

Poverty in Tonga using Small Area Estimation

Nuku'alofa, Tonga

6th April, 2018

Viliani Konifelenisi Fifita and Winston Faingaanuku

Kingdom of Tonga Statistical Office

Héctor E. Nájera Catalán

University of Bristol

Centre for the Study of Poverty and Social Justice

Introduction

- 2016 HIES includes a special module to estimate poverty base on Consensual Approach.
- The HIES sample design produces representative estimates down to rural and urban areas and for Tongatapu and rural a group of four islands (Vavau', 'Eua, Ha'apai, Ongo Niua).
- HIES was not designed to produce reliable estimates for smaller areas in the sample, for example, for each island, villages and constituencies within islands. Moreover, because not all the administrative locations are included in the sample of the survey, poverty rates for each district, village and block cannot be computed using the HIES data

- A possible solution to this problem lies in the Small-Area Estimation (SAE).
- SAE is a field within statistics that comprises a series of methods to produce reliable estimates of poverty for different geographical locations

Background information

- Poverty measurement in Tonga has traditionally relied on money metric indicators – e.g. low income using data from the Household Income and Expenditure Survey (HIES).

However

- Income-based measures alone do not take account of personal and capital assets, remittances, income in kind, gifts and barter exchange which are common practice here in Tonga.
- A more relevant, appropriate and reliable way to define and measure poverty is to assess directly the outcome of poverty – deprivation and poor living standards.

This can be done reliably and effectively using a method called
the Consensual Approach.

Consensual Approach

- Developed by Mack and Lansley (1985) *Poor Britain*, repeated by Gordon and Pantazis (1997) *Breadline Britain in the 1990s* and most recently in 2012 in the *Poverty and Social Exclusion in the UK* study.
- Has repeatedly been shown to produce statistically valid and reliable indicators of poverty and deprivation
- Successfully applied in many high-, middle- and low-income countries including the UK, the European Union, Australia, Japan, Mexico, Vietnam, South Africa, Bangladesh, Benin and many others.
- The approach makes use of ‘ordinary’ people’s views rather than only ‘experts’, and provides a democratic element to the definition and measurement of poverty.
- Enforced lack (i.e. due to a lack of resources) of items identified by a majority of the Tongan people as ‘essential’ provides greater validity of results.
- Reflects the multi-dimensional nature of poverty and its outcomes.
- Is relatively straightforward to compute, from modules added to existing household surveys (like HIES or DHS)

