AIDM7330 Basic Programming for Data Science

Period Poverty :

The problem troubling women around the world

Group code: MangoX ;

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Agenda

Introduction

Menstruation is a natural process, almost every part of women's life, women's physiological health needs are human rights, also a basic issue of public health. However, in many countries around the world, women continue to face 'period poverty , humiliation, and silence for a variety of reasons, respect for women, providing them with the issue of safe management of the monthly menstrual cycle will be equal rights, as well as for the protection and development of vulnerable groups.

By compiling, visualizing, and analyzing data sets on whether adolescent girls and women in 19 countries and territories (15-49 years) have private restrooms and use menstrual hygiene products, as well as whether women participate in school, work or social activities during menstruation, we look at the problems that women may face during the menstrual cycle from two perspectives, and through analysis from both areas we hope to make more people aware' The impact of period poverty on women's health (physical, mental) lives, and the importance of advocating for more attention to women's physical health issues.
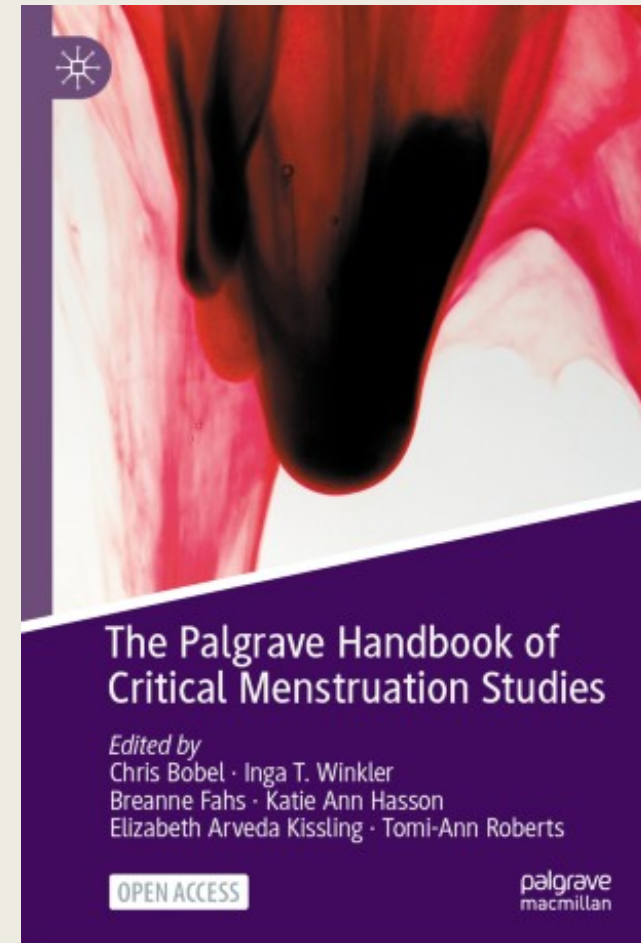
Other works
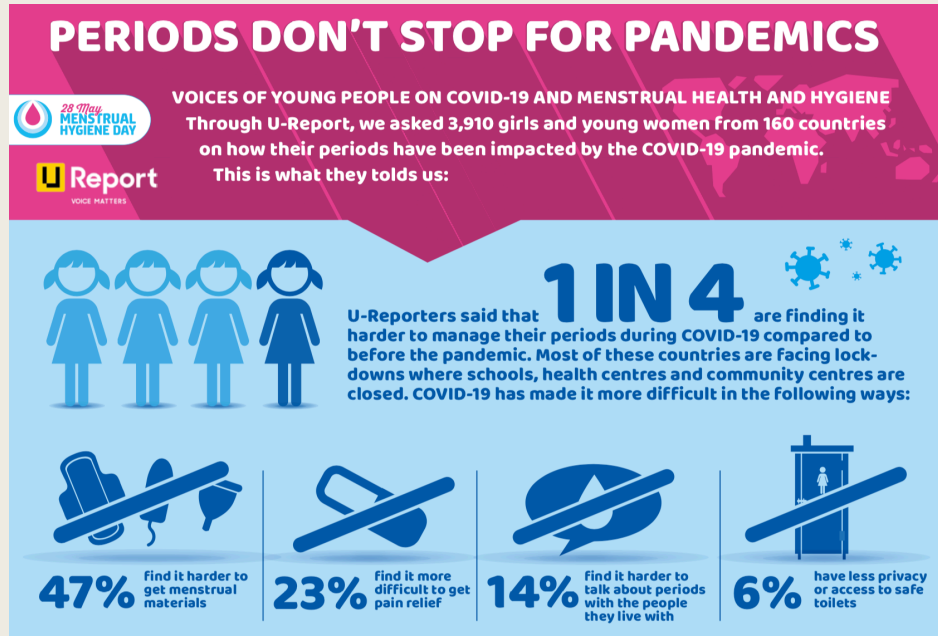
Voices of girls on Covid-19 and Menstrual Health & Hygiene

