

THE INDIVIDUAL DEPRIVATION MEASURE STUDY FIJI: PRELIMINARY RESULTS TO INFORM CYCLONE WINSTON RESPONSE AND RECOVERY PLANNING



The Individual Deprivation Measure (IDM) is a new approach to measuring multidimensional poverty. The IDM assesses the situation of individuals in relation to 15 dimensions of life that reflect how poor people think poverty should be defined and measured¹, covering core material and social dimensions: food, water, shelter, health, education, energy and fuel, sanitation, relationships, clothing and personal care, violence, family planning, environment, voice, time use and work. The IDM can also be disaggregated to look at poverty by sex, age, disability status, geographical location, and sociocultural background, overall and in relation to each of the 15 dimensions.

In 2015, the Fiji Bureau of Statistics, International Women's Development Agency (IWDA) and the Australian National University (ANU) conducted a national IDM study with support from the Australian Government through the Department of Foreign Affairs and Trade in Fiji. Data was collected between July and September 2015 in 75 enumeration areas (EAs) in Fiji identified in the World Bank's 2011 Poverty Mapping Study as having estimated incomes under the national poverty line.

Given how recently the IDM data was collected, and its potential to highlight the nature and extent of deprivation experienced by particular groups in specific localities, this report² has been produced as a potential resource for organisations working to respond to TC Winston. It shares preliminary results from the 2015 IDM survey for some of the most heavily cyclone-affected Tikinas³. While circumstances in many of the EAs have changed significantly, and catastrophically in some cases, since the data was collected, the IDM results highlight the type and extent of deprivation that was present shortly before the cyclone. The data provide a recent point in time record of circumstances in specific places and communities, and show how factors such as sex, disability, sociocultural background and geography were overlapping to affect access and outcomes for particular groups. It highlights factors that may warrant particular attention in humanitarian and development responses.

The results highlight the opportunity for relief and recovery efforts to address pre-existing disadvantage and deprivation, by paying attention to those areas of life and groups where deprivation was more pronounced prior to the cyclone. For example, many women report health problems associated with fumes from cooking stoves, suggesting that improving cooking stoves as part of post-cyclone recovery should be a priority. The results also provide a baseline for a potential future IDM study, to assess the extent of individual-level deprivation post-cyclone, inform longer-term development priorities, and track the impact of relief efforts.

On Viti Levu, the Ba and Ra provinces were heavily affected. In this analysis, the Ba sample has been broken up into the Ba and Tavua Tikinas, and the Ra province broken into the Raki Raki and Savou Tikinas. Results for dimensions relevant to emergency relief are presented, including quality of shelter, homelessness, access to food, water, electricity, cooking fuel, health, sanitation, violence, environmental pollutants, protective clothing, and personal support.

These results identify the nature and extent of deprivation in these areas prior to TC Winston. They may be used as one indicator of priority areas for immediate focus. For example, where the IDM survey shows most citizens rely on open water sources, water-borne diseases may be a particular risk; where most residents do not visit medical doctors, health care provision may be a priority. As the IDM is measured at the individual level we can also highlight where particular demographic groups were most deprived prior to the cyclone, indicating which groups may now be more vulnerable following the disaster.

¹ The IDM was a key output from a four-year, multidisciplinary international research collaboration involving thousands of participants across 18 sites in six countries, funded by the Australian Research Council, International Women's Development Agency (IWDA), the Australian National University (ANU), Oxfam GB, Oxfam America, the Philippines Health Social Science Association and the University of Boulder Colorado, with significant additional support from the University of Oslo. The research, aimed at moving beyond critique of gender-blind, household-level poverty measurement, produced a new individual-level measure that is feasible, internationally comparable and overcomes the limitations of current approaches. Further information about the IDM and the research that underpins it is available at <https://www.iwda.org.au/introducing-the-individual-deprivation-measure/>. Selected academic articles and links to videos on the IDM are available at <https://crawford.anu.edu.au/research/impact/6279/individual-deprivation-measure>.

² The report has been prepared by Dr Kylie Fisk, using data collected by the Fiji Bureau of Statistics.

³ Based on reporting from the International Federation of Red Cross and the Fiji Government.

BA PROVINCE: BA AND TAVUA TIKINAS



Photo credit: ABC Online

Ba Tikina

The Ba Tikina IDM sample comprised 221 people living in rural areas, 81% of whom were Fijians of Indian descent and 19% iTaukei with age range of 18-80 and a roughly equal split between women and men, around 10% of whom live with some form of functional difficulty (mostly older residents).

