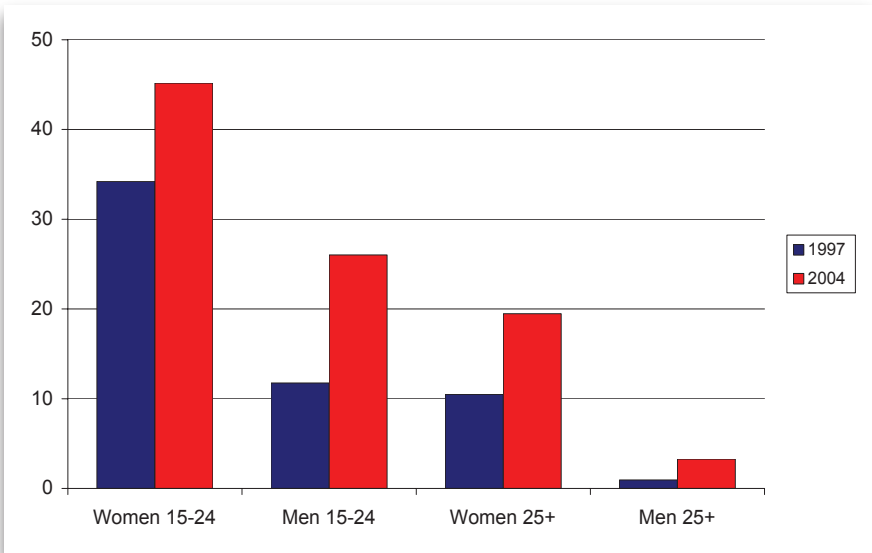


Figure 11 – Atolls, unemployment by age group and sex, 1997 and 2004



Gender

The situation of women in Maldives continues to improve. They have achieved parity in both primary and secondary education, and almost all are literate in the Dhivehi language. Women and girls still lag somewhat when it comes to using English, but here too they are making rapid progress.

There has also been progress in nutrition. Girls used to have poorer nutrition than boys; now they have the same levels. However, since about one child in five is stunted and around one in three is underweight the situation for both sexes is still far from ideal.

Close to half of households in 2004 were headed by a woman, about half of them because the husband was working in a resort, in Male', or at sea. For one-sixth of household, however, the cause was divorce or death. Overall, female-headed households are likely to be poorer: one-third of female-headed households were below the Rf.15 income line, while for those with a male head the proportion was one-quarter.

As well as considering the different statuses of men and women the survey also asked both sexes – all heads of households and their spouses – to select the five most pressing problems from a list of twelve, and rank them in order of priority. The results of these rankings are presented in Table 3. Remarkably, the priorities of men and women are nearly identical.

One major change, for both sexes, is that between 1997 and 2004 electricity slipped from fourth position to eighth – presumably because after the first survey many islands had received electricity. Another and perhaps more surprising change is the rise of environment as an issue: bottom of the list in 1997, but rising to sixth in 2004, and this, it may be noted, was before the tsunami.

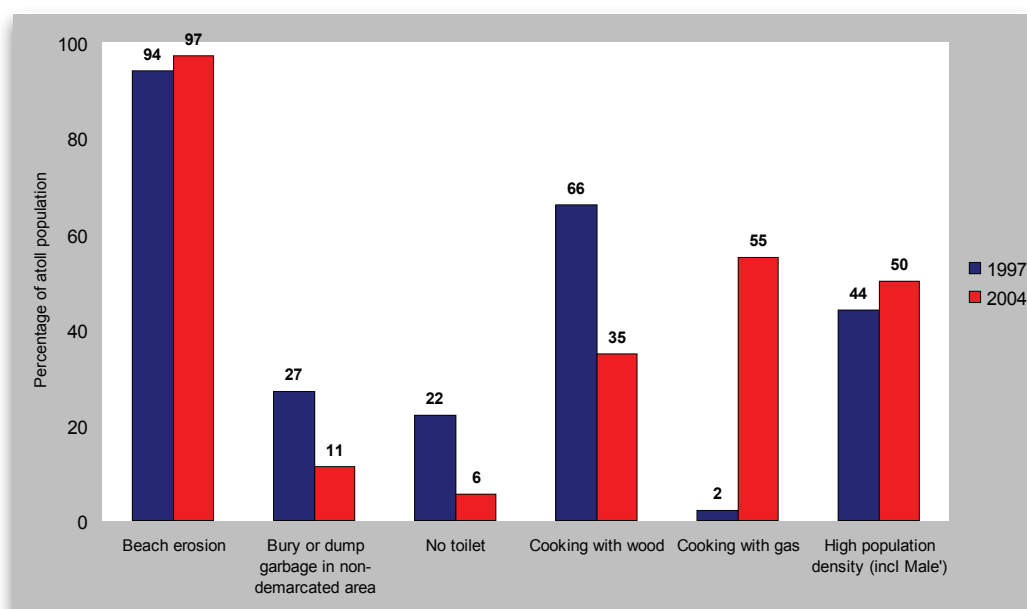
Table 3 -- Female and male priority rankings, 1997 and 2004

	1997		2004	
	Females	Males	Females	Males
Education	1	1	1	1
Health	2	2	2	2
Housing	3	3	3	3
Employment	6	6	4	4
Income	5	5	5	5
Environment	12	12	7	6
Drinking water	7	7	6	7
Transport	8	8	9	8
Electricity	4	4	8	9
Communication	10	10	11	10
Consumer goods	11	11	12	12

Environment

Although more people now regard the state of the environment as a pressing problem, there have been some environmental improvements. Many more people have, for example, switched to bottled gas for cooking, rather than using firewood (Figure 12). People are also disposing of garbage in a more orderly way and many more households now have toilets: the proportion of households without toilet facilities fell from one in five to about one in 20.

Figure 12 -- Major environmental issues in the atolls



Of the main environmental problems, some are natural, including beach erosion, which affects almost all islands; others are man-made and are related to a rise in atoll populations.

Human Vulnerability Index

For many dimensions of poverty and vulnerability, such as poverty, education, health or environmental sustainability, VPA-2 has combined various indicators to create a corresponding index. Finally, it combines all these indices into a composite 'human vulnerability index' (HVI). An important characteristic of this index is that the weightings applied to each of its component indices reflect the priorities expressed by respondents to the survey.

Table 4 -- Human vulnerability index

Atoll name	Composite HVI 2004 – Female Priority Weights	Composite HVI 2004 – Male Priority Weights
Maldives	2.77	2.78
Male'	2.05	2.09
Atoll average	3.07	3.07
Haa Alifu Atoll	3.04	3.06
Haa Dhaalu Atoll	2.90	2.91
Shaviyani Atoll	3.63	3.63
Noonu Atoll	3.33	3.33
Raa Atoll	3.75	3.75
Baa Atoll	3.14	3.15
Lhaviyani Atoll	2.97	2.99
Kaafu Atoll	2.98	2.98
Alif Alifu Atoll	3.32	3.30
Alifu Dhaalu Atoll	3.26	3.25
Vaavu Atoll	3.02	2.97
Meemu Atoll	3.02	3.01
Faafu Atoll	3.28	3.25
Dhaalu Atoll	3.37	3.35
Thaa Atoll	3.05	3.04
Laamu Atoll	3.37	3.35
Gaafu Alifu Atoll	3.22	3.22
Gaafu Dhaalu Atoll	2.64	2.63
Gnaviyani Atoll	1.46	1.48
Seenu Atoll	2.13	2.14

Between 1997 and 2004, the overall HVI in the atolls fell from 4.6 to 3.1, an improvement of some 30 percent. In the atolls, this corresponded to major improvements in physical and social infrastructure, such as electricity supply, communications, health and education. In Male', however, the increase in crowding caused the index to deteriorate by around 15 percent, from 1.8 to 2.1.

Since the priorities were gathered separately from men and women it is possible to present two composite HVIs, though since their priorities are similar there is not much difference between them. These are shown in Table 4. This shows poverty and vulnerability to be one-third lower in Male' than in the atolls and also that there are significant variations among the atolls: the HVI is lowest and thereby showing the best performance in Gnaviyani, and highest in Raa.

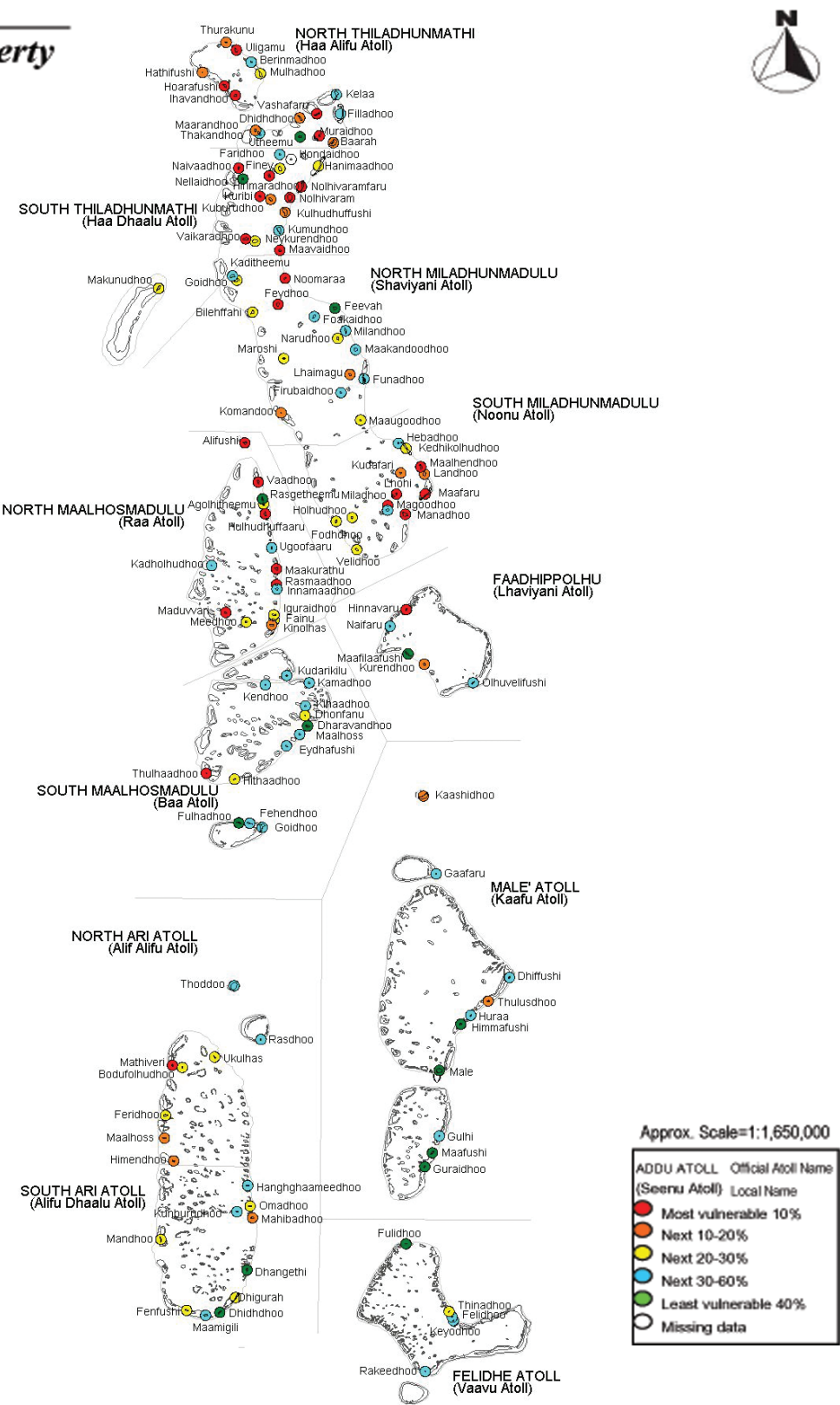
A valuable source of data

VPA-2 has already proved its worth in helping to analyse the impact of the tsunami: because it presented a comprehensive status report on a wide variety of socio-economic characteristics only a few months before the catastrophe, it was valuable in the immediate aftermath and its data set was used extensively by the Disaster Management Centre.