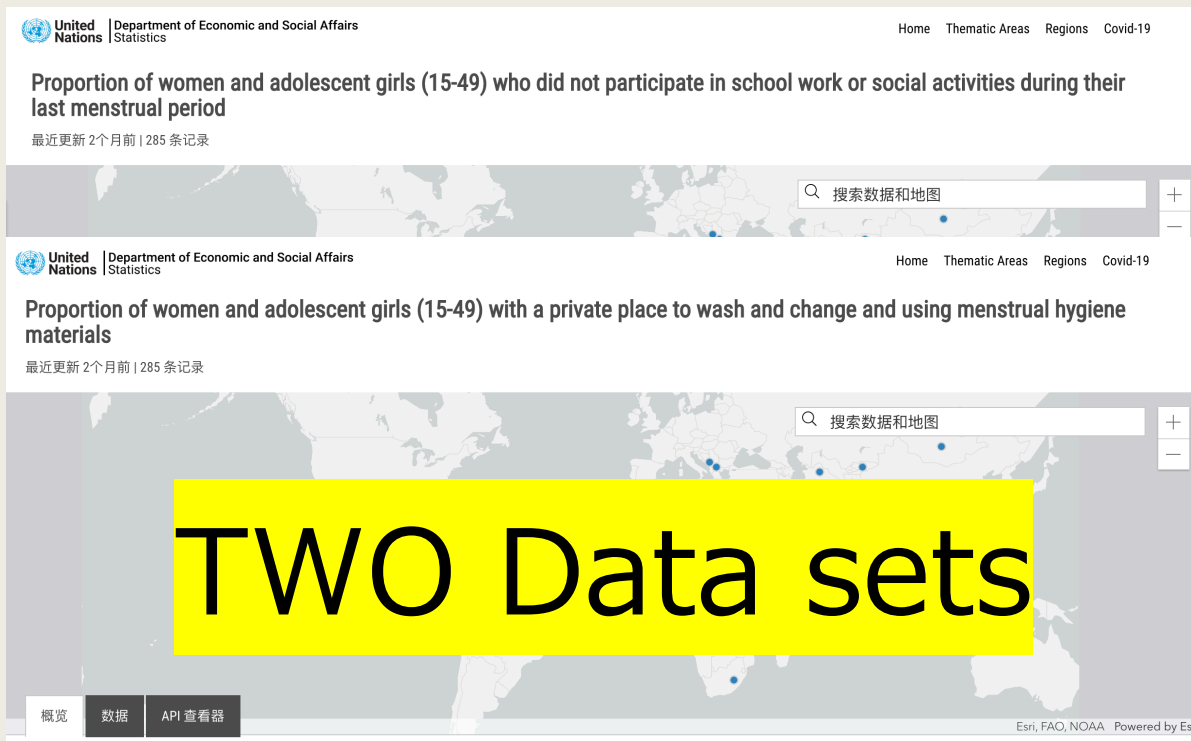**The Palgrave Handbook of Critical Menstruation Studies**

Research Question

RQ1: What is the situation about women owning private places to use menstrual hygiene material in the world?

RQ2: What is the situation about women not participating schools, work or social activities during menstruation? And what are the consequences?

RQ3: What is the relationship between whether a woman participates in activities during menstruation and whether she has a private place to use menstrual hygiene material?

Method

Data Source: United Nations

Method

variables for each data sets

DATA SETS	URL	Focused variables
Proportion of women and adolescent girls (15-49) with a private place to wash and change and using menstrual hygiene materials	https://worlds-women-2020-data-undesa.hub.arcgis.com/datasets/proportion-of-women-and-adolescent-girls-15-49-with-a-private-place-to-wash-and-change-and-using-menstrual-hygiene-materials?geometry=-72.246%2C-44.963%2C17.754%2C58.541	1. REF_AREA_DESC （countries） 2. URBANIZATION_DESC （urban or rural） 3. INCOME_WEALTH_QUANTILE_DESC 4. WITH_A_PLACE_TO_USE_MENSTRUAL_HYGIENE_MATERIAL_VALUE
Proportion of women and adolescent girls (15-49) who did not participate in school work or social activities during their last menstrual period	https://worlds-women-2020-data-undesa.hub.arcgis.com/datasets/proportion-of-women-and-adolescent-girls-15-49-who-did-not-participate-in-school-work-or-social-activities-during-their-last-menstrual-period?geometry=107.754,-44.963,-162.246,58.541	1. REF_AREA_DESC （countries） 2. AGE_DESC （age） 3. URBANIZATION_DESC （urban or rural） 4. INCOME_WEALTH_QUANTILE_DESC 5. DIDN'T_PARTICIPATE_ACTIVITIES_DURING_PERIOD_VALUE

Method

Merge the data set

We merge with all the remaining attributes

```
In [10]: table_2t=pd.merge(noworkfuringperiod, haveprivateplacetochange,
                on=["REF_AREA_DESC","TIME_PERIOD","SEX_DESC","AGE_DESC","URBANIZATION_DESC",
                "INCOME_WEALTH_QUANTILE_DESC","TIME_DETAIL"])
         table_2t.head(16)
```

Out[10]:

INCOME_WEALTH_QUANTILE_DESC	DIDN'T_PARTICIPATE_ACTIVITIES_DURING_PERIOD_VALUE	TIME_DETAIL	WITH_A_PLACE TO_USE_MENSTRUAL_HYGIENE_MATERIAL_VALUE
Total (national average) or no breakdown	14.09	2017-2019 (latest available)	84.769997
Total (national average) or no breakdown	12.04	2017-2019 (latest available)	86.239998
Total (national average) or no breakdown	13.49	2017-2019 (latest available)	88.019997
Total (national average) or no breakdown	11.26	2017-2019 (latest available)	86.370003
Total (national average) or no breakdown	14.10	2017-2019 (latest available)	86.269997
Total (national average) or no breakdown	14.58	2017-2019 (latest available)	87.480003

DATA FRAME

	REF_AREA_DESC	TIME_PERIOD	SEX_DESC	AGE_DESC	URBANIZATION_DESC	INCOME_WEALTH_QUANTILE_DESC	DIDN'T_PARTICIPATE_ACTIVITIES_DURING_PERIOD_VALUE	TIME_DETAIL	WITH_A_PLACE TO_USE_MENSTRUAL_HYGIENE_MATERIAL_VALUE
0	Democratic Republic of the Congo	2018	Female	45 to 49 years old	Total	Total (national average) or no breakdown	14.09	2017-2019 (latest available)	84.769997
1	Democratic Republic of the Congo	2018	Female	40 to 44 years old	Total	Total (national average) or no breakdown	12.04	2017-2019 (latest available)	86.239998
2	Democratic Republic of the Congo	2018	Female	35 to 39 years old	Total	Total (national average) or no breakdown	13.49	2017-2019 (latest available)	88.019997
3	Democratic Republic of the Congo	2018	Female	30 to 34 years old	Total	Total (national average) or no breakdown	11.26	2017-2019 (latest available)	86.370003
4	Democratic Republic of the Congo	2018	Female	25 to 29 years old	Total	Total (national average) or no breakdown	14.10	2017-2019 (latest available)	86.269997

Result

We linked the proportion of women who did not participate in any activities during menstruation and the proportion of women who owned private places to use menstrual hygiene products, as shown in the figure on the right. The brightest yellow part of the figure represents the most concentrated data, and it is known that in a significant proportion of the 19 countries studied, 12.5-17.5 percent of women did not participate in any activities during menstruation and 85-95 percent of women used menstrual hygiene products in private places.

Did not participate activities vs. Have a place to use menstural material

Result

Proportion of females with a place to use menstrual hygiene material
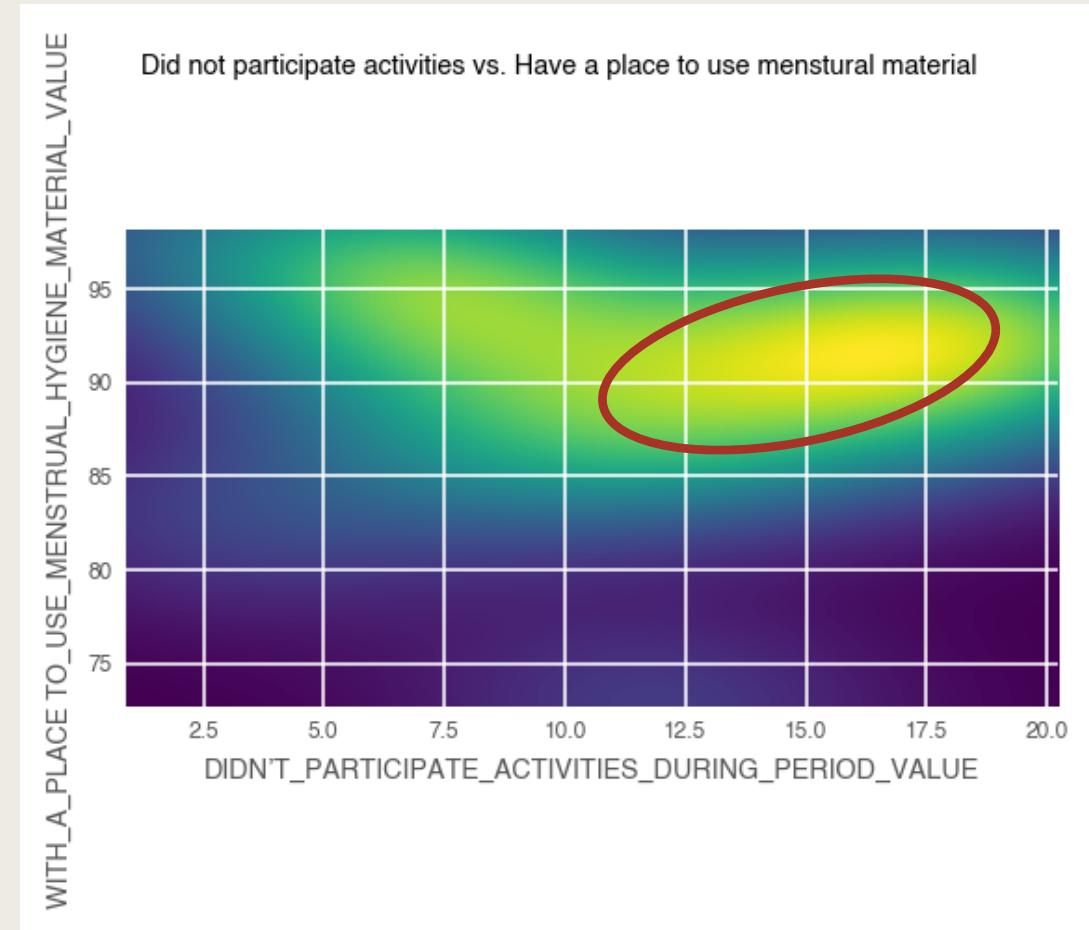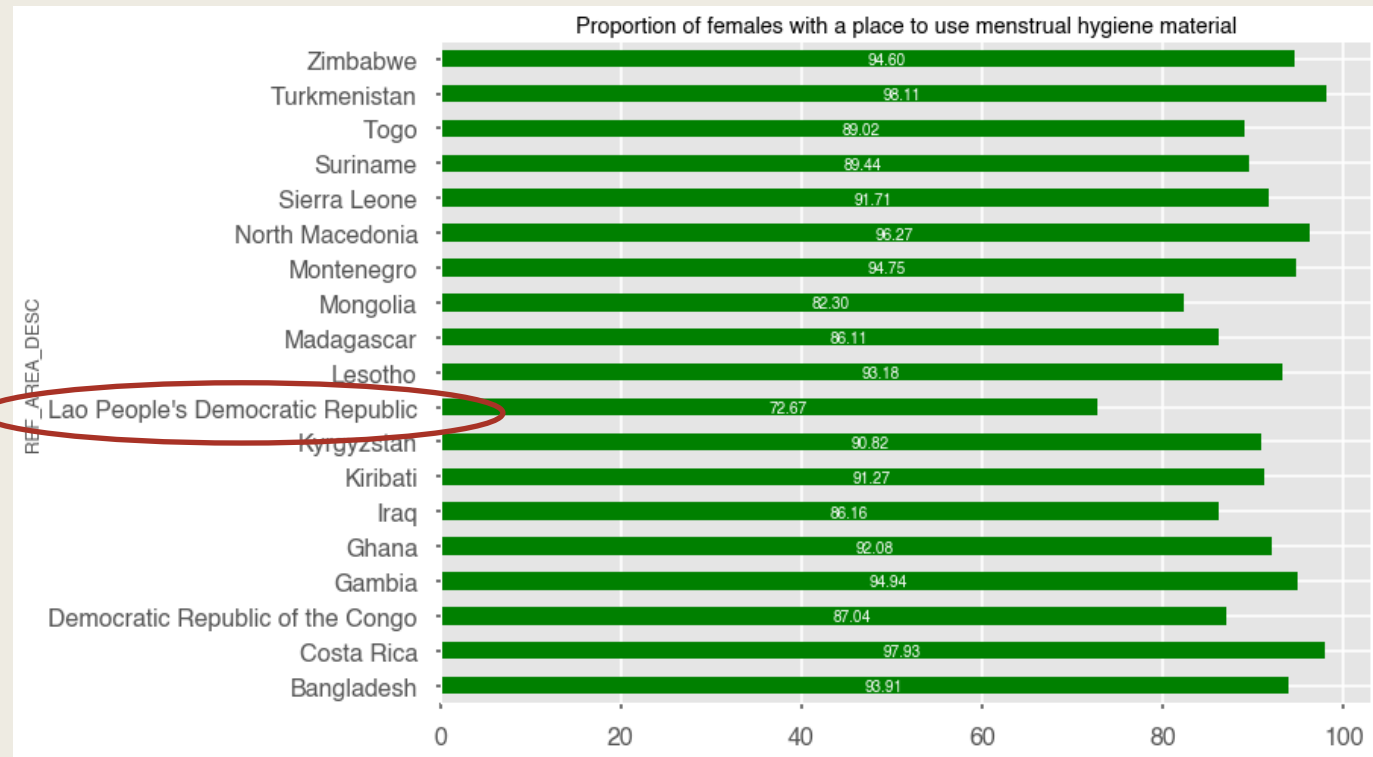
In terms of whether women have a private place to use menstrual hygiene material, the percentage of women who have a private place are above 80% in 18 countries, except Lao People's Democratic Republic, with 72.67%.

Result

Proportion of females with a place to use menstrual hygiene meterial
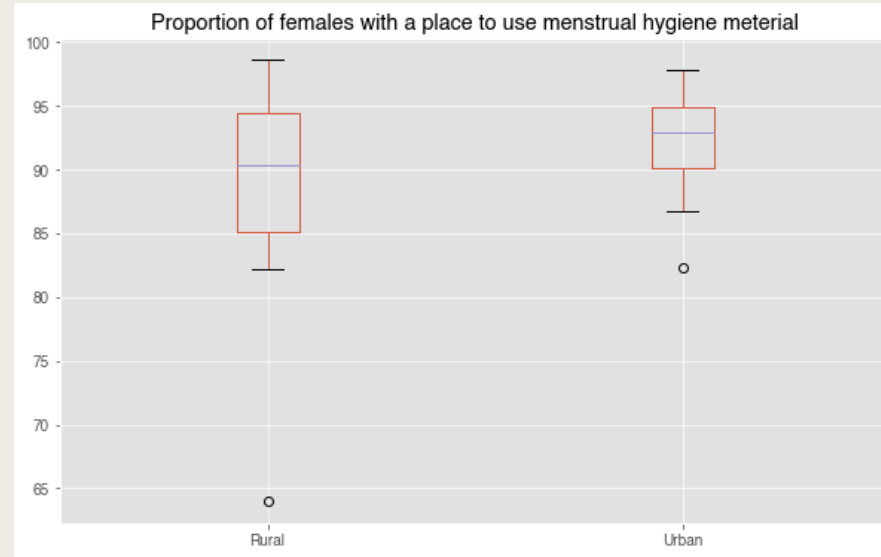
Looking at the urban and rural areas respectively of 19 countries, the values are concentrated above 90%, which means that even in relatively poor rural areas, most women have a place to use menstrual hygiene material.

However, on average, there are still about 10 percent of women in the 19 countries who do not have private places to use menstrual materials, which cannot be ignored. Based on the data from International Federation of Gynecology and Obstetrics, there are 1.9 billion people menstruating regularly, and the summation of 10% of them is about 190 million people!

Result

Proportion of females with a place to use menstrual hygiene material
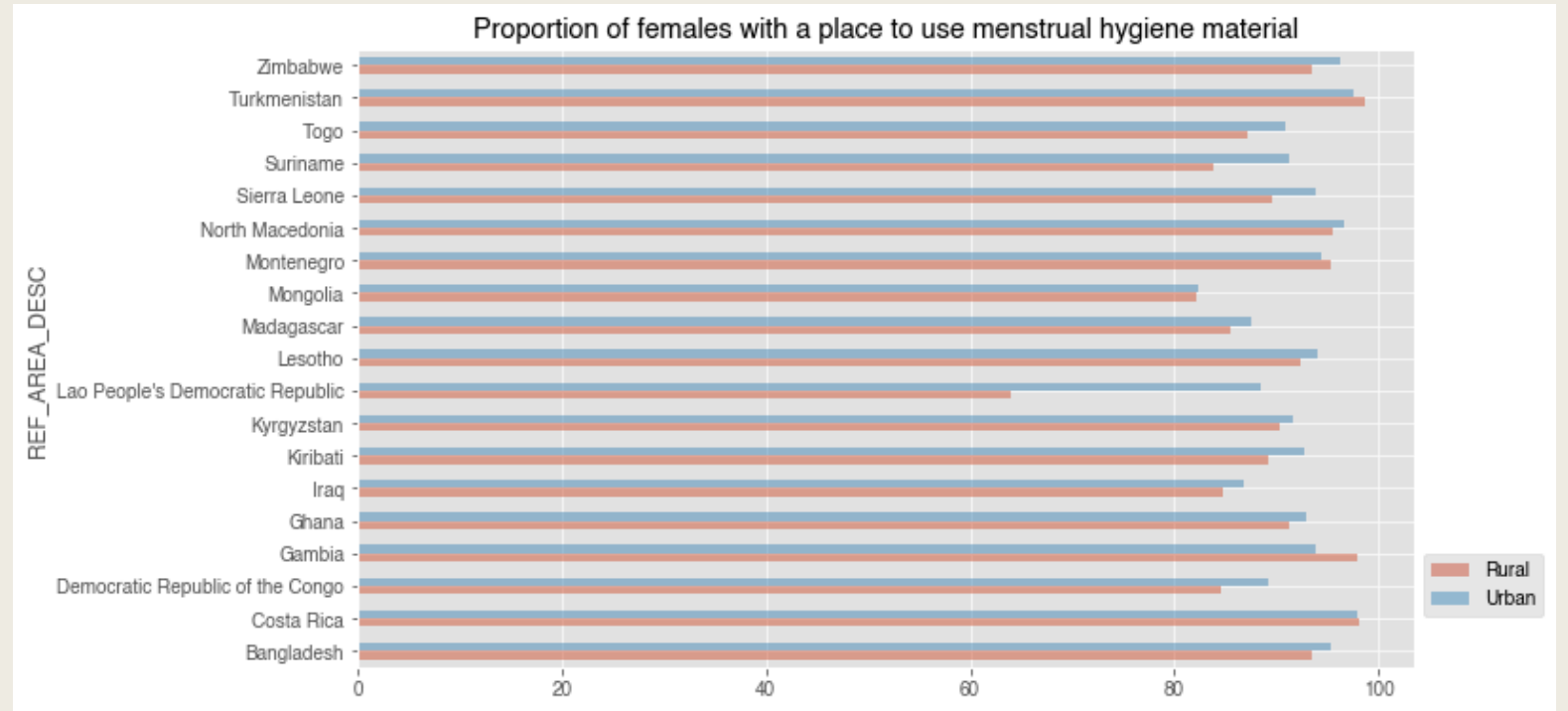
From the existing data, the problem of poor hygiene is most pronounced in rural areas of the Lao People's Democratic Republic, with only 64% of women having access to private places to change sanitary products during their menstruation period.

Result

Except for the Lao People's Republic, the difference in proportion between different regions (urban/rural) of other countries is not very obvious. In general, the proportion of women who have menstrual hygiene products in urban areas is slightly higher than in rural areas in most countries. This may be caused by the economic gap between urban and rural areas. But since the countries in this study are all economically underdeveloped regions, the overall gap between urban and rural areas might not be very significant.

Proportion of females with a place to use menstrual hygiene material
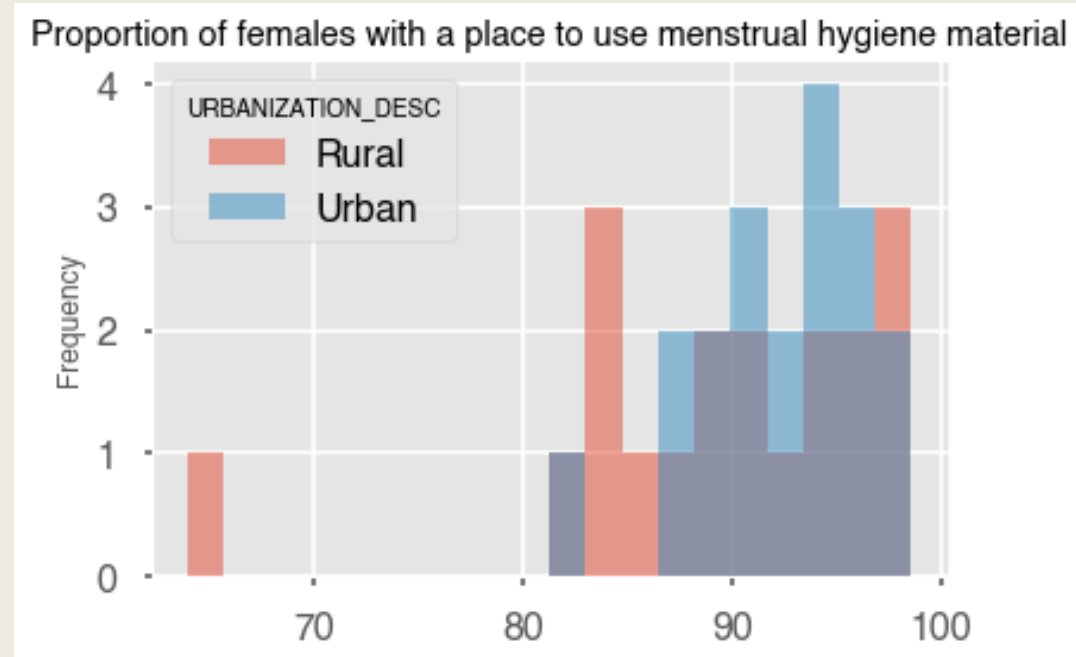
Result

The proportion of the richest people is highest among females who have places to use menstrual hygiene products. But surprisingly, the poorest groups also show a high share of 80% to 90%.

This data also tells us that economic income has an impact on whether women can obtain places to use menstrual hygiene materials. The help of non-governmental organizations will relatively alleviate the inequality in enjoying the place to use menstrual hygiene material caused by the economic gap.

Proportion of females with place to use menstrual hygiene meterial

Result
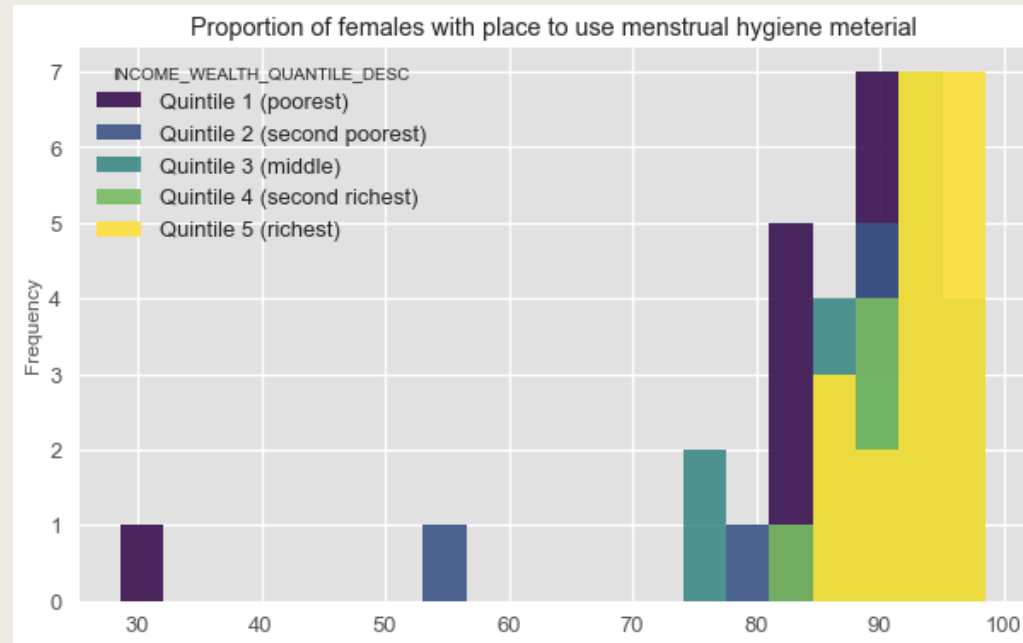
In terms of the proportion of females who did not participate in school work or social activities during their last menstrual period, emerging data shows that in many countries and regions around the world, women do not participate in work, school and other social activities during menstruation. From the 2017-2019 data map of 19 countries and regions, it can be found that 11 countries have more than 10% of women who did not attend school, work or social activities during their last menstrual period, in 19 countries, this proportion ranges from 0.88% in Turkmenistan to close to 20.23% in Gambia.

Proportion of females 15-49 who did not participate activities during last period

REF_AREA_DESC	Value
Zimbabwe	16.30
Turkmenistan	0.88
Togo	12.12
Suriname	17.49
Sierra Leone	20.15
North Macedonia	6.60
Montenegro	6.75
Mongolia	3.19
Madagascar	8.31
Lesotho	13.14
Lao People's Democratic Republic	11.84
Kyrgyzstan	7.00
Kiribati	16.08
Iraq	10.62
Ghana	18.87
Gambia	20.23
Democratic Republic of the Congo	14.20
Costa Rica	6.70
Bangladesh	7.86

Result

According to the table obtained from the data, it is not difficult to see that the non-participation rate of girls (15-24 years old) is relatively high.

Among them, over 55 percent of Gambian females aged 15 to 24 did not participate in any activity during their last period before the survey and more than 40 percent of 15-to-24-year-old women in Zimbabwe, Sierra Leone and Ghana took time off during their menstrual period. Menstruation affects the participation of women of all ages, but there are wide variations in different countries and regions, as well as among women of different ages within the same country (for example, the non-participation rate in the Gambia is about 9 to 33 percent).

Result

Proportion of females who did not participate activities during last period
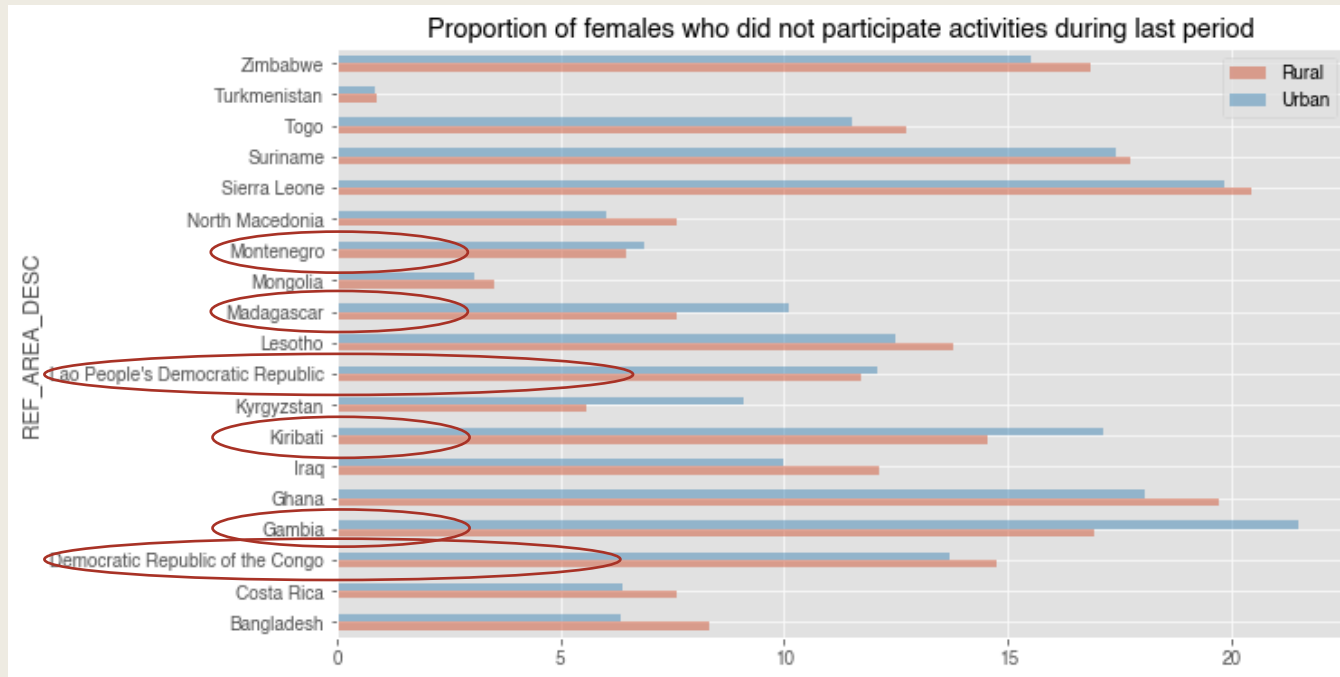
However, the rates of non-participation in social activities vary widely between rural and urban women in the same countries, with urban women in Gambia, Kiribati, Montenegro, Madagascar, Laos and Kyrgyzstan having higher rates of non-participation than rural women, as can be seen from the figure. However, in the remaining 13 countries, the percentage of urban women who do not participate in social activities is lower than that of rural women. These data show that different countries and regions face different health issues of females, therefore, their approaches and demands to address specific issues are different.

Reflection

Through the analysis of the obtained databases, we found that women will be absent from class, work and social activities during menstruation period. At the same time, There is a certain gap in providing women with private places to use menstrual hygiene products in different countries and regions. We are trying to find whether there is a connection between the two aspects, but based on the existing databases, we cannot infer the relationship between them. We hope to obtain a more accurate and clear view of the current status and problems of women's physical hygiene. Therefore, in the future, we need to conduct more extensive databases collection and statistics to analyze the female health status from more angles.

This study is just a window, seeing a small corner of the world, and outside the window, there are more such menstrual poverty and lack of sanitation caused by the social notion of long-term menstrual shame.