Of the 46% of residents who work for pay (67% of men and 20% of women), 15% do farm or seasonal work, 5% in transport, 7% selling, 7% professional/skilled labour, and others do security or factory work. A small portion of the sample (1%) relied on scavenging or begging for a living.

Shelter⁴: The most common roofing and walling material is tin, and 30% live in housing categorised as moderate to poor quality. In contrast to other Tikinas there were no residents living in houses reported as the lowest level of shelter quality; this contrasts with other Tikinas in the sample, which had much higher rates of very poor quality housing. None of the sample indicated they slept outdoors with any frequency. iTaukei had higher rates of poor housing, with 20% living in housing rated as poor compared to 6.1% of Fijians of Indian descent. 30% of Fijians of Indian descent lived in housing reported at excellent; no iTaukei residents lived in housing of this quality.

Water and Sanitation: Most (63%) have piped water into their dwelling, though a significant portion relies on unprotected water sources or private vendors (15%). Around 20% have to travel more than twenty minutes each way to collect water, and rely on water treatment to purify the water source. 20% do not use flush toilets; 76% have a private flush toilet. iTaukei reported more struggles with water provision than Fijians of Indian descent, with 21% of iTaukei residents reporting never having enough water (compared to 1.7% of Fijians of Indian descent), and 35.7% reporting always having enough water (compared to 62% of Fijians of Indian descent). Men were more likely to struggle with water provision than women in Ba (notable in comparison to other Tikinas, where women were more deprived).

⁴ The Individual Deprivation Measure assesses deprivation in 15 dimensions of life through an individual level survey (the IDM aims to interview all adults in the household), and a brief household level survey (answered by one household member), to get an overview of household members not included in the survey (children under 18) and assess those dimensions most appropriately measured at the household level. The Shelter dimension is measured using two indicators: (i) the durable housing indicator is measured through the household survey using questions from the Demographic and Health Survey and assessed via enumerator observation using descriptions of material type and quality accompanied by photographs of locally relevant housing; (ii) homelessness uses a question developed for this survey, about number of nights spent outdoors in the last year.

Energy use: The majority of residents in this area rely on firewood and crop residue for cooking fuel (80%), though around 66% also rely on a secondary source of cooking fuel – mostly kerosene. 88% use an open fire without a chimney for cooking, with 62% of these cooking in a separate room of the dwelling. Health problems from cooking fumes were reported by 23% of the sample, disproportionately affecting women (44% of women compared to 14% of men reported health problems from fumes). 91% have access to electricity, which most rated as reliable.

Food: Around 6% of residents struggled with food security, and did not have enough food to eat in the prior four weeks due to resources, with results roughly equal by sex.

Health: 20% of residents had suffered an injury or illness that affected their capacity to work in the prior four weeks. 71% of these had sought treatment (78% of men and 63% of women). Most sought health from a medical doctor or nurse (65%), with women more likely to see a nurse.

Environment: The main sources of environmental hazards reported by participants in Ba are air pollution (22%) and living near open water sources where insects breed (15%). Twice as many Fijians of Indian descent (50%) reported no environmental hazards near where they lived compared with iTaukei Fijians (25.7%)

Violence: Around 15% reported they had experienced one or more incidence of violence in the previous year, with an approximately equal gender split overall, though men were more likely to report more than one instance of violence.

Support: 18% of residents surveyed indicated they had no or very little personal support from friends or family in times of trouble. These residents tended to be mid age-range (26-50) men. Fijians of iTaukei background were far more likely to report access to personal support, with 64.3% perceiving full support from friends and family compared to 50% of iTaukei Fijians. There was also a large gender difference in results, with women more likely to report full support from friends and family (60.6%) than men (45.6), and men more likely to report no support at all (16.4%; compared with women, 4.0%).

Protection: The majority (75%) felt their clothing adequately protected themselves from day-to-day environmental hazards. Those who did not were approximately equally split between men and women, and iTaukei reported more problems in this dimension.

Tavua Tikina

The Tavua Tikina sample comprised 193 people, 157 living in rural areas and 36 living in informal settlements. 64.8% were Fijians of Indian descent, 33.7% iTaukei, and 1.6% identified as part-European, with age range of 18-85 and a roughly equal gender split. Around 10% reported some form of functional difficulty.