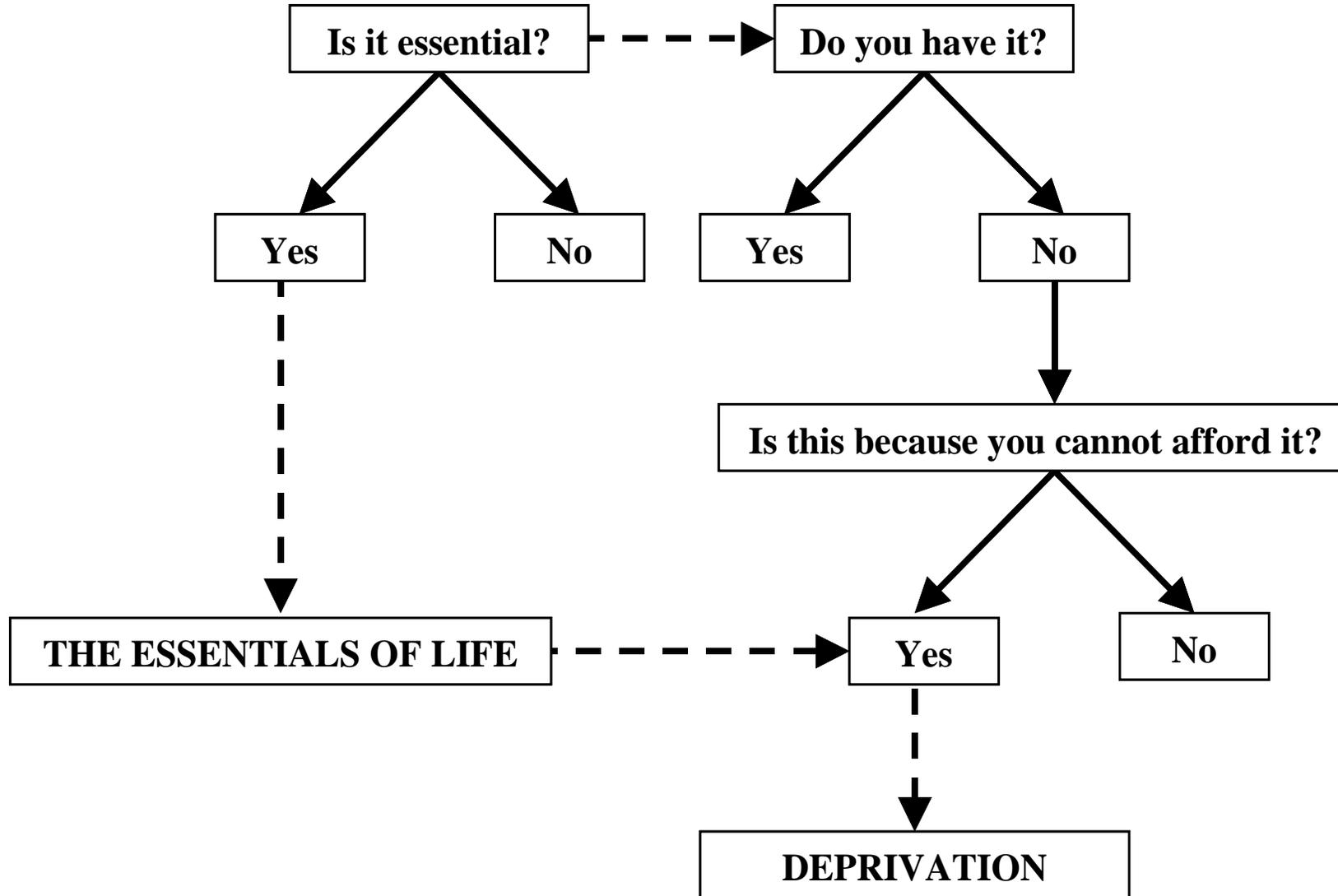
Methods

- Poverty module in the 2012 Tonga Demographic Health Survey (DHS)
– first of its kind and first ever study about Child Poverty in Tonga.
- Nationally and sub-nationally representative.
- 2,500 households, 5437 children
- 10 child-relevant and specific items to reflect a range of standards of living, and 5 household-level items.

Poverty Module

- Asks what people believe to be “*necessities of life*” which no child should be deprived of because of a lack of resources.
- Items relate to important, everyday things such as being able to have three meals a day, or proper clothing, or adequate educational items and activities for children.
- Data can be used in a highly reliable deprivation index, to robustly measure the outcome of poverty – deprivation.
- Scientifically validated, comparable indicators of poverty.
- Other countries in the region picking up the module in their national surveys (e.g. Solomon Islands, Tuvalu, Tonga etc.).

Identifying the Essentials of Life and Deprivation



Children's items

New Properly fitting shoes

Three meals a day

Some new, not second-hand clothes

Celebrations on special occasions such as birthdays, christmas or religious festivals

One meal with meat, fish or vegetable equivalent daily

All school uniform and school equipments required (eg. Books, pens etc.)

Enough beds and beddings for every child in the household

To participate in school trips and school events that cost money

Bicycle

Suitable place to study or do homework

Household items

Enough money to replace any worn out furnitures

Regular savings for emergencies

Enough money to repair any broken goods such as refrigerator or washing machine

All medicine prescribed by doctor when you get sick

Having your own means of transportation (eg. Car, boat, motorcycle etc.)

Results

Items/activities defined as essential for children in Tonga today

Children's items	Essential
One meal with meat, fish or vegetarian equivalent daily	99%
Three meals a day	99%
Enough beds and bedding for every child in the household	98%
All school uniform and equipment required	97%
New properly fitting shoes	97%
A suitable place to study or do homework	96%
Celebration on special occasions	96%
Some new not second-hand clothes	95%
Participate in school trips and school events that costs money	95%
Bicycle	77%
Household items	Essential
All medicine prescribed by your doctor when you are sick	98%
Regular savings for emergencies	97%
Having your own means of transportation (e.g. Car, boat, etc)	95%
Enough money to replace any worn out furniture	95%
Enough money to repair any broken goods (e.g. Refrigerator)	94%