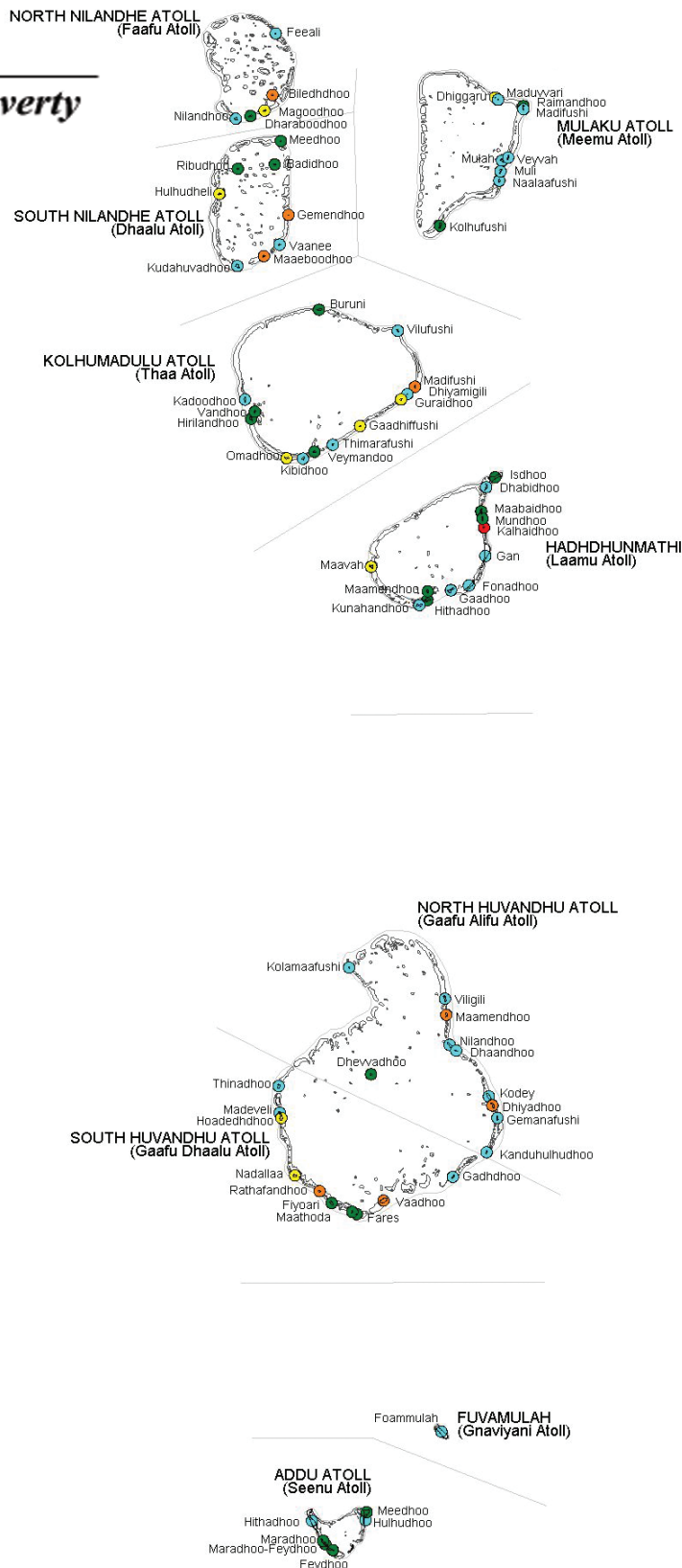
The full report also presents a detailed analysis that can be used as the basis for long-term planning – particularly its insights into poverty dynamics which show the importance of not just enabling the poorest to escape from poverty but also helping other vulnerable households avoid falling into poverty. In addition the report and its data set offer a wealth of information that can be used for many other types of analysis in the future.

Atlas of Vulnerability and Poverty in Maldives

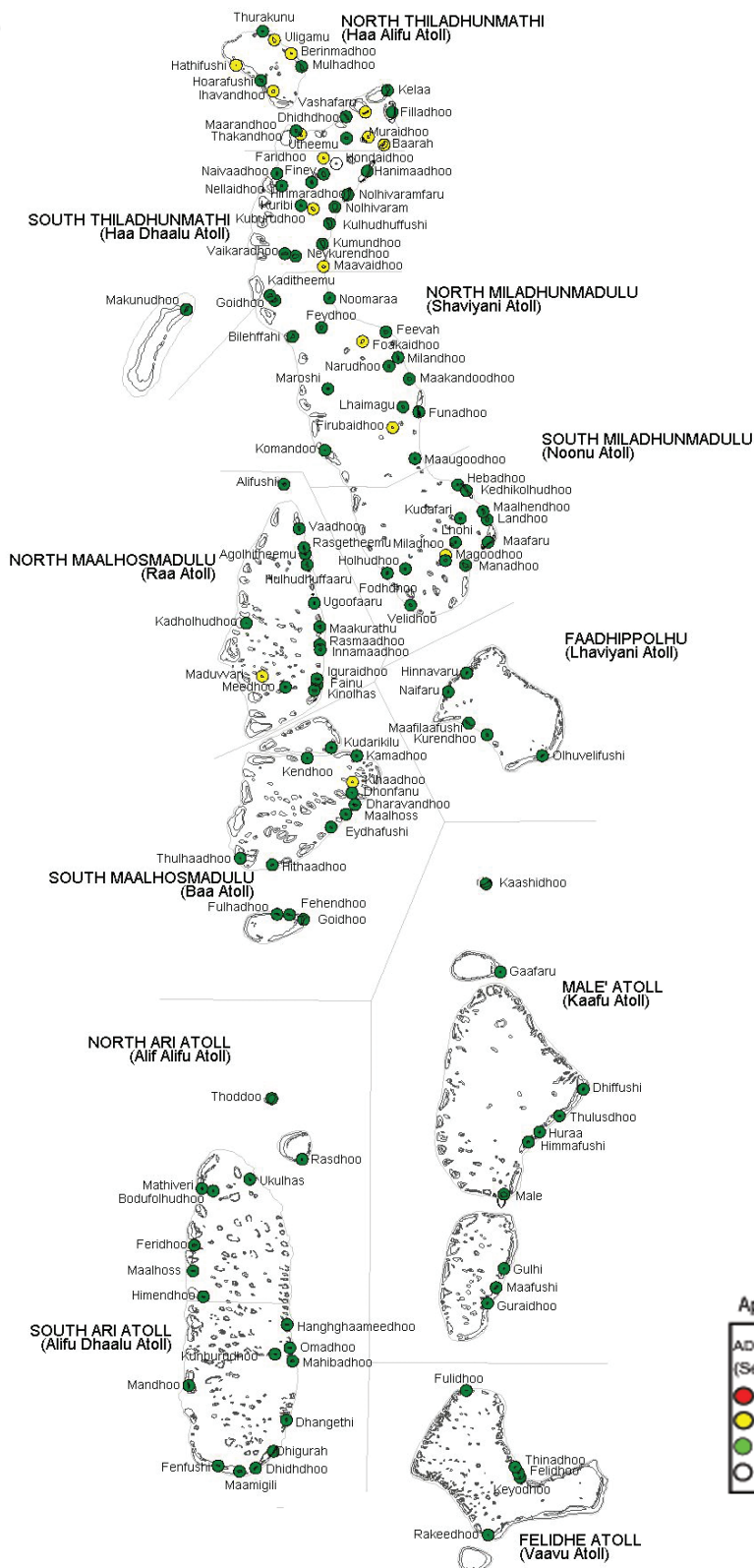
Map 1 (North)
Income Poverty



Map 1 (South)

Income Poverty

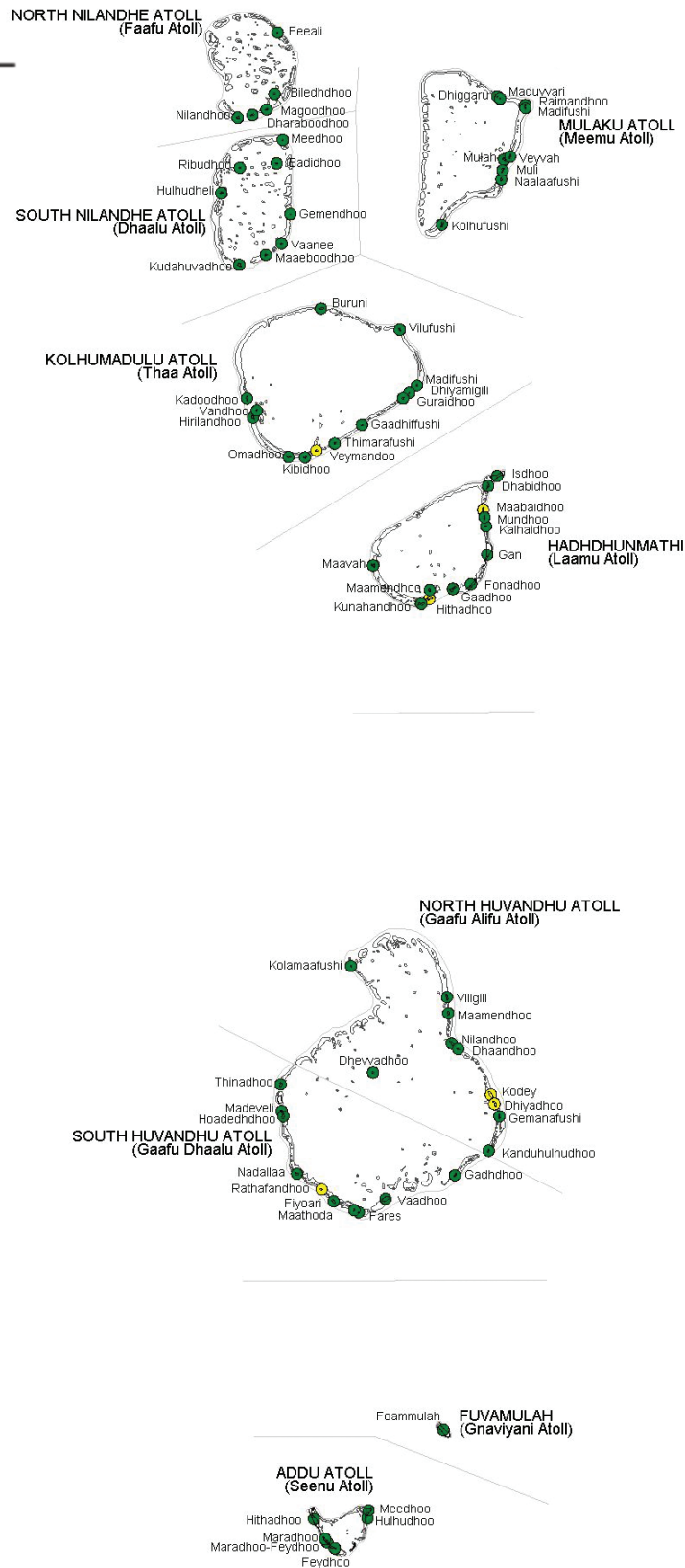
Map 2 (North)
Electricity



Approx. Scale=1:1,650,000

ADDU ATOLL Official Atoll Name
 (Seenu Atoll) Local Name
 ● Difficult (index=1)
 ● Others
 ● Fine (index≤0.05)
 ○ Missing data

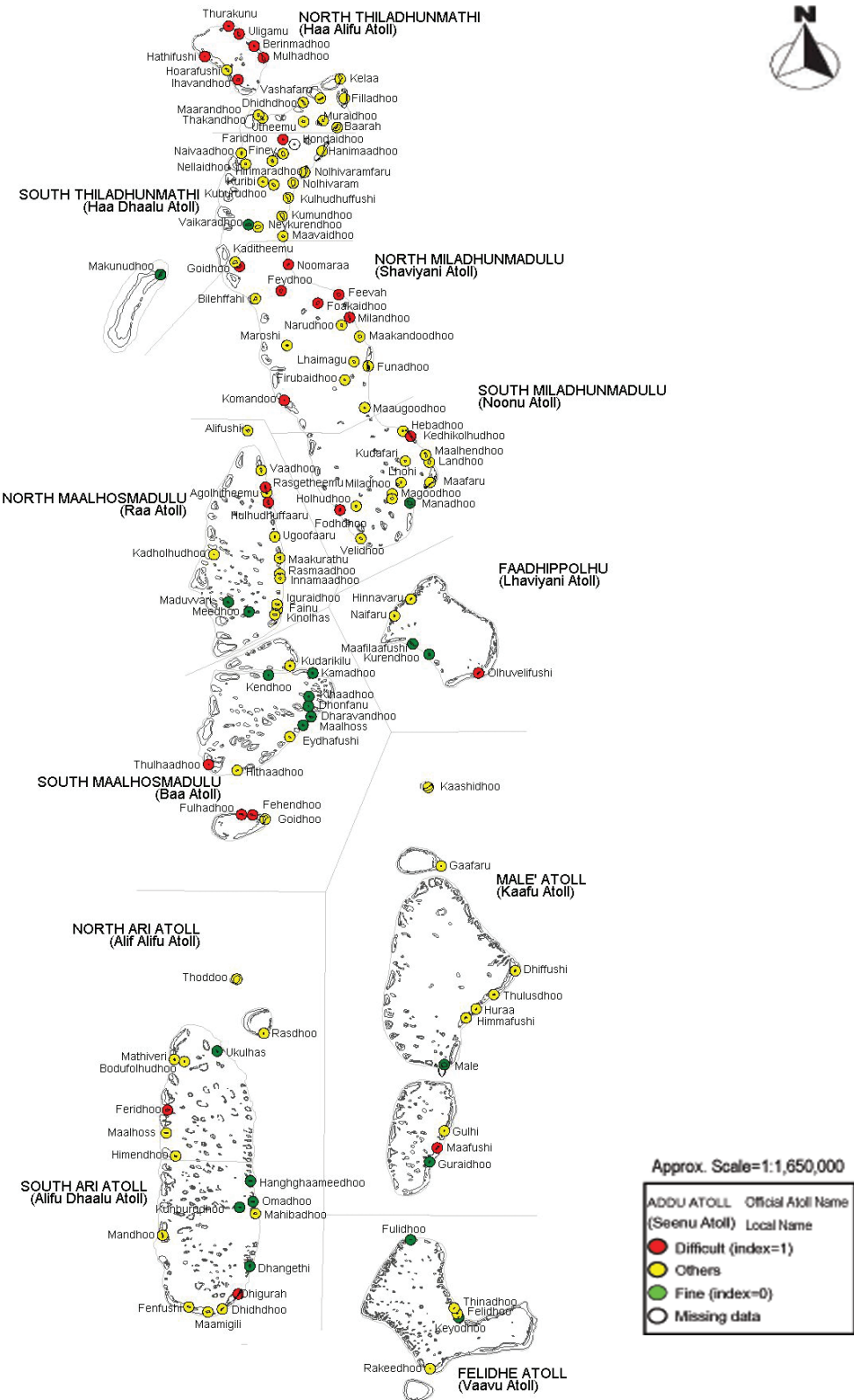
Map 2 (South)
Electricity



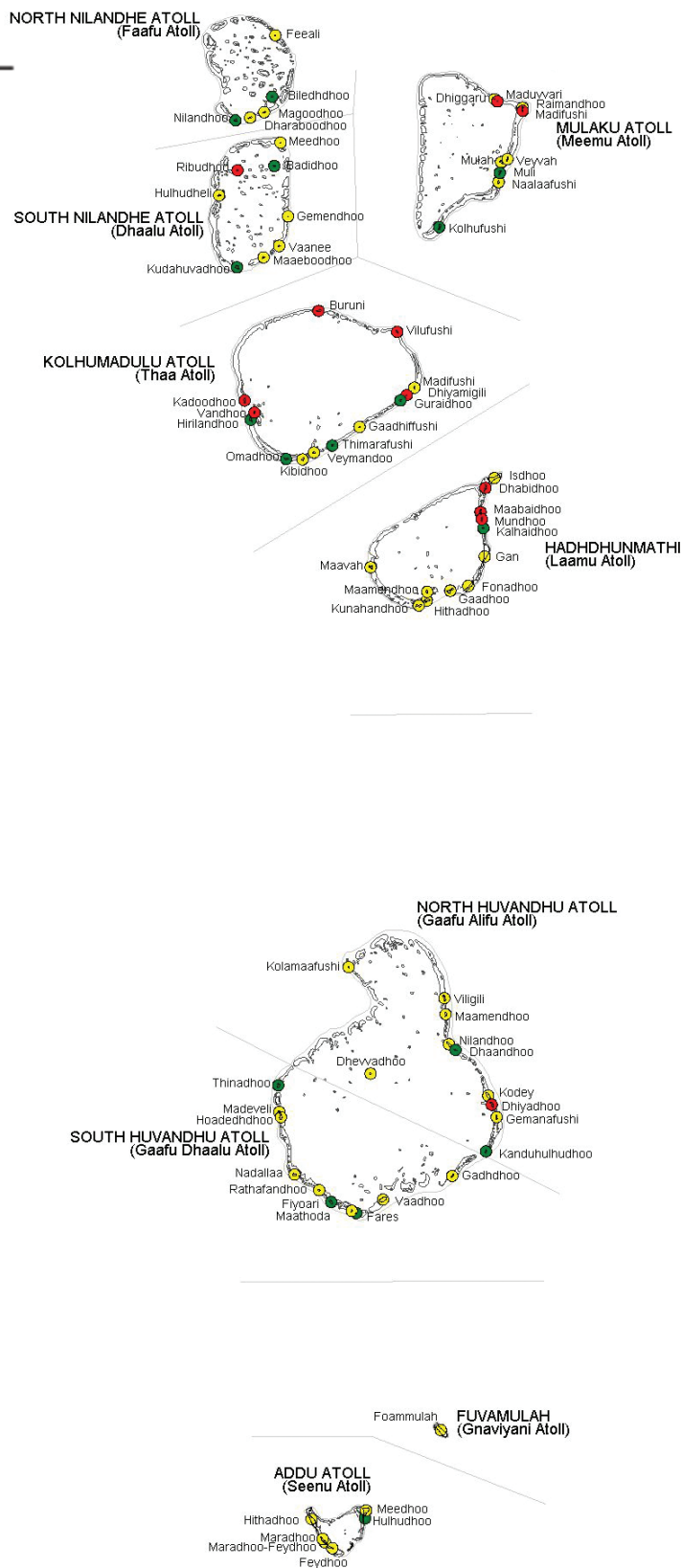
Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index<=0.05)
○	Missing data

Map 3 (North)
Transport



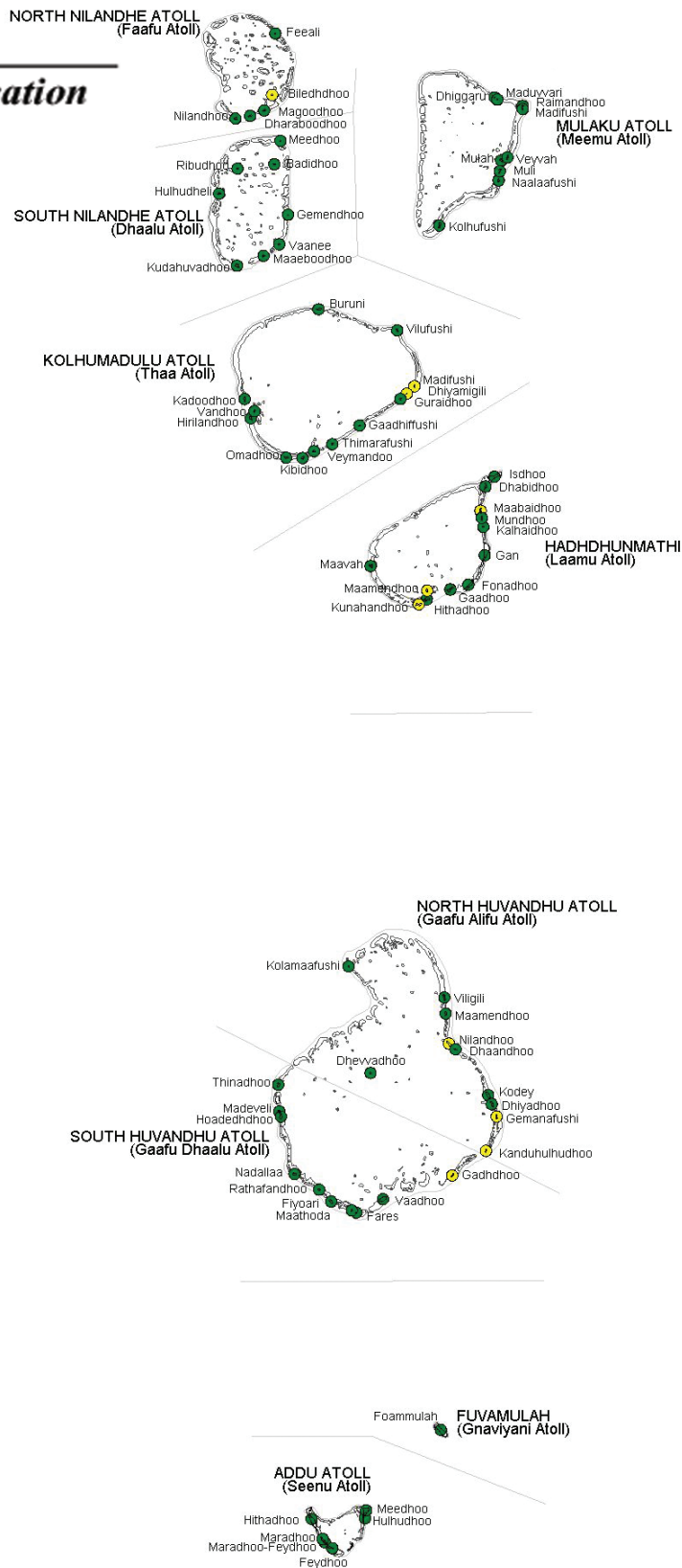
Map 3 (South)
Transport



Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index=0)
○	Missing data

Map 4 (South)

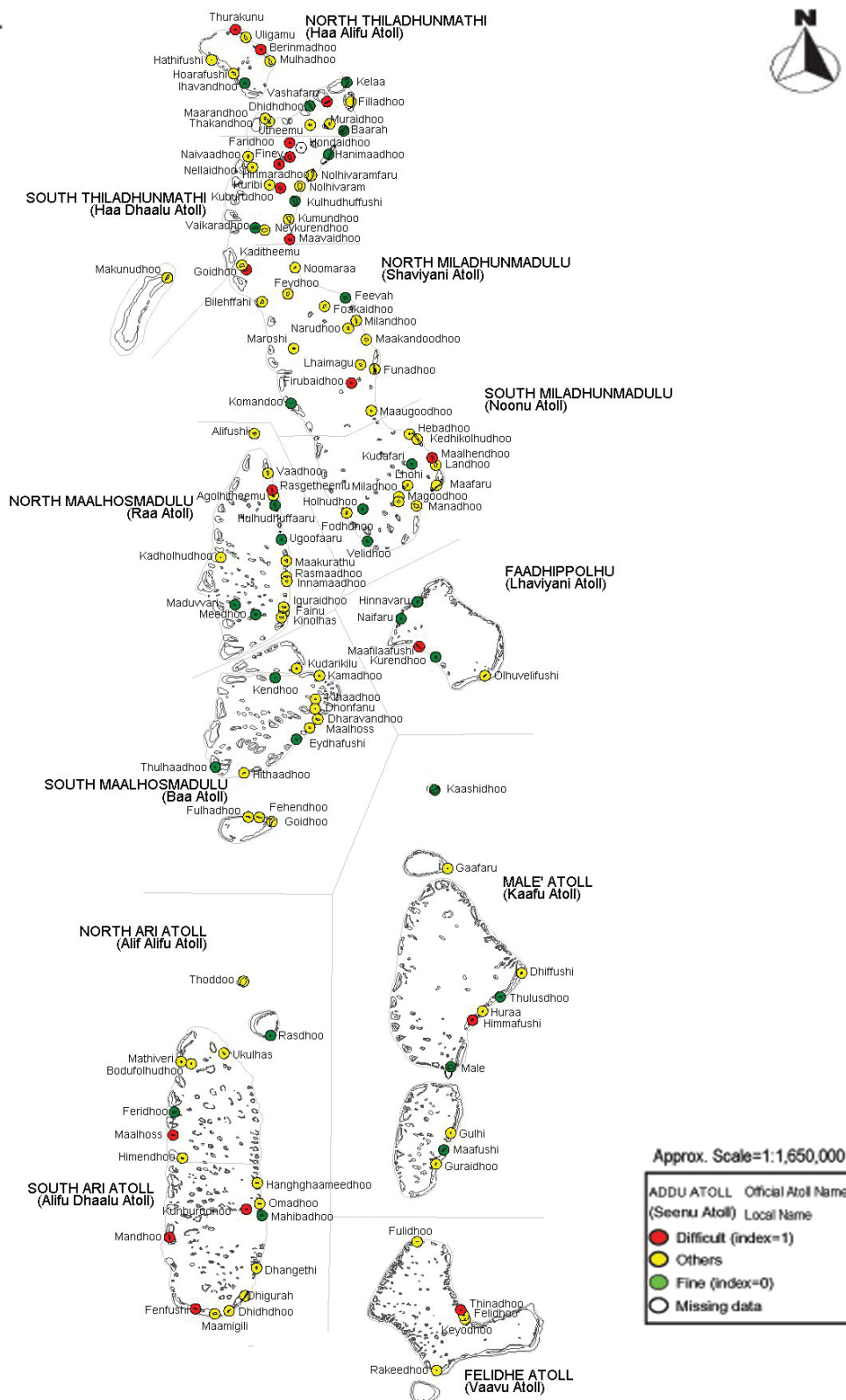
Communication

Approx. Scale=1:1,650,000

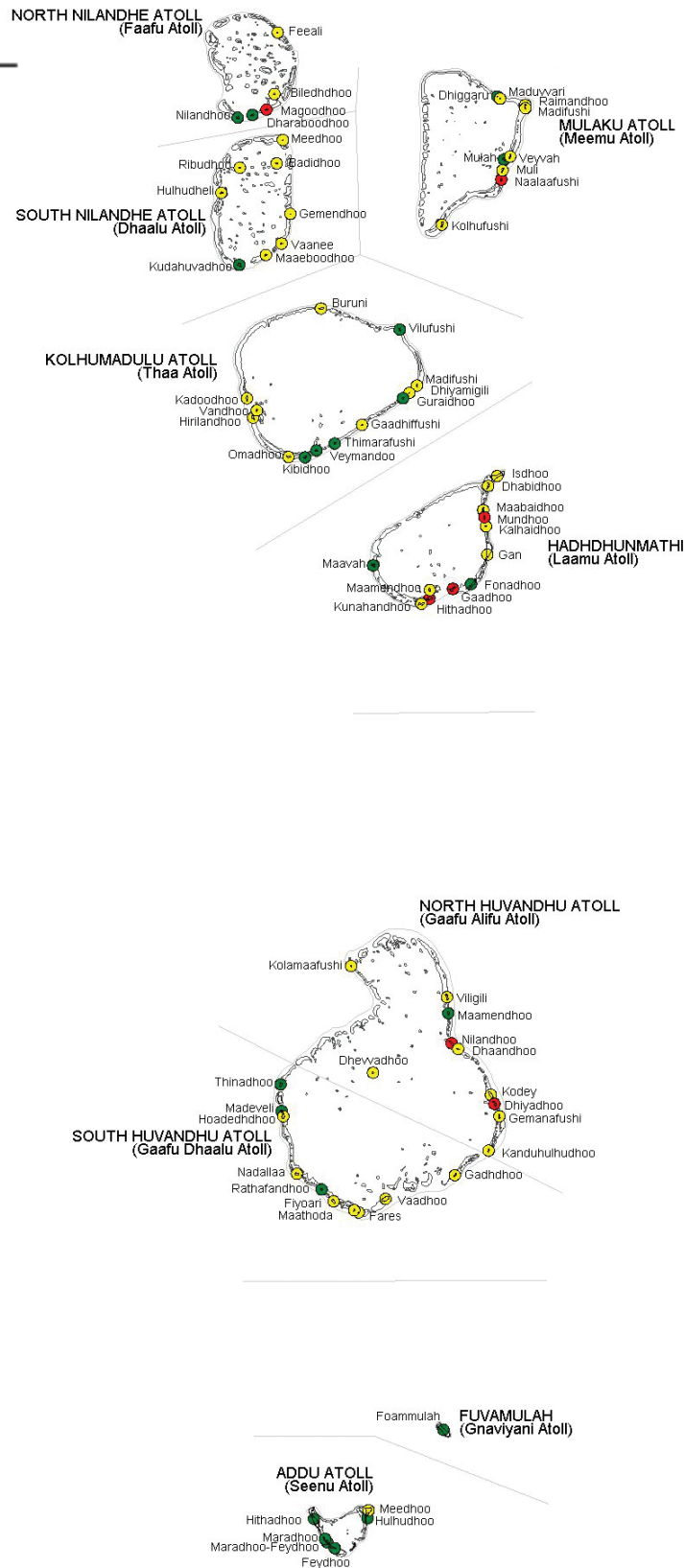
ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index<0.5)
○	Missing data