Of the 48.2% of residents who do paid work (73.1% of men and 25% of women), the most common type is farm or seasonal work (15%), followed by selling (8.3%) and skilled or professional work (8%). None rely on scavenging or begging for money.

Shelter: Most common roofing and walling material is tin, and 30% live in housing categorised as moderate to poor quality. 1% indicated they slept outdoors with some frequency. iTaukei were considerably more likely to have poor housing than Fijians of Indian descent, with 25% living in dwellings of poor overall condition compared to 3% of Fijians of Indian descent.

Water and Sanitation: Many (57%) have piped water into their dwelling, with most others relying on a well or public tap (20%). None buy water from private vendors. Around 15% have to travel more than twenty minutes each way to collect water. Many rely on some form of water treatment (47%). 71% have a private flush toilet, with 22% relying on a pit with a slab. 65% always have enough water for personal use. iTaukei were more likely to struggle with water provision, with only 41.5% always having enough water for their personal needs, compared to 80% of Fijians of Indian descent. There was also a gender difference in water provision in Ba, with 75% of men reporting they always had enough water for their needs, compared to 57% of women.

Energy use: The majority (80%) of residents in this area rely on firewood (57%) and crop residue (25%) for cooking fuel, with around 73% also relying on a secondary source of cooking fuel, split between firewood, kerosene, and cooking fuel. 89% use an open fire without a chimney for cooking, though compared to Ba, all have a separate room or building for cooking, or cook outdoors. Health problems from cooking fumes were cited

by 23% of the sample on average, though it was considerably more of a problem for women, with over 40% of women experiencing health problems from fumes, over a third reporting severe problems (compared to 26% of men reporting health problems from fumes, and with less severe consequences). 72% use electricity, less than in Ba, but those who do have electricity largely rate it as reliable.

Food: Around 11% struggled with food security, and did not have enough food to eat in the previous four weeks due to limited resources, with an equal number of men and women reporting this issue.

Health: 20% had suffered an injury or illness that affected their capacity to work in the prior four weeks, with men reporting injury/illness at higher rates (26% to 17%). 34% did not receive health care for this injury or illness; of those who did, most saw a medical doctor or nurse (63%), while two men consulted a traditional healer.

Environment: Sources of environmental hazards for the largest number of residents in Tavua were living near garbage (23.3%), or near open water sources where insects breed (15%). iTaukei residents were more likely to live near multiple environmental hazards than Fijians of Indian descent.

Violence: Around 13% indicated they had experienced one or more incidence or violence in the previous year, with an approximately equal gender split overall.

Support: 14% of the residents surveyed indicated they had very little or no personal support from friends or family in times of trouble. Women reported slightly more access to personal support, and there were few ethnic differences.

Protection: Most residents had clothing that adequately protected them from environmental hazards (85%), and those who reported full protection with regards to clothing were more likely to be Fijians of Indian descent and men.

RA PROVINCE: RAKI RAKI AND SAVOU TIKINAS



Photo credit: ABC Online

Raki Raki Tikina

The Raki Raki Tikina sample comprised 162 people, all of whom lived in rural areas. The sample was a roughly equal ethnic and gender split, with age range of 18-85. Around 40% reported some form of functional difficulty, and as in other areas, these were comprised mostly of older residents.

Of the 43.2% of residents who work for pay (66% of men and 21% of women), the most common type of paid work is farm or seasonal work (15%), followed by selling (8.3%) and skilled or professional work (8%). None rely on scavenging or begging for money.

Shelter: All lived in dwellings with a tin or iron roof, and most also lived with tin or iron walls (57.4%). Shelter quality was worse than other areas, with 20% having very bad or poor quality shelter and 22% having moderate quality shelter. iTaukei were far more likely to have poor quality housing, with 36% having very bad or poor quality dwelling compared to 2.7% of Fijians of Indian descent. 1.2% of residents sampled indicated they slept outdoors with some frequency.

Water and Sanitation: Many (59%) have piped water into their dwelling, with most others relying on well or public tap (20%). Few buy from water private vendors, and few have to travel to collect water. Many rely on some form of water treatment (36%). 71% have a private flush toilet, with 15% relying on a pit. 57% always have enough water for personal use. iTaukei are more likely to struggle with water provision; 8% report rarely having enough water compared to 3% of Fijians of Indian descent, and 46% of iTaukei report always having enough water compared to 71% of Fijians of Indian descent. There was also a significant difference in results by sex, with women much less likely to have sufficient water for their needs: 75% of men report always having enough water, compared to 40% of women; and 2.5% of men report rarely having enough water compared to 8.5% of women.