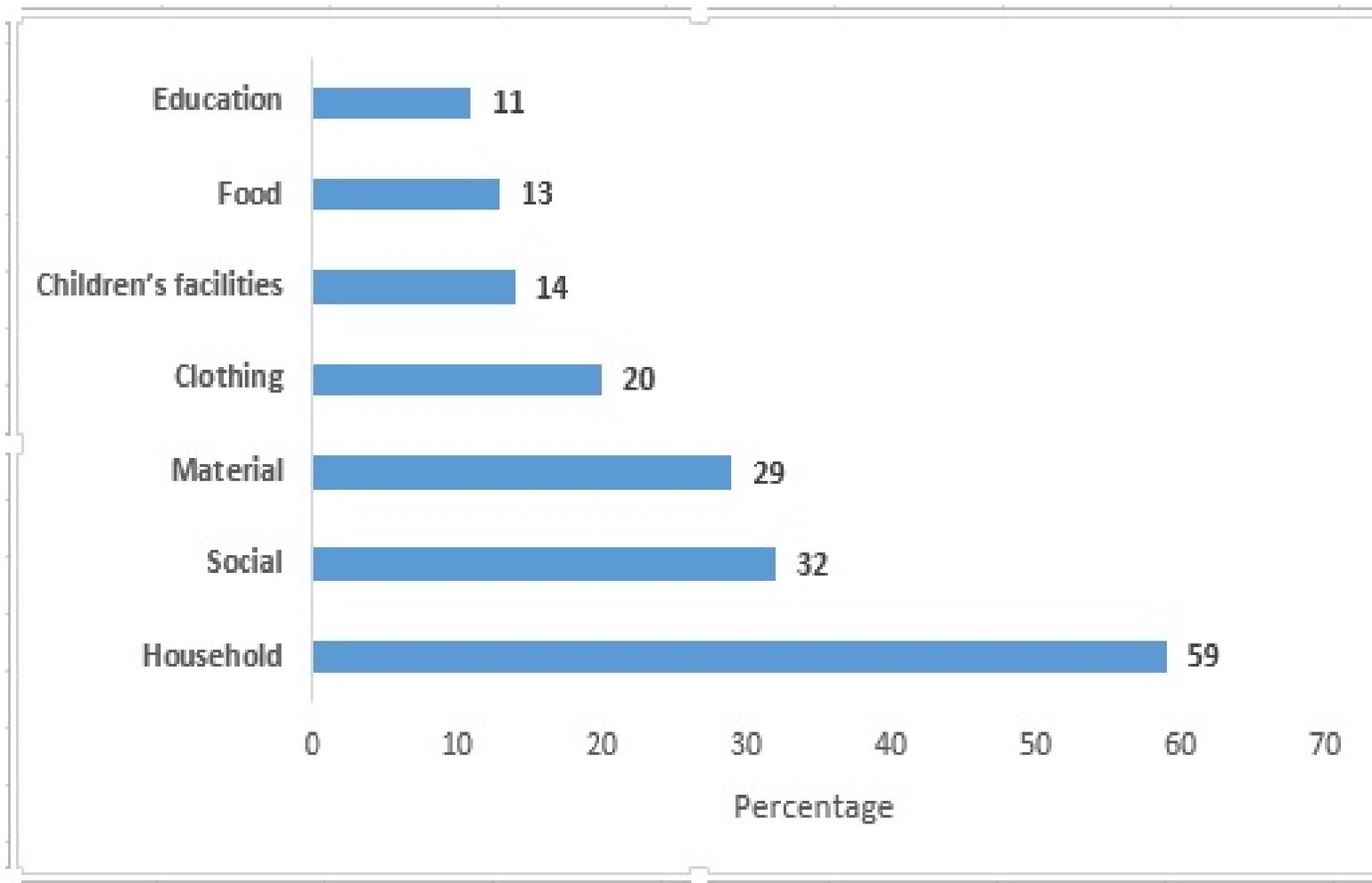
Demonstrating Consensus

						Rural (Tongatapu)	Rural (Islands)
Children's Items	Male	Female	Young (16-24)	Old (60+)	Urban		
One meal with meat, fish or vegetarian equivalent daily	99	99	100	99	99	100	98
Three meals a day	99	99	100	99	98	99	99
Enough beds and bedding for every child in the household	98	98	100	98	99	99	98
New properly fitting shoes	96	97	100	97	95	97	97
All school uniform and equipment required	97	98	92	97	98	98	96
Celebration on special occasion	96	96	96	96	98	96	96
Participate in school trips and school events that cost money	95	96	96	95	96	96	95
A suitable place to study or do homework	96	97	88	96	97	97	95
Some new not second hand clothes	96	94	96	95	93	96	95
Bicycle	79	73	76	77	80	75	79
Household items							
All medicine prescribed by your doctor when you are sick	98	98	97	98	97	99	96
Regular savings for emergencies	97	97	97	98	97	98	96
Having your own means of transportation (e.g. car, boat etc.)	95	95	94	95	95	95	94
Enough money to replace any worn out furniture	95	95	94	95	95	95	94
Enough money to repair any broken goods (e.g. refrigerator ...)	94	95	94	95	96	94	93

Prevalence of Deprivation Among Children in Tonga

Children's items	% Deprived
Enough money to replace any worn out furniture	44%
Enough money to repair any broken goods (e.g. refrigerator ...)	43%
Having your own means of transportation (e.g. car, boat etc.)	33%
Regular savings for emergencies	32%
Bicycle	24%
All medicine prescribed by your doctor when you are sick	24%
Celebration on special occasion	17%
Some new not second hand clothes	15%
New properly fitting shoes	12%
Enough beds and bedding for every child in the household	11%
Participate in school trips and school events that cost money	11%
A suitable place to study or do homework	10%
One meal with meat, fish or vegetarian equivalent daily	8%
Three meals a day	8%
All school uniform and equipment required	6%

Child deprivation by dimensions



- About one in seven children (13%) do not have adequate diets by today's standards; their families cannot afford to provide their children with 'three meals a day' or 'one meal with fish, meat or vegetarian equivalent daily'. Food deprivation is worse in the rural islands compared with Tongatapu.
- Around one in five children do not have essential clothing items such as new properly fitting shoes, all school uniforms and equipment, or new clothes when the old clothes wear out.
- About a third of the children in Tonga suffer from social deprivation. Their families cannot afford celebrations on special occasions such as the children's birthdays, they cannot afford school trips and school events which cost money, or equipment for outdoor leisure activities, like a bicycle.