Map 5 (North)

Education



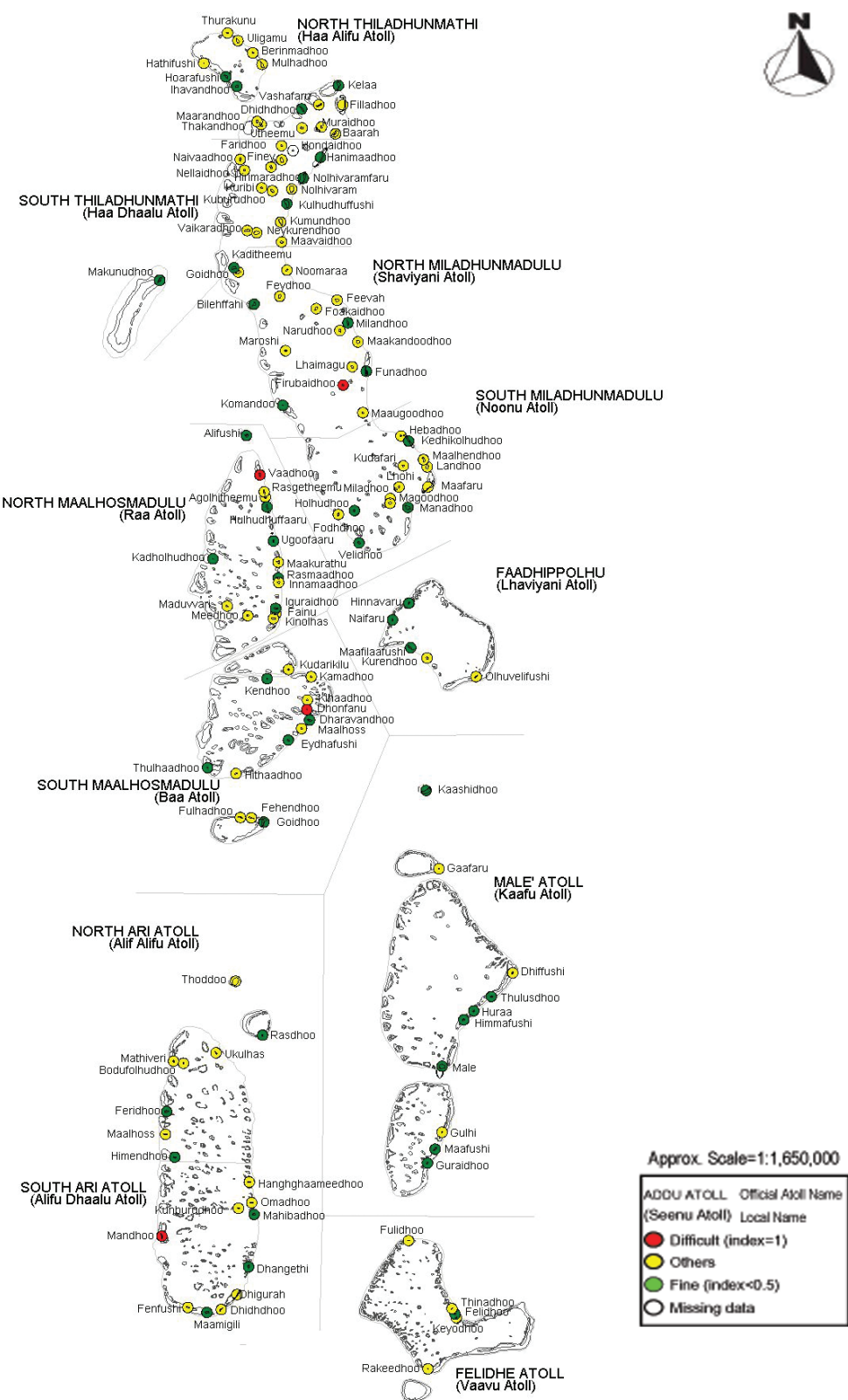
Map 5 (South)
Education



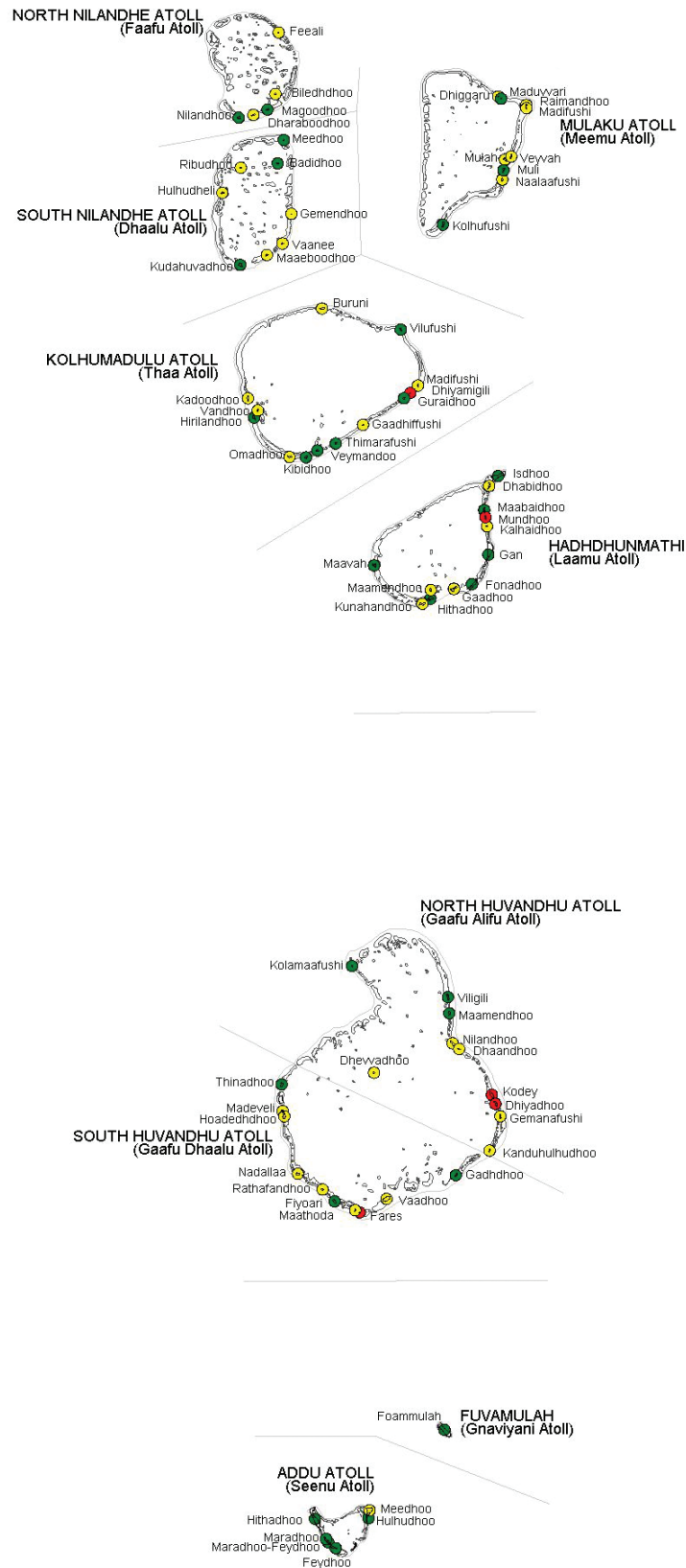
Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index=0)
○	Missing data

Map 6 (North)
Health



Map 6 (South)
Health



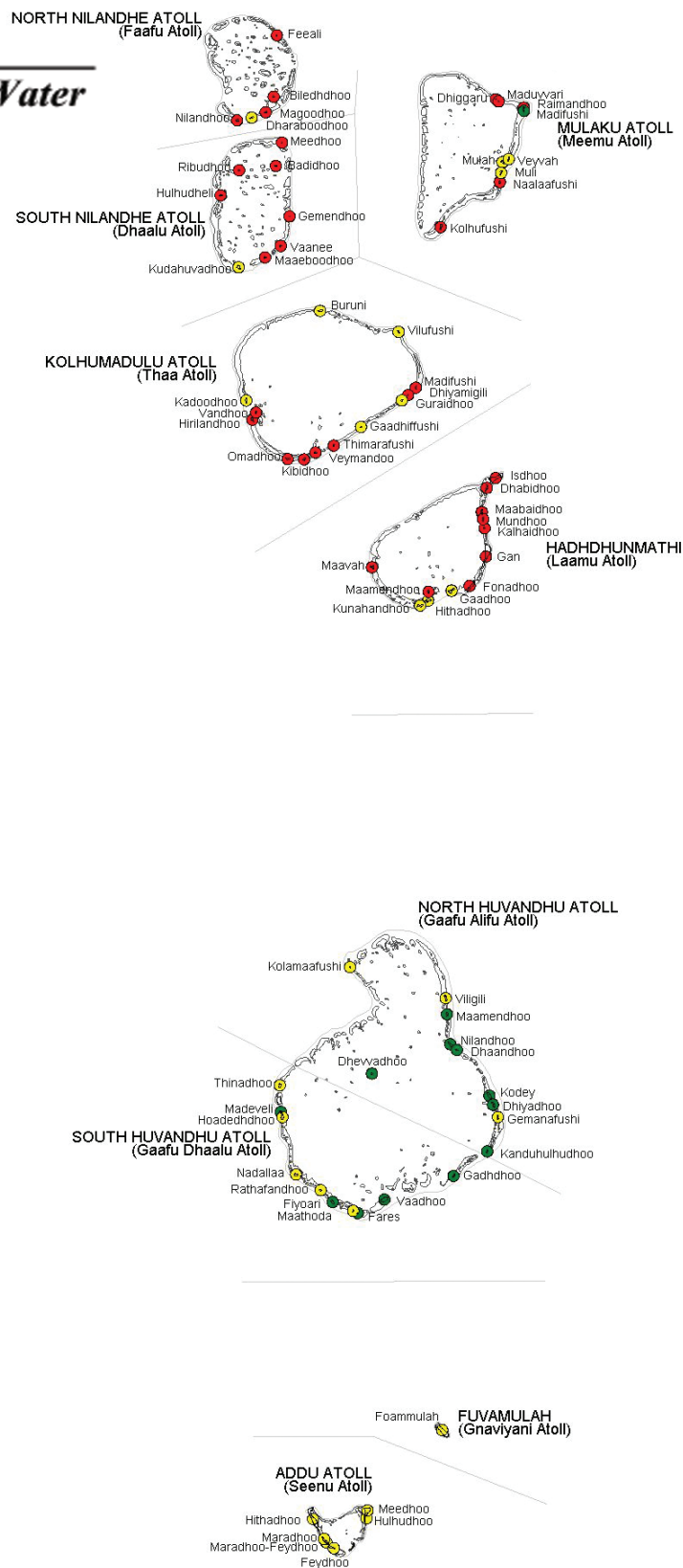
Drinking Water



Approx. Scale=1:1,650,000

ADDU ATOLL Official Atoll Name
 (Seenu Atoll) Local Name
 ● Difficult (index>0.5)
 ● Others
 ● Fine (index=0)
 ○ Missing data

Map 7 (South)

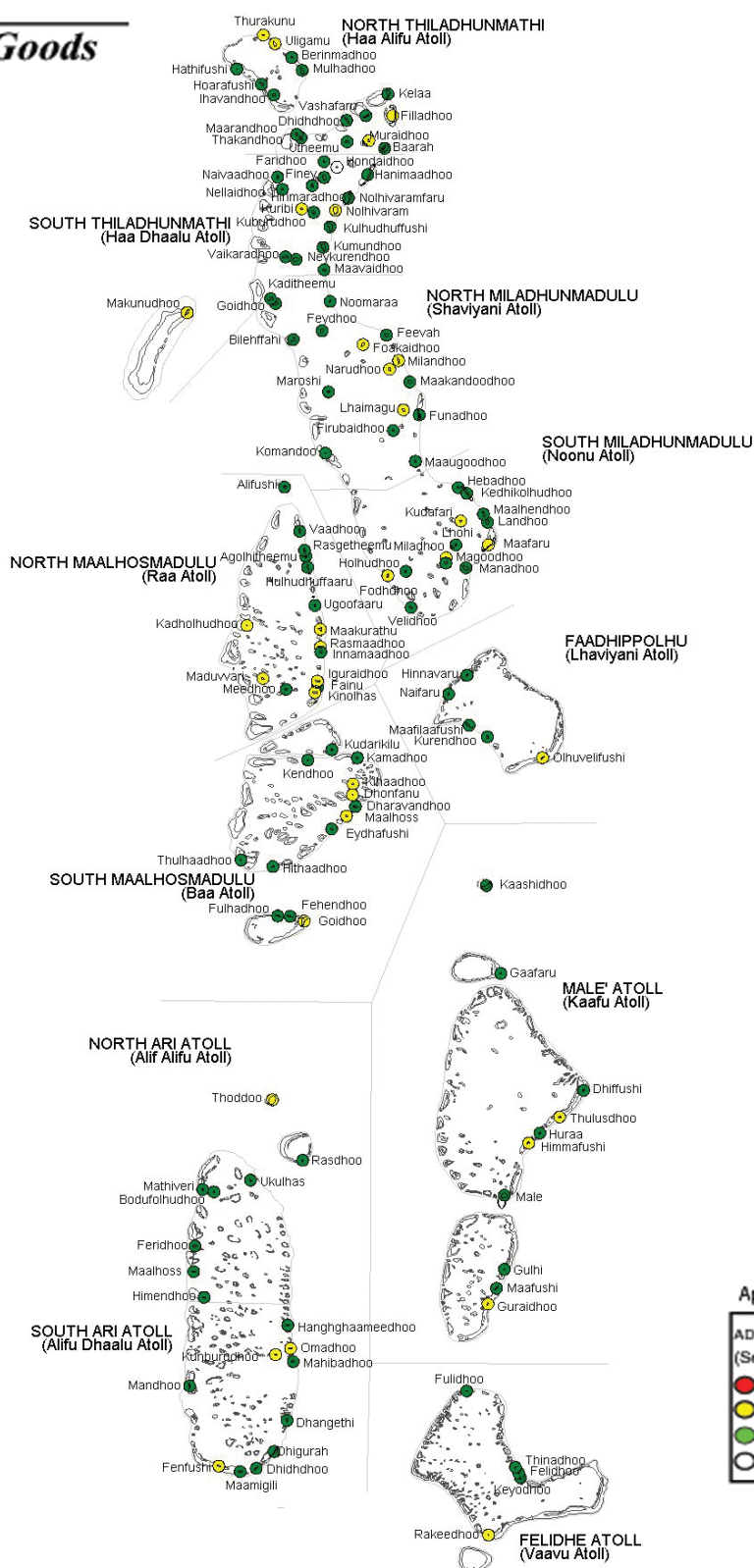
Drinking Water

Approx. Scale=1:1,650,000

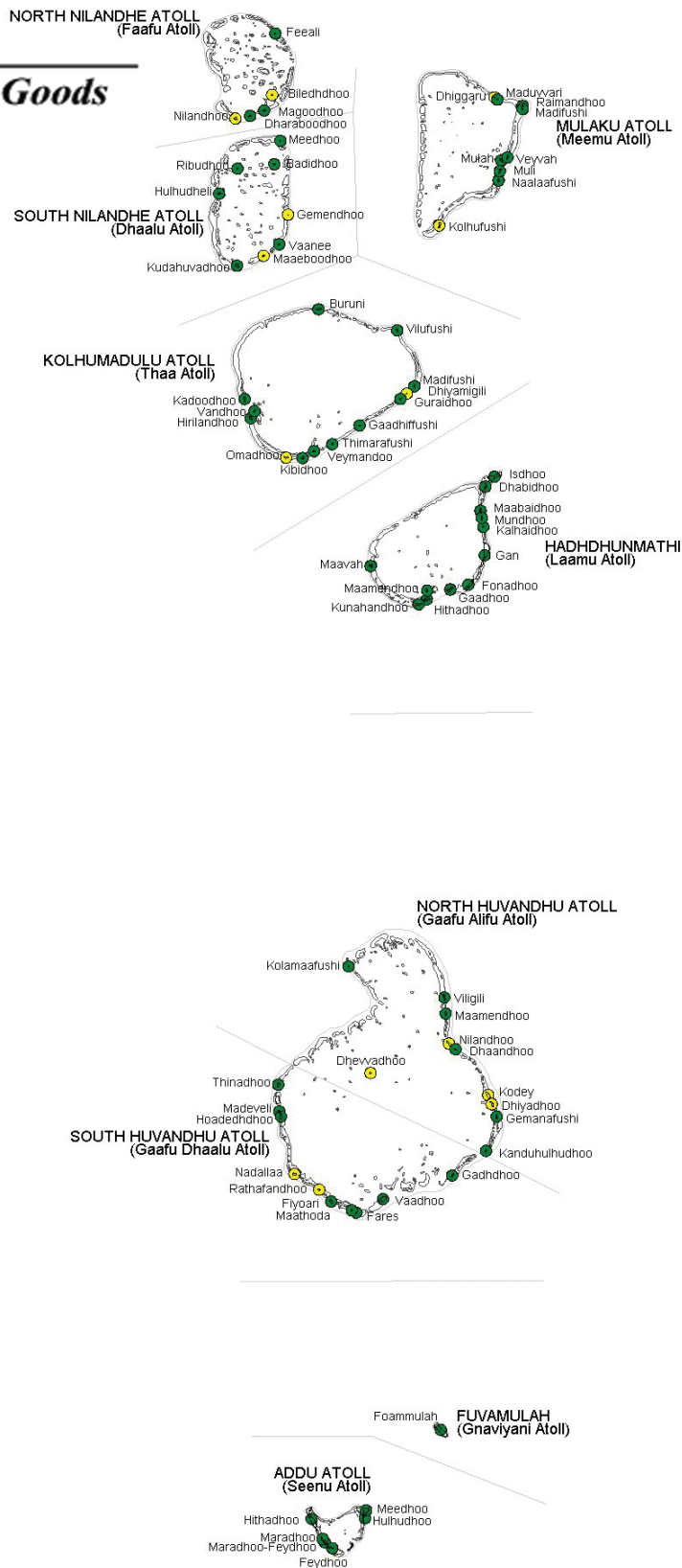
ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index>0.5)
●	Others
●	Fine (index=0)
○	Missing data

Map 8 (North)

Consumer Goods



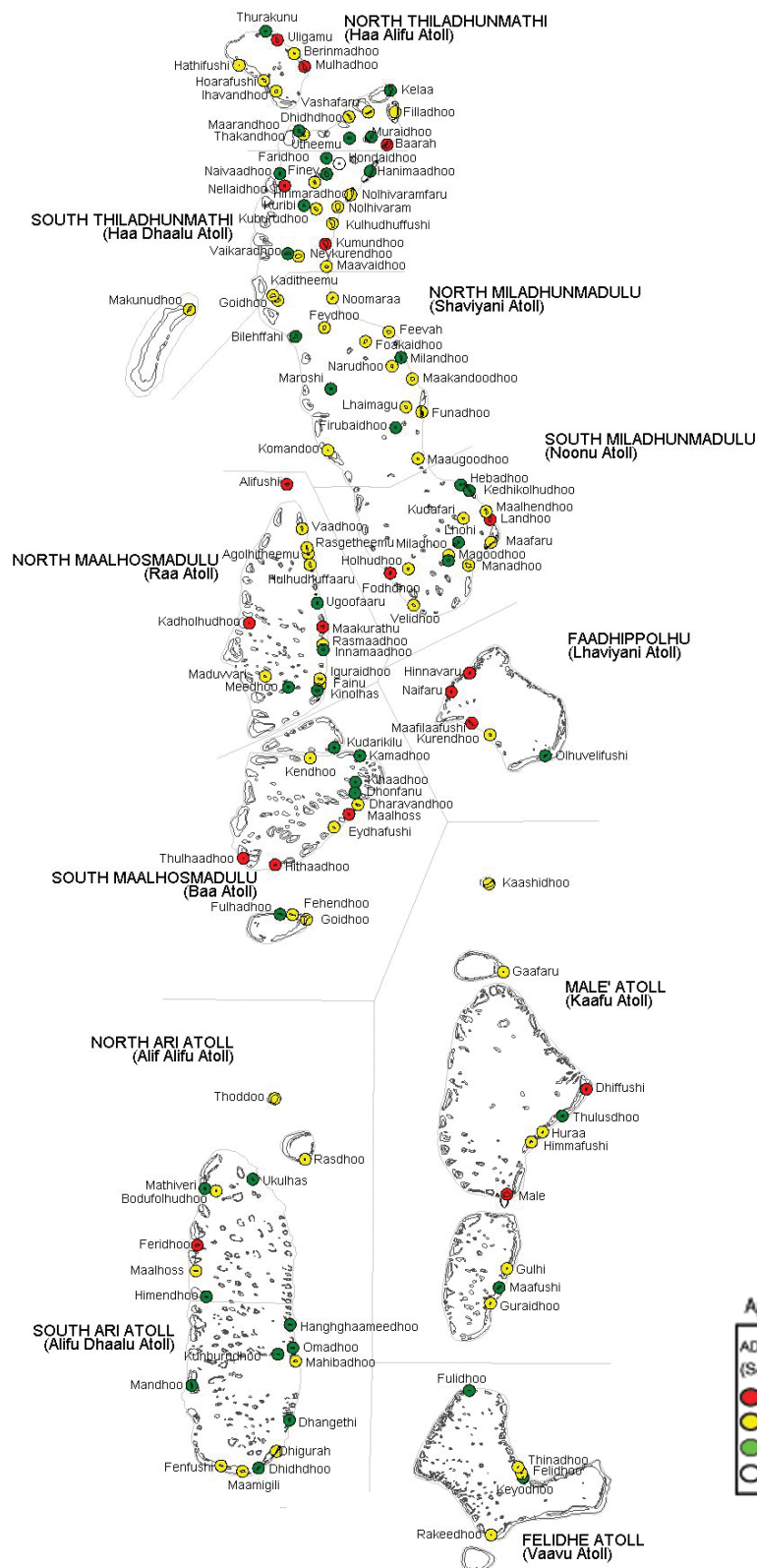
Map 8 (South)

Consumer Goods

Approx. Scale=1:1,650,000

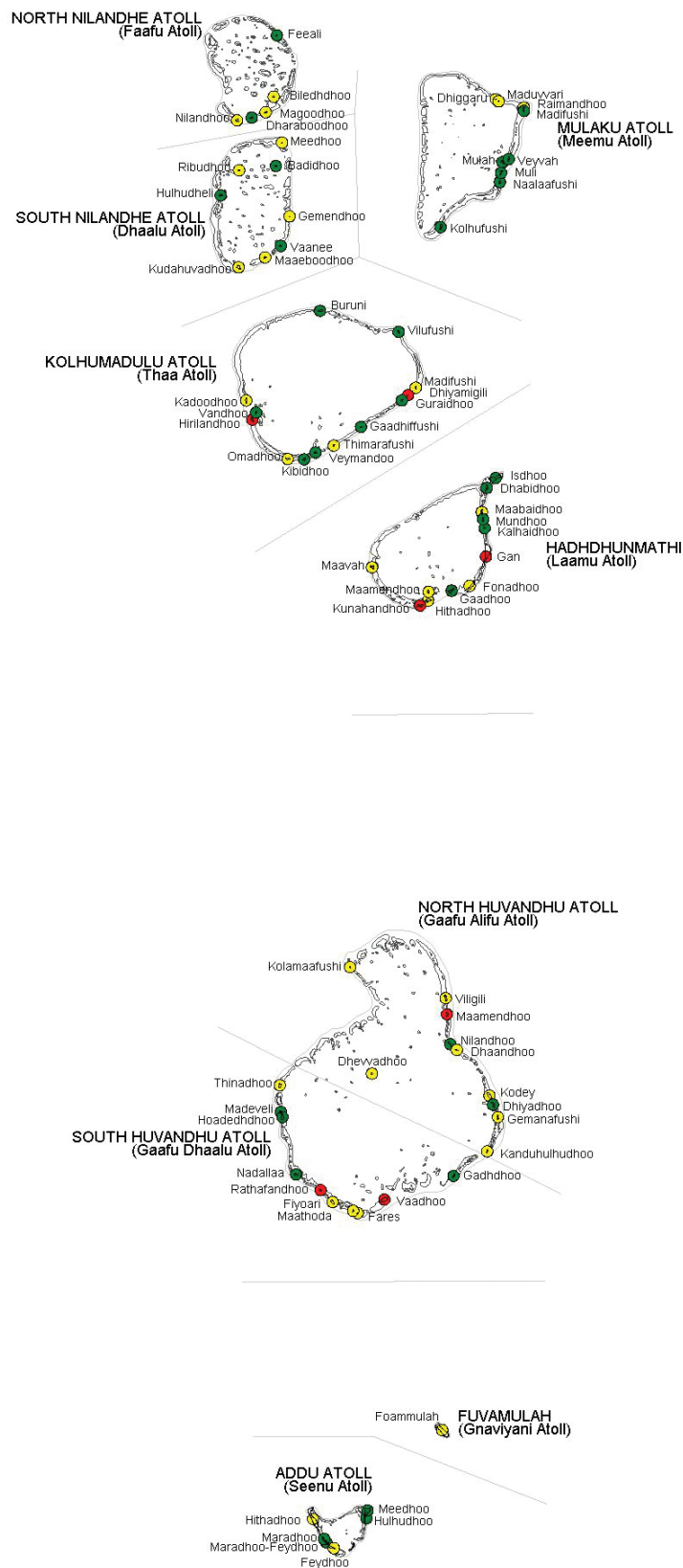
ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index<=0.3)
○	Missing data

Map 9 (North)
Housing



Approx. Scale=1:1,650,000

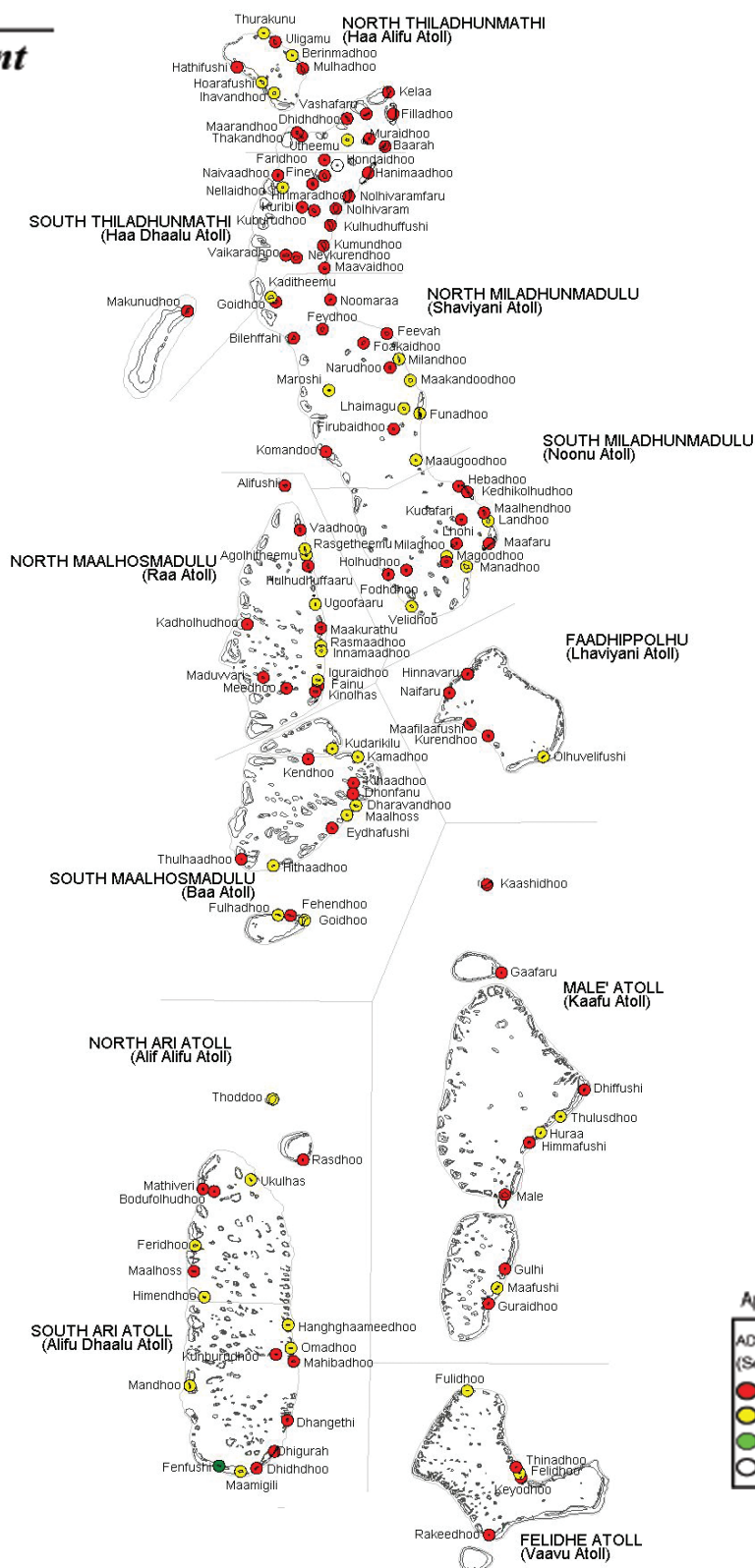
Map 9 (South)
Housing



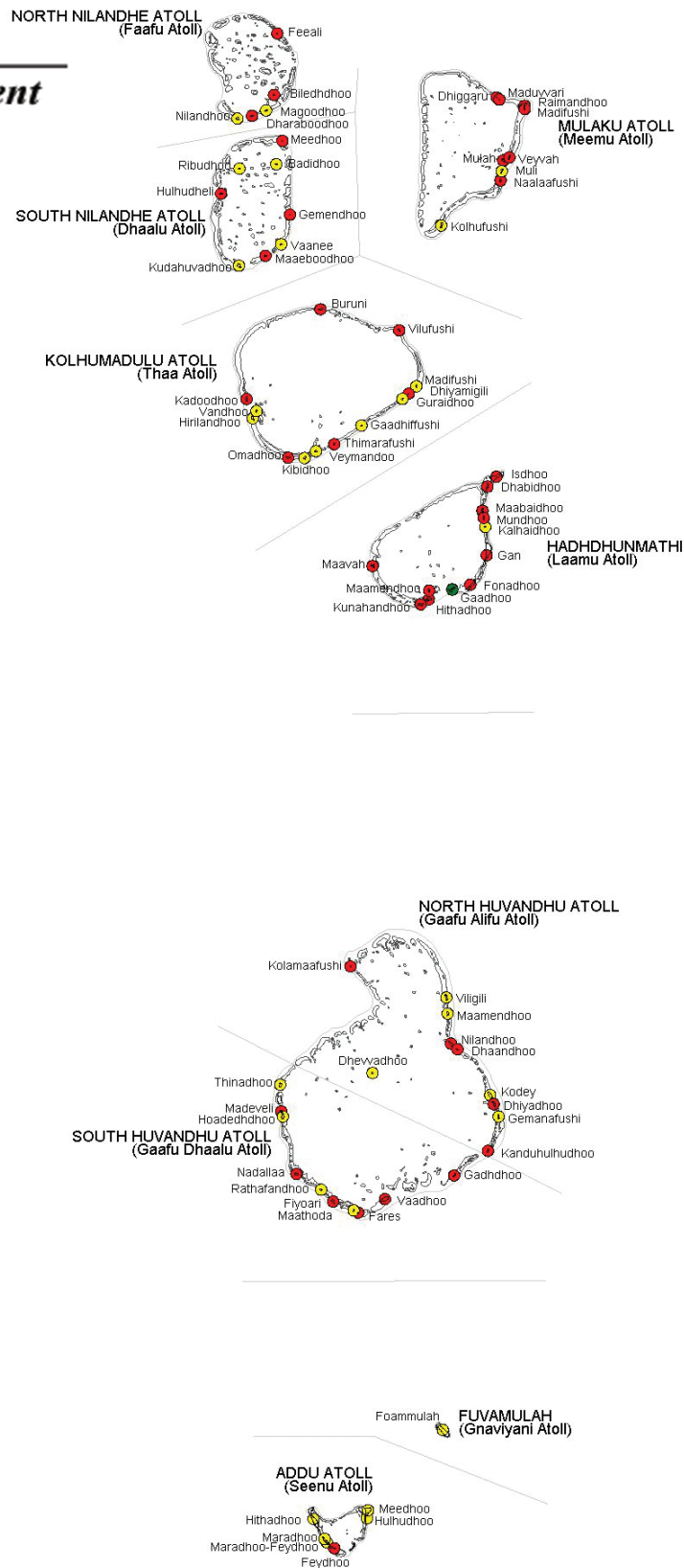
Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index>0.25)
●	Others
●	Fine (index=0)
○	Missing data

Map 10 (North)
Environment



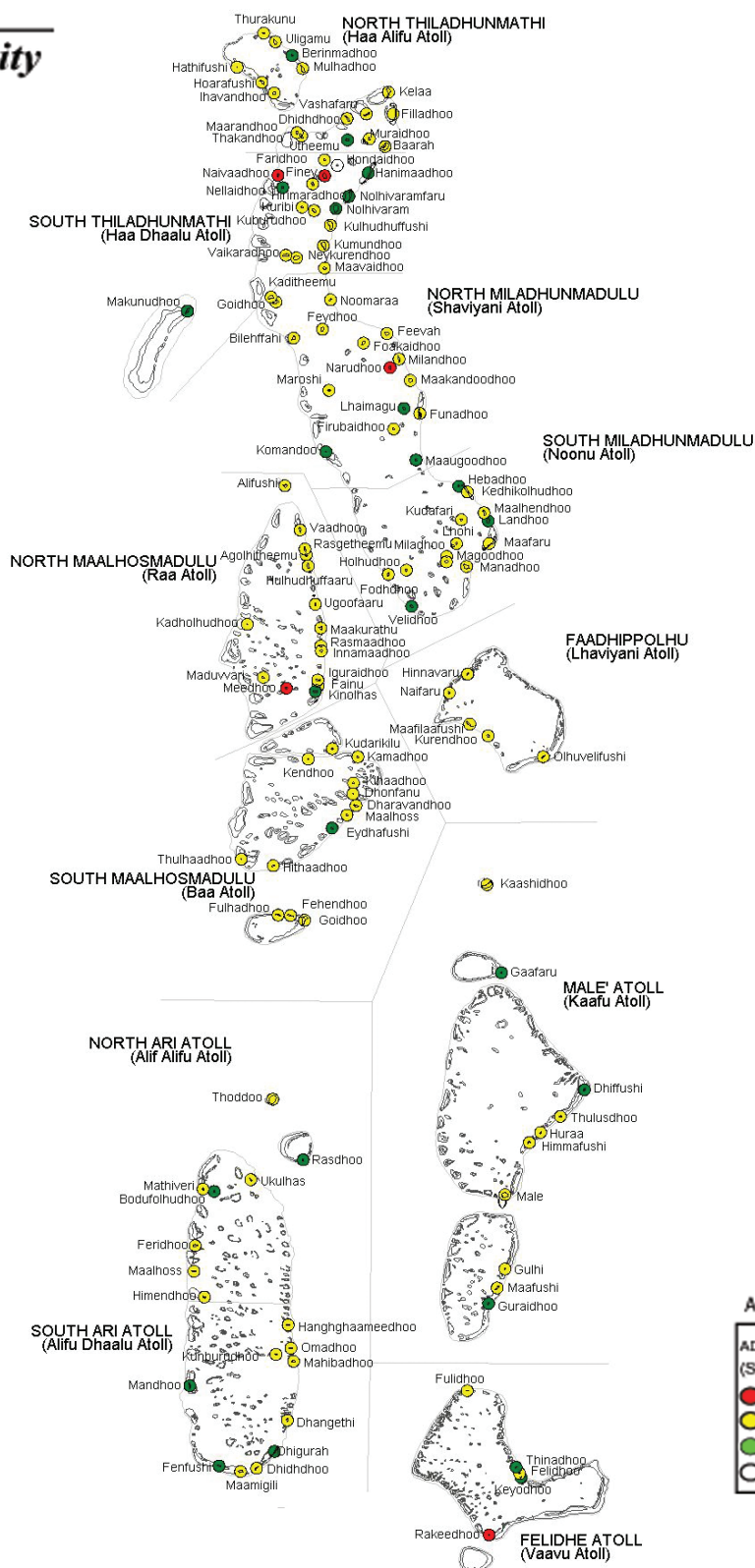
Map 10 (South)

Environment

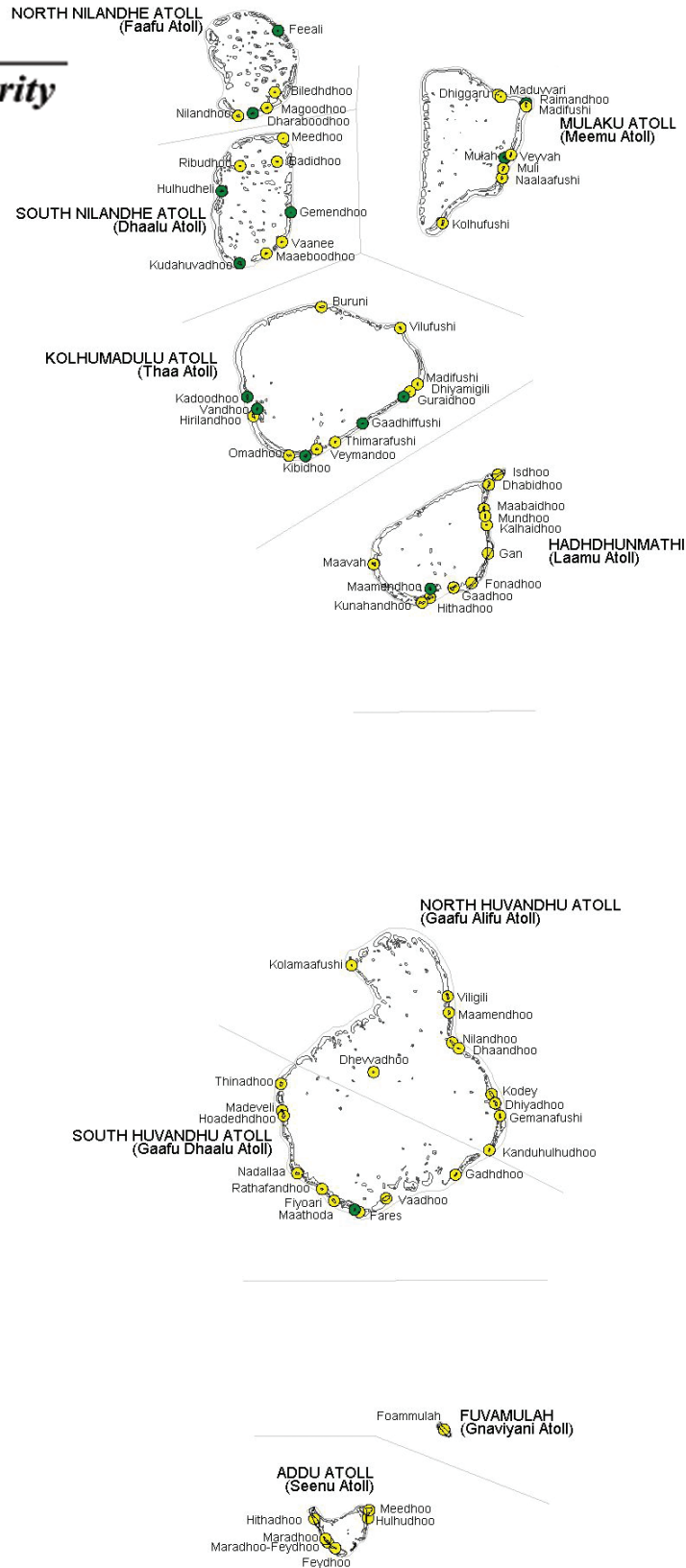
Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine
○	Missing data

Map 11 (North)
Food Security



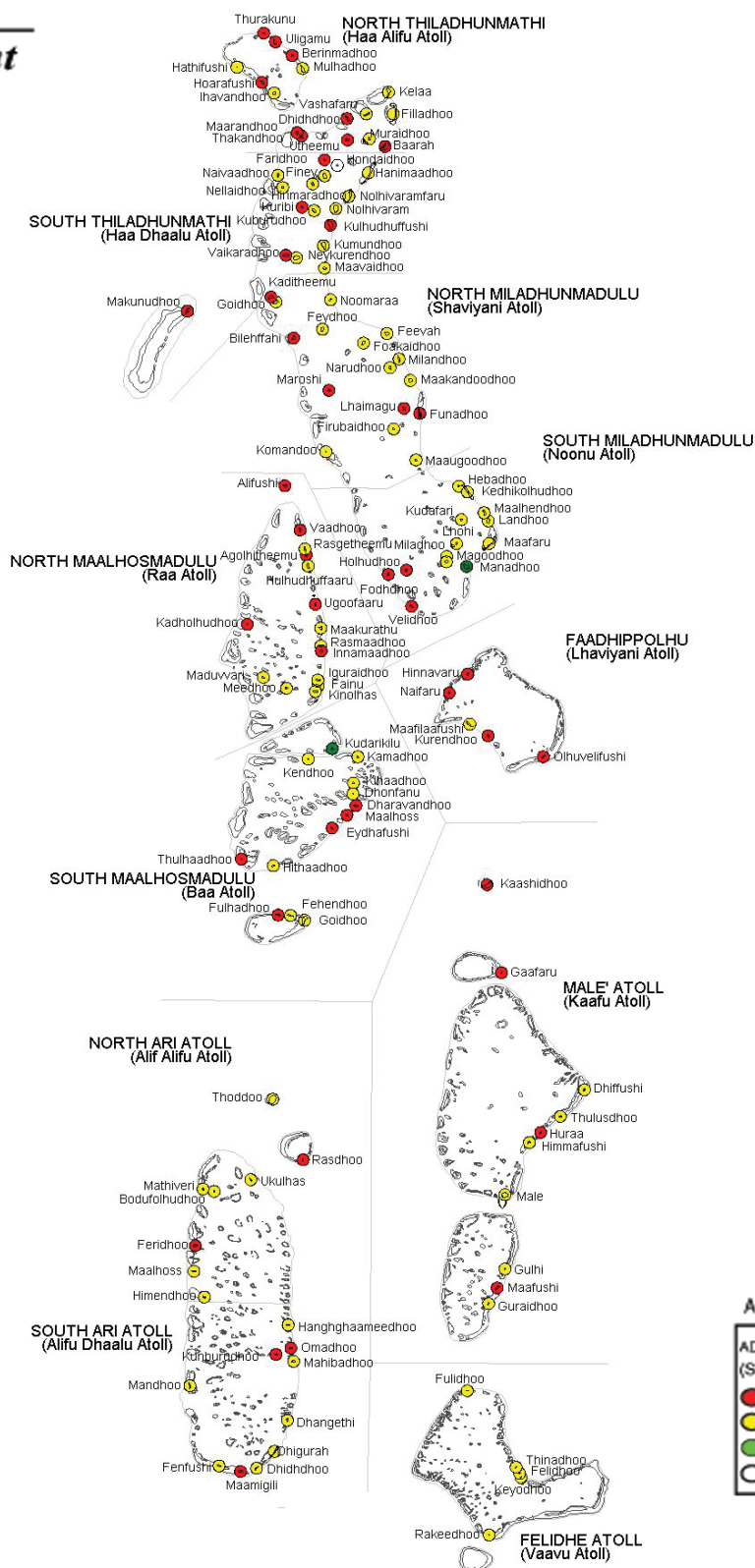
Map 11 (South)

Food Security

Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index=0)
○	Missing data

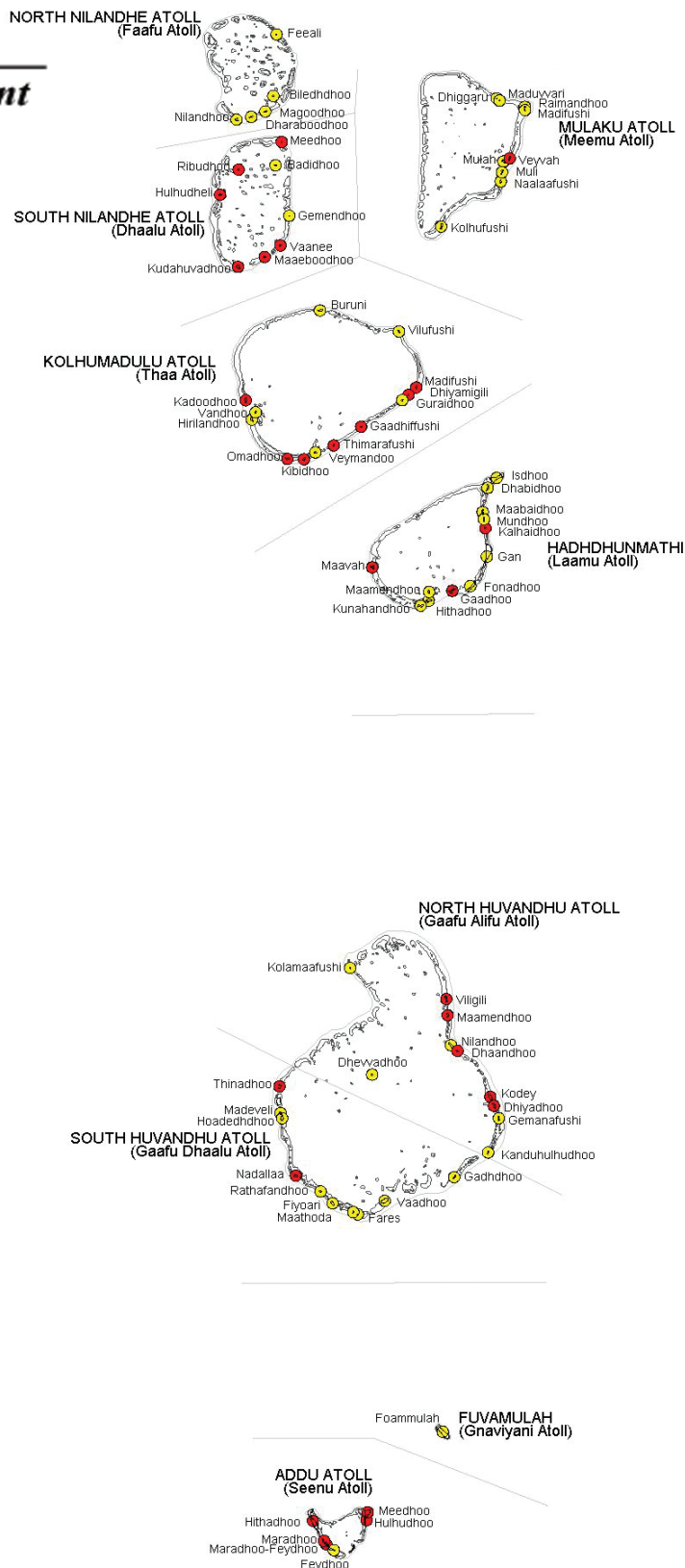
Map 12 (North)
Employment



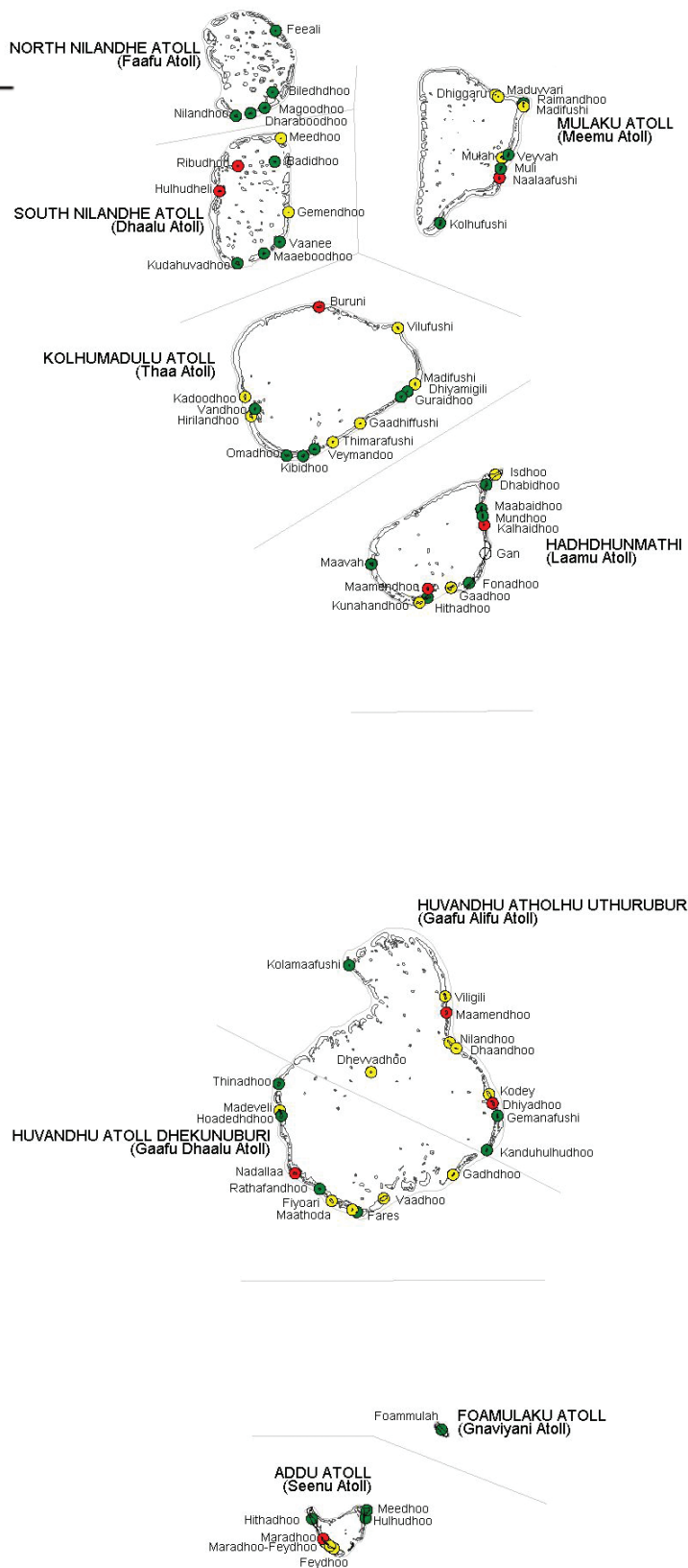
Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index >= 0.4)
●	Others
●	Fine (index = 0)
○	Missing data

Map 12 (South)
Employment



Map 13 (South)
Recreation

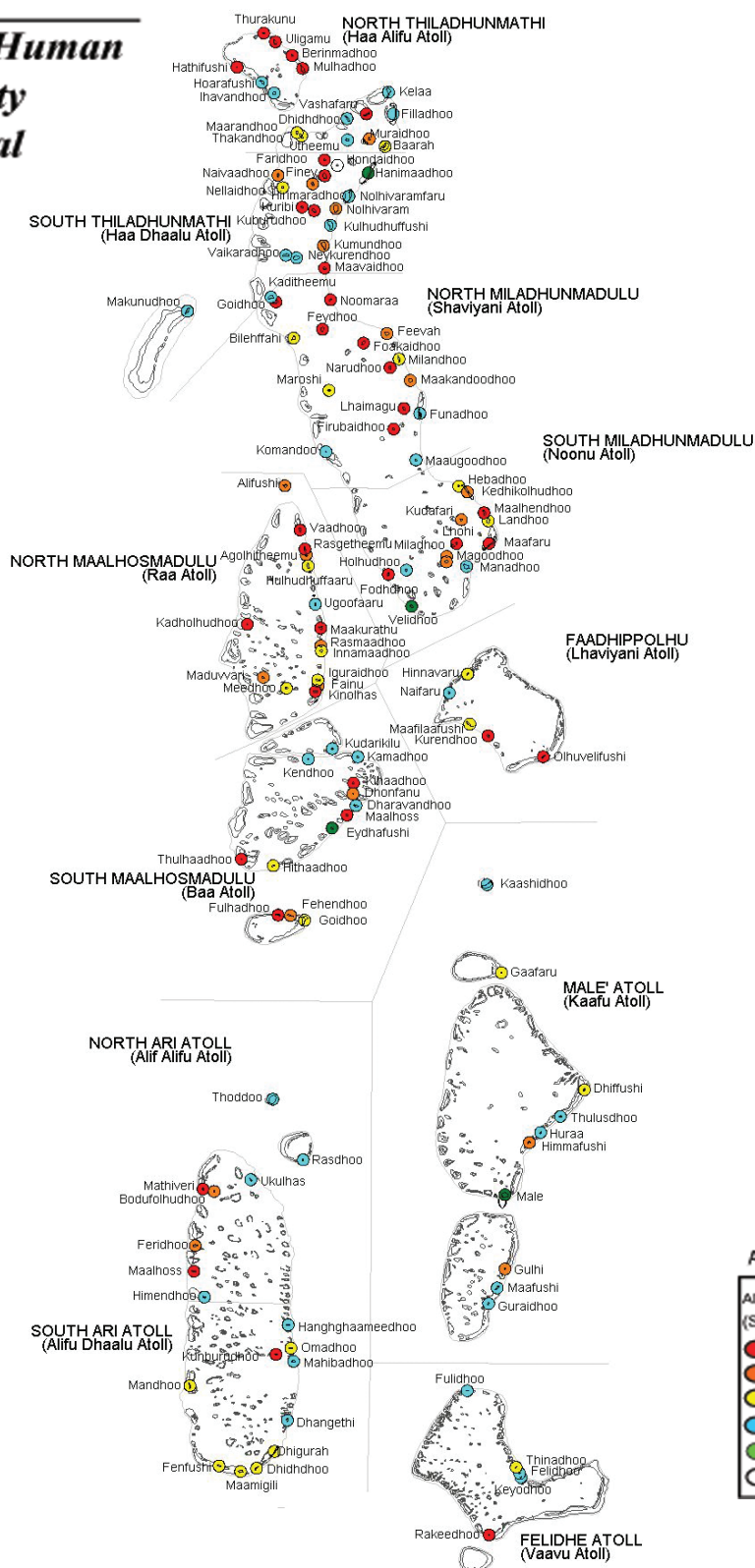


Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Difficult (index=1)
●	Others
●	Fine (index=0)
○	Missing data

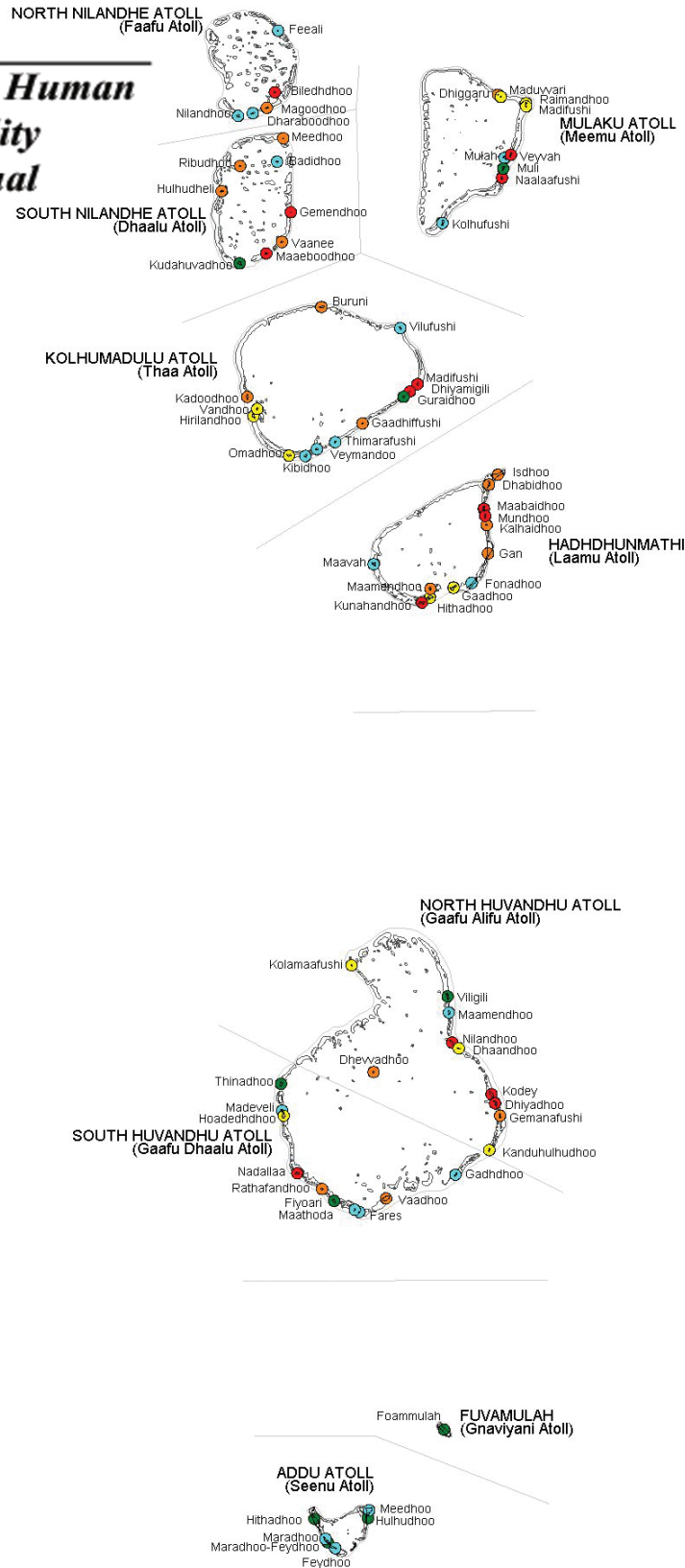
Map 14 (North)

Composite Human Vulnerability Index, Equal Weights



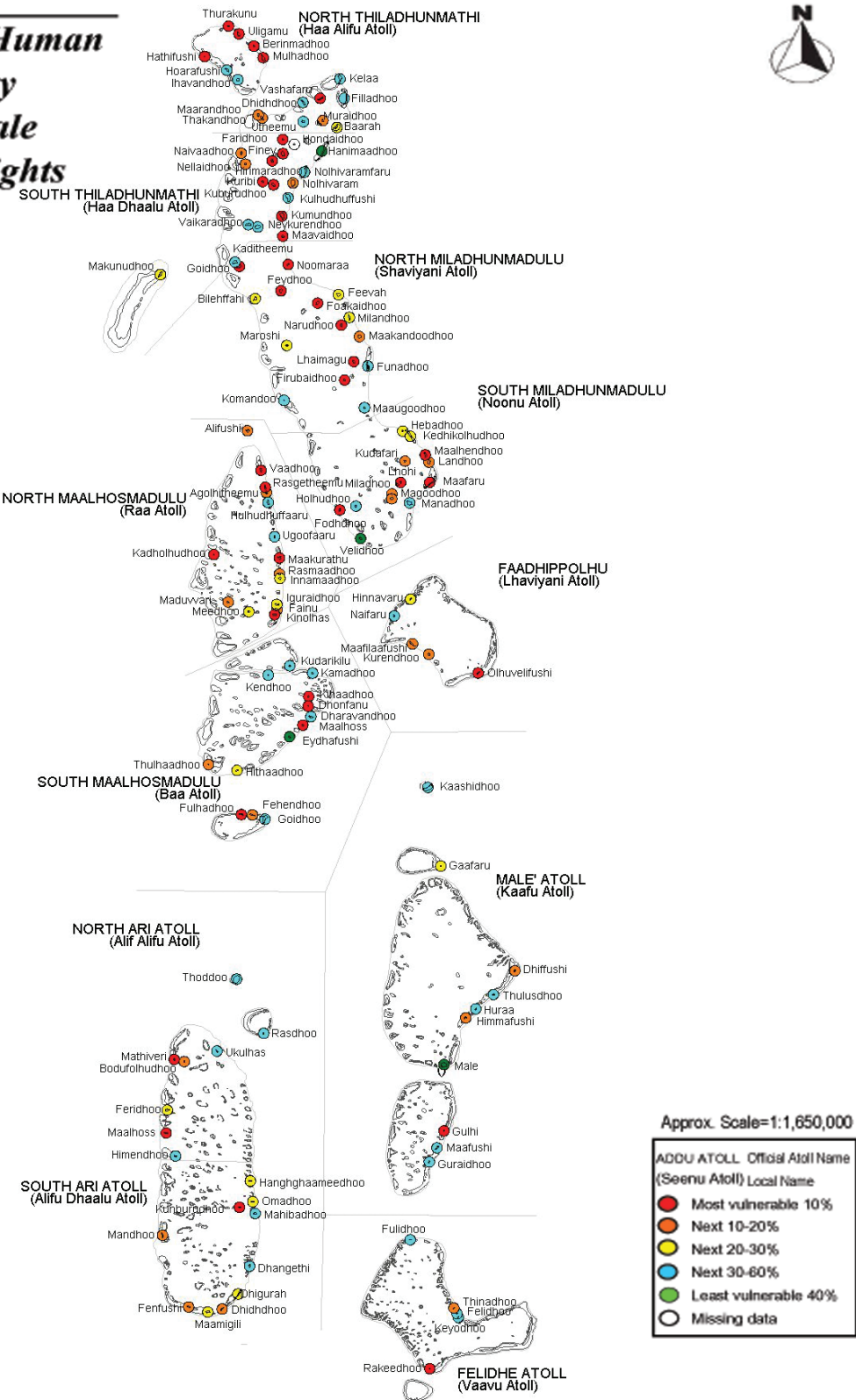
Map 14 (South)

Composite Human Vulnerability Index, Equal Weights



Map 15 (North)

Composite Human Vulnerability Index, Female Priority Weights



Map 15 (South)

Composite Human Vulnerability Index, Female Priority Weights

**NORTH NILANDHE ATOLL
(Faafu Atoll)**

Feeali

Nilandhoo

Blidhdhoo

Magooodhoo

Dharaboodhoo

Meedhoo

Ribudhoo

Badidhoo

Hulhudhoo

Gemendhoo

Vaanee

Maaeoodhoo

Kudahuvadhoo

Dhiggaru

Maduvvari

Raimandhoo

Madifushi

Mulaha

Veyvah

Mul

Naalaafushi

Kolhufushi

**MULAKU ATOLL
(Meemu Atoll)**

**KOLHUMADULU ATOLL
(Thaa Atoll)**

Buruni

Vilufushi

Madifushi

Dhiyamigili

Guraidhoo

Gaadhiffushi

Thimarafushi

Veymandoo

Kibidhoo

Omadhoo

Kadoodhoo

Vandhoo

Hirlandhoo

**HADHDHUNMATHI
(Laamu Atoll)**

Isdhoo

Dhabidhoo

Maabaidhoo

Mundhoo

Kalaidhoo

Gan

Fonadhoo

Gaadhoo

Hithadhoo

Kunahandhoo

Maavah

Maamandhoo

**NORTH HUVANDHU ATOLL
(Gaafu Alifu Atoll)**

Kolamaafushi

Viligili

Maamendhoo

Dhewadhoo

Nilandhoo

Dhaandhoo

Kodey

Dhiyadhoo

Gemanafushi

Kanduhulhudhoo

Gadhoo

Vaadhoo

Fares

Maathoda

Fiyoori

Rathafandhoo

Nadallaa

Hoadeddhoo

Madeveli

Thinadhoo

**SOUTH HUVANDHU ATOLL
(Gaafu Dhaalu Atoll)**

Foammulah

**FUVAMULAH
(Gnaviyani Atoll)**

**ADDU ATOLL
(Seenu Atoll)**

Hithadhoo

Maradhoo

Maradhoo-Feydhoo

Feydhoo

Meedhoo

Hulhudhoo



Approx. Scale=1:1,650,000

ADDU ATOLL	Official Atoll Name
(Seenu Atoll)	Local Name
●	Most vulnerable 10%
●	Next 10-20%
●	Next 20-30%
●	Next 30-60%
●	Least vulnerable 40%
○	Missing data

Summary

Map 16 (South)

Composite Human Vulnerability Index, Vulnerability Weights