Energy use: The majority of residents in this area rely on firewood (52%) or crop residue (30%) for cooking fuel, with higher usage of kerosene (13.6%) and gas (4.3%) than other Tikinas. 68.5% have access to a secondary source of cooking fuel, mostly kerosene or gas. 83% use an open fire without a chimney for cooking, though most have a separate room or building for cooking, or cook outdoors. 2.5% cook inside in a space that also serves as a bedroom or living room. 30% have experienced health problems from cooking fumes, 76% of whom are women. 85% have electricity, which is available 24 hours a day and very reliable.

Food: There were low rates of food shortages in Raki Raki, with 4.9% experiencing problems in the previous year, and only a small number of people experiencing recent food shortages. Men were more likely to report struggles with food (8.8% compared to 1.2% of women).

Health: 30% had suffered an injury or illness that affected their capacity to work in the prior four weeks. 37% did not receive health care for this, though of those who did, many saw a medical doctor or nurse (55%). Men were much more likely to have sought health care (80% of men who had been sick did so, compared to 46% of women). 5.6% of respondents saw a traditional healer, and this was more common in this Tikina than in other areas.

Environment: There were relatively low rates of environmental hazards in Raki Raki, with the most common being living near garbage (19%), and traffic (16%). iTaukei were more likely to live near multiple environmental hazards than Fijians of Indian descent.

Violence: Around 18% indicated they had experienced one or more incidence of violence in the previous year. Women were more likely to have experienced violence than men.

Support: Rates of personal support were quite high in Raki Raki, with 75% indicating full support from friends and family. 4% of the residents indicated they had very little or no personal support from friends or family in times of trouble. Similar to other areas, women were more likely to indicate full support, and men more likely to indicate none, and iTaukei more likely to report access to full support from family or friends.

Protection: There were relatively lower rates of access to clothing that provides full protection from hazards in this Tikina than in other places (only 75% indicated full protection), and 89% of Fijians of Indian descent reported full protection compared to 64% of iTaukei.

Savou Tikina

The Savou Tikina sample comprised 175 people, all of whom lived in rural areas. The sample comprised approximately 31% Fijians of Indian descent and 69% iTaukei, slightly more women than men (53-47%), with age range of 18-88. Around 40% have some form of functional difficulty.

Of the 47% of the sample who do paid work (60% of men and 35% of women), the most common type of paid work was farm or seasonal work (21%), followed by selling (10%). None rely on scavenging or begging for money. 60% of men do paid work, while only 35% of women do.

Shelter: All lived in dwellings with a tin or iron roof, and most also lived with tin or iron walls (57.4%). Shelter quality was better than other areas, with 16% having very bad or poor quality shelter, 15% having moderate quality shelter, and 68% having good or excellent quality shelter. iTaukei were far more likely to have poor quality housing, with 21% having very bad or poor quality housing overall compared to 5.5% of Fijians of Indian descent. No residents indicated they slept outdoors with some frequency.

Water and Sanitation: Fewer residents than in other areas (47%) have piped water into their dwelling, though many having water piped to outside the dwelling (35%), so few residents have to walk far for water. Many rely on some form of water treatment (39%). 72% have a private flush toilet, with 19% relying on a pit. 48% always have enough water for personal use, with iTaukei struggling more in this dimension, but with women more likely to report they rarely or never had enough water for personal use (21% to 4%).

Energy use: The majority of residents in this area rely on firewood (58%) or crop residue (35%) for cooking fuel, followed by kerosene (6.3%). 63% have access to a secondary source of cooking fuel, mostly kerosene or gas. 89% use an open fire without a chimney for cooking, though most have a separate room or building for cooking (89%), or cook outdoors (9%), a higher rate than in other areas. 1.1% cook inside in a space that also serves as a bedroom or living room. In Savou, 40% report experiencing health problems from cooking fumes, higher than other Tikinas, and 5.7% report severe problems. Women were more likely than men to report problems from fumes (51% to 37%), and the problems were more likely to be severe. 78% of residents have electricity, though lower than in Raki Raki, and less reliable than elsewhere.

Food: There were low rates of food shortages in Savou, with 4% of respondents experiencing problems in the previous year, and only a small number of people experiencing recent food shortages (3.4% report going to sleep hungry in the previous four weeks). Results were similar for men and women.