- Three out of every five (59%) children live in households which cannot afford to maintain adequate living standards for all household members. That is, they cannot afford regular savings for emergencies or all medicines prescribed by a doctor when sick or their own means of transportation. They are also unlikely to be able to afford to replace worn-out furniture or repair broken electrical goods, like refrigerators.
- About one in every 10 children in Tonga live in households who either cannot afford enough bed and beddings for every child or a suitable place for study or do homework at home.

- 15 items in deprivation index
- 5+ deprivations set as threshold to reflect multiple deprivation and poverty
 - In 2012, 29% of children in Tonga are deprived - about 11,800 children.
 - *The most recent HIES estimate of poverty in 2009 was 23% of population, using a Basic Needs poverty line. 29% for children age 0 – 14 years.*
- Poverty most prevalent among:
 - Children in the rural islands (*prevalence rate is doubled compared to urban*)
 - Children in large families;
 - Children whose parents have a low educational attainment;
 - Children in households with a disabled household member..

Implications for Policy

- Child poverty module to be a part of the national survey preferably the HIES.
- Children Kinship programs
- Child food nutrition programs
- Child education programs

Conclusion

- The study is the first of its kind in Tonga.
- It provides valid and reliable evidence that around 11,800 children experience multiple deprivations and thus are living in poverty.
- Children in the rural islands are severely affected compared to the rural Tongatapu and urban areas.
- Child deprivation is about more than mere survival, this research provides robust information about wider aspects of children's lives and needs
- The findings highlight the need for early development support initiatives. Investment in young children is an essential for a successful society and the development of the national economy.

Malo 'aupito

www.bristol.ac.uk

Email: ptvkf@bristol.ac.uk

Tel: 0044 117 9546755

Relevant and useful resources

- **Townsend Centre for International Poverty Research**
 - www.bristol.ac.uk/poverty
- **Poverty and Social Exclusion (PSE) in the UK 2012**
 - www.poverty.ac.uk
 - Free online resources at www.poverty.ac.uk/free-resources, including PSE questionnaires, Townsend's *Poverty in the UK*, Mack and Lansley's *Poor Britain*
 - Take part in the survey: www.poverty.ac.uk/take-part
 - Explore the data: www.poverty.ac.uk/pse-research/explore-data
- PSE-Hong Kong: www.poverty.hk - multi-lingual website