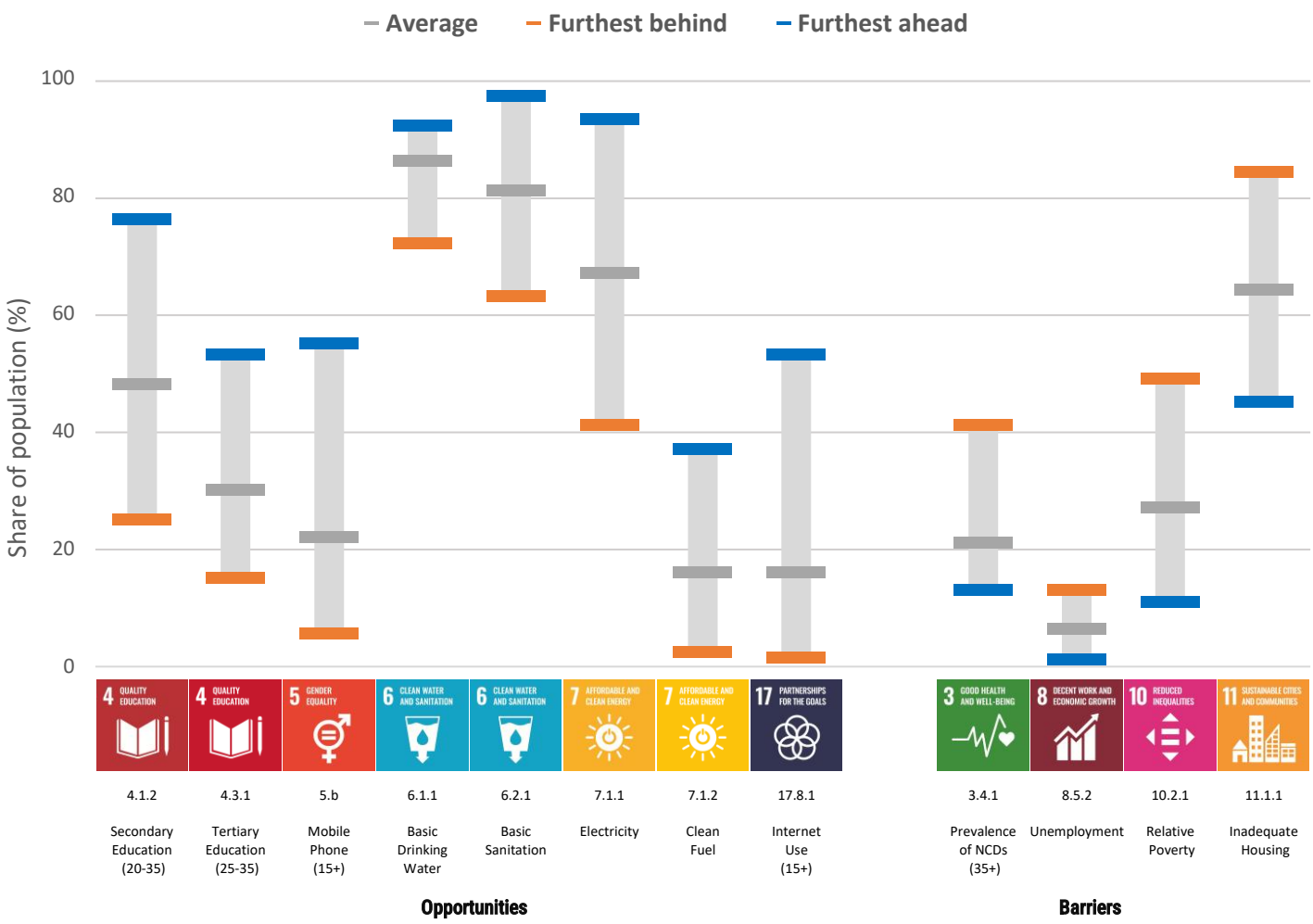
Voluntary National Review
FEDERATED STATES OF MICRONESIA

Key Highlights

Leave no one behind (LNOB) is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). Prior to 2015, inequality of opportunity was high in the Federated States of Micronesia (FSM) with large gaps evident among 12 SDG indicators analyzed, especially in access to electricity and the internet, secondary education completion and mobile phone ownership. Gaps were relatively low in access to basic drinking water and unemployment.

Figure 1. Overview of gaps in SDG indicators in FSM (2013)



Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Figure 1 above presents an overview of inequality of opportunity as of 2013 in the Federated States of Micronesia focusing on 12 indicators that relate closely to SDGs 3, 4, 5, 6, 7, 8, 10, 11 and 17. Each column in light gray shows the range of access to an opportunity or prevalence of a barrier. Dark gray bars represent the national average, while orange bars represent the furthest behind group rate and blue bars represent the furthest ahead group rate.

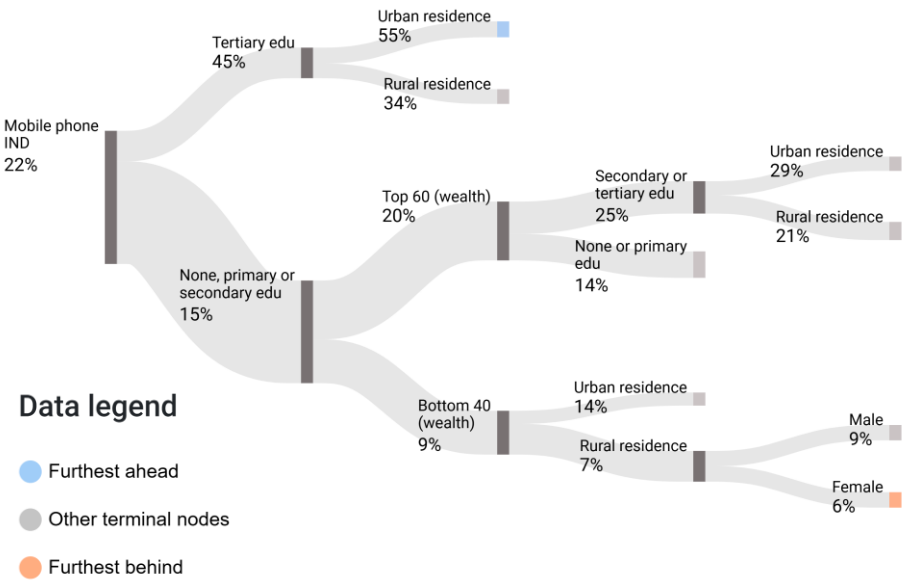
Ideally, all three groups would overlap at 100 per cent access to an opportunity (left panel) or 0 per cent prevalence of a barrier (right panel), implying that no one is left behind. While this ideal has not been achieved in any of the indicators as of 2013, access to basic drinking water (SDG 6.1.1) and unemployment (SDG 8.5.2) come close.

Gaps between the two groups were widest in access to electricity. While 93 per cent of the furthest ahead group had access to electricity, only 41 per cent of the furthest behind group had access. The gap is over twofold or 52 percentage points. Access to internet, secondary education completion and mobile phone ownership also exhibit 50 percentage point gaps on average between the two groups.

Who is left behind in SDGs?

ESCAP developed an empirical methodology to identify the furthest behind groups. The Classification and Regression tree (CART) methodology is used to determine the circumstances that identify groups that are left behind with lowest access rates as a group. The results are presented in the form of LNOB trees.

Figure 2: Disaggregating mobile phone ownership in FSM (2013)



Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Figure 2 visualizes inequality in mobile phone ownership. At the federal level, 22 per cent of individuals 15+ on average owned a mobile phone in 2013. Education mattered most in explaining inequality with a threefold gap between those with tertiary education (i.e., 45 per cent) vs. those with less than tertiary education (i.e.,15 per cent). Residence, household welfare and gender also mattered in identifying unique groups. The LNOB tree shows that less than tertiary educated women living in poorer households are the furthest behind group. In this group, only 6 per cent owned a mobile phone. On the contrary, in the furthest ahead groups, on average 55 per cent owned mobile phones. This group is composed of tertiary educated individuals living in urban areas.