Health: 18% had suffered an injury or illness that affected their capacity to work in the prior four weeks. 30% did not receive health care, though there were relatively high rates of seeing a medical doctor or nurse compared to other Tikinas (68%).

Environment: Living near breeding grounds for insects was the most common environmental disadvantage in Savou (22.9%), followed by air pollution (14.3%). iTaukei were more likely to live near multiple environmental hazards than Fijians of Indian descent.

Violence: Around 18% indicated they had experienced one or more incidence of violence in the previous year. The gender split was roughly equal.

Support: Rates of personal support were lower than in Raki Raki, with only 48% indicating full support from friends and family. Over 10% of the residents indicated they had none or very little personal support from friends or family in times of trouble. Women reported higher rates of personal support, as did Fijians of Indian descent.

Protection: Clothing that fully protected from the elements was reported by 57% of respondents, higher than in other areas, with only 7 participants in total reporting little or no protection. More Fijians of Indian descent reported full protection (72% of Fijians of Indian descent vs. 50% of iTaukei), and men were more likely to report full protection than women (62% to 53%).

ANNEXURE A: INDIVIDUAL DEPRIVATION MEASURE: DIMENSIONS AND INDICATORS

Table 1: Individual Deprivation Measure: dimensions and indicators		
Dimension	Indicators	Source for questions
A. Financial status⁵	Assets index	DHS
1. Food/Nutrition	Hunger in last 4 weeks	FANTA
2. Water	Water source, water quantity	WHO, UNICEF, new
3. Shelter	Durable housing, homelessness	DHS, new
4. Health Care/Health	Health status, health care access; for women pregnant now or within the last 3 years, substitute pre-natal care, birth attendance and actual/ intended place of birth	CWIK, WHS
5. Education	Years of schooling completed, literacy and numeracy	IHSN, DHS, new
6. Energy/Cooking Fuel	Source of cooking fuel, any health impacts, access to electricity	DHS, new
7. Sanitation	Primary toilet, secondary toilet	UNICEF, WHO
8. Family Relationships	Control of decision making in household, supportive relationships	OPHI/WEAI, new
9. Clothing/ Personal Care	Protection from elements, ability to present oneself in a way that is socially acceptable	New
10. Violence	Violence (including sexual and physical assault) experienced in the last 12 months, perceived risk of violence in the next 12 months	OPHI missing dimensions
11. Family Planning	Access to reliable, safe contraception, control over its use	DHS, new
12. Environment	Exposure to various environmental harms that can affect health, wellbeing, income and livelihood prospects	New
13. Voice	Ability to participate in public decision making in the community, ability to influence change at community level	WEAI/ OPHI
14. Time-use	24 hour clock (labour burden, leisure time)	Various time-use surveys, WEAI
15. Work	Status of/respect in/for paid and unpaid work; safety/risk in relation to paid and unpaid work	OPHI

CWIK Core Welfare Indicators Questionnaire
 DHS Demographic and Health Survey
 FANTA Food and Nutrition Technical Assistance project
 IHSN International Household Survey Network
 OPHI Oxford Poverty and Human Development Initiative

WEAI Women's Empowerment in Agriculture Index
 WHO World Health Organisation
 WHS World Health Survey
 UNICEF United Nations Children's Fund

⁵ It is difficult and time consuming to gather details of income or other cash transfers, access to financial products, debts and consumption. For the IDM we use a simple asset index as an approximate measure of financial status. We follow Hohmann and Garenne (2003, 2009) who calculate an absolute asset index based on the number of 'modern' goods (radio, television, refrigerator, bicycle, motorcycle, car or truck) owned in a household. A recent study of poverty and wellbeing in Timor Leste (Cornwell, Inder & Datt 2015) has raised the question of whether this type of asset index may include an urban bias, and the IDM team will look at ways to test this in future IDM studies. The IDM does not include assets in assessing multidimensional poverty; rather, it presents financial deprivation (as approximated by a simple assets index) separately from multidimensional deprivation, so that it is possible to see where they are related and where they are not. Preliminary results from the IDM Fiji study show the assets index and the IDM are correlated at 0.47, a statistically significant correlation, which indicates that in Fiji, people who are IDM deprived are not necessarily asset poor, and vice versa. It also indicates that the IDM is capturing deprivation not captured by financial measures of poverty.