Table 1 below reports the intersection of circumstances that identify the furthest behind groups in FSM for each indicator. Overall, individuals with lower education living in rural and poorer households constitute the most common intersections at the federal level. While men are left behind in indicators relating to education, women are left behind in indicators relating to mobile phone ownership, basic sanitation and unemployment. In addition, the size of the furthest behind group at the federal level varies between 12 per cent and 28 per cent of reference population.

Table 1: Shared characteristics of the *Furthest Behind* groups in FSM (2013)

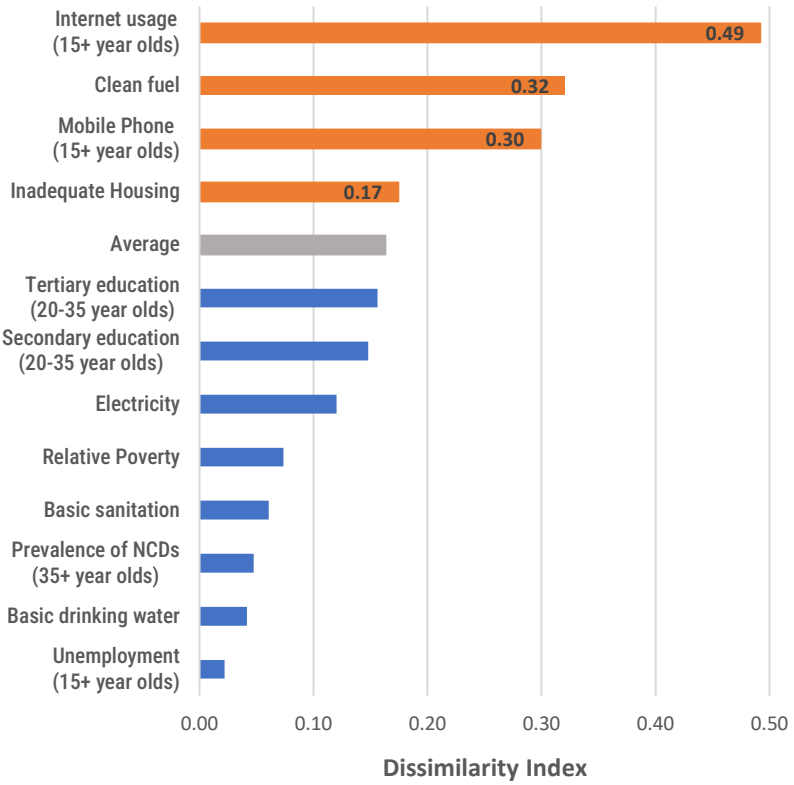
Indicator	Welfare	Residence	Age	Sex	Educatiion	Size
Prevalence of non-communicable diseases (35+ year olds)	-	-	65+	-	-	14
Secondary education (20-35-year-olds)	Bottom 40	-	-	Male		22
Tertiary education (20-35-year-olds)	Bottom 40	-	-	Male		20
Mobile phone ownership (15+ year olds)	Bottom 40	Rural	-	Female	Less than tertiary	12
Basic drinking water	Top 60	Urban	-		Tertiary	14
Basic sanitation	Bottom 40	Rural	-	Female		14
Electricity	Bottom 40	Rural	-	-	None or primary	20
Clean fuel	Bottom 40	Rural	--	-	-	28
Unemployment (15+ year olds)	-	-	-	Female	None or primary	12
Inadequate housing	Bottom 40	-	-	Male	None or primary	14
Relative poverty	-	-	-	-	None	13
Internet usage (15+ year olds)	Bottom 40	Rural	-	-	Less than tertiary	23
Count of circumstances	9	6	1	6	7	-

Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Inequality at a Glance

In addition to the CART methodology, inequality of opportunity can also be quantified using the Dissimilarity Index for selected opportunities. In FSM, several indicators stand out with higher values of inequality including internet usage, access to clean fuels, ownership of mobile phones and prevalence of inadequate housing.

Figure 3: Inequality in access to opportunities/ or prevalence of barriers, 2013

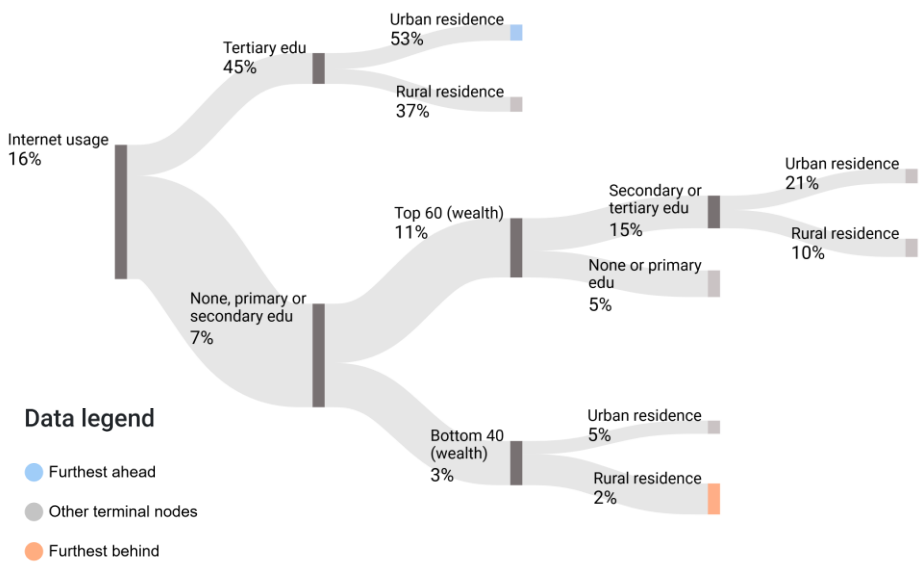


Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

The Dissimilarity Index (D-Index) measures how mutually exclusive groups, such as women living in poorer and rural households, fare relative to national average in terms of access to a certain opportunity or experience a certain barrier. Like the Gini coefficient, the D-Index ranges from 0 to 1, where 0 indicates no inequality, and 1 indicates that the entire access to a service is reserved to a specific group of people with shared circumstances (e.g., men living in richer and urban households).

In the Federated States of Micronesia, highest inequality is observed in internet usage, access to clean fuels, mobile phone ownership and inadequate housing. (orange bars), while inequality is less pronounced in unemployment and access to basic drinking water and prevalence of non-communicable diseases among 35+ population (blue bars). Across the 12 indicators presented, the average D-index stands at 0.16.

Figure 4: Disaggregating internet usage in FSM (2013)



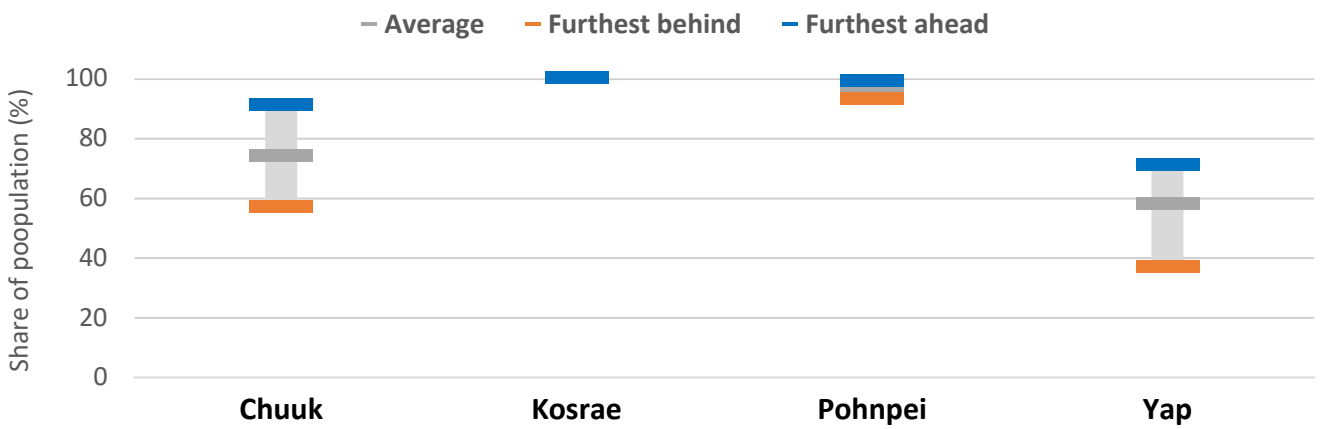
Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Figure 4 (left) visualizes inequality in internet usage which has the highest D-index value. At the federal level, 16 per cent of individuals aged 15+ used the internet on average in 2013. Educational background is the main driver of inequality. Individuals with tertiary education are over six times more likely to use the internet than others. Among tertiary educated individuals, those who live in urban areas are furthest ahead groups with 55 per cent of this group having used the internet. On the contrary, individuals with lower than tertiary education living in rural areas and among poorer households are the furthest behind group. Among them, less than 2 per cent used the internet while 98 per cent did not. Note that age and gender of individuals are not contributing to inequality.

State-level results

ESCAP's LNOB analysis can be conducted at local levels and shed light on differences in inequality across respective administrative units. In the FSM, access to opportunities are relatively lower in the states of Chuuk and Yap relative to Kosrea and Pohnpei. The latter states also exhibit relatively smaller gaps between the furthest behind and furthest ahead groups.

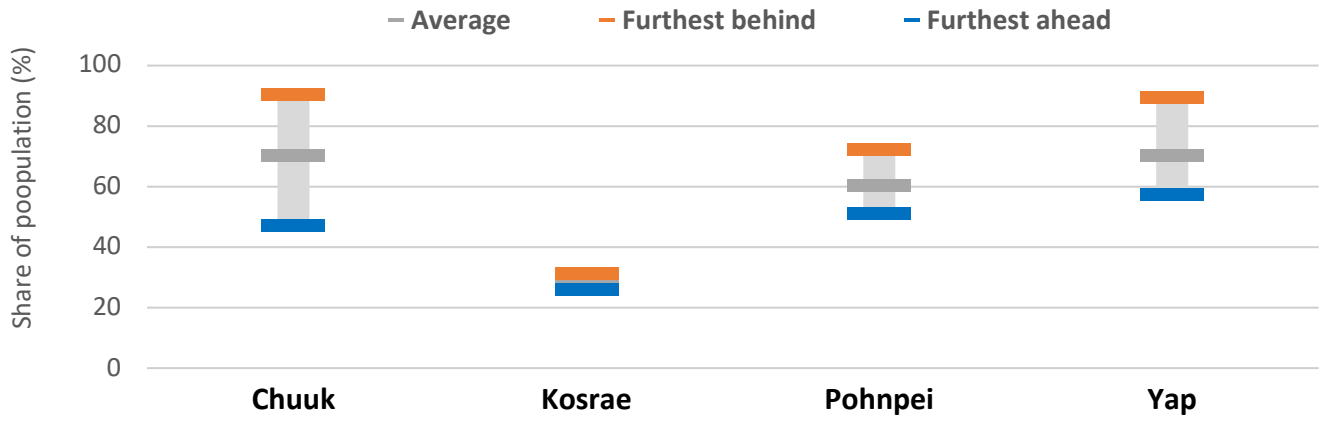
Figure 5: State-level differences in access to basic sanitation (2013)



Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Figure 5 above presents state-level results on access to basic sanitation (SDG 6.2.1). While universal access was achieved in Kosrae and almost no one was left behind in Pohnpei, Yap lagged behind with 58 per cent of the state population having access to basic sanitation. Among the furthest behind group, access was slightly over one-third of the state population. While average access was higher in Chuuk at 74 per cent of the state population having access to basic sanitation, the gap between the furthest behind and the furthest ahead groups was identical to the gap observed in Yap.

Figure 6: State-level differences in inadequate housing (2013)



Source: ESCAP calculations based on Household Income and Expenditure Survey (2013).

Figure 6 above presents state-level results in relation to inadequate housing (SDG 11.1.1). Kosrae was ahead of the others with less than one-third of the population living in inadequate housing and with small gaps between the furthest behind and the furthest ahead. Gaps were widest in Chuuk followed by Yap. In both states, over two-thirds of the population lived in inadequate housing which is characterized by lack of space, resilient housing materials or access to improved water and sanitation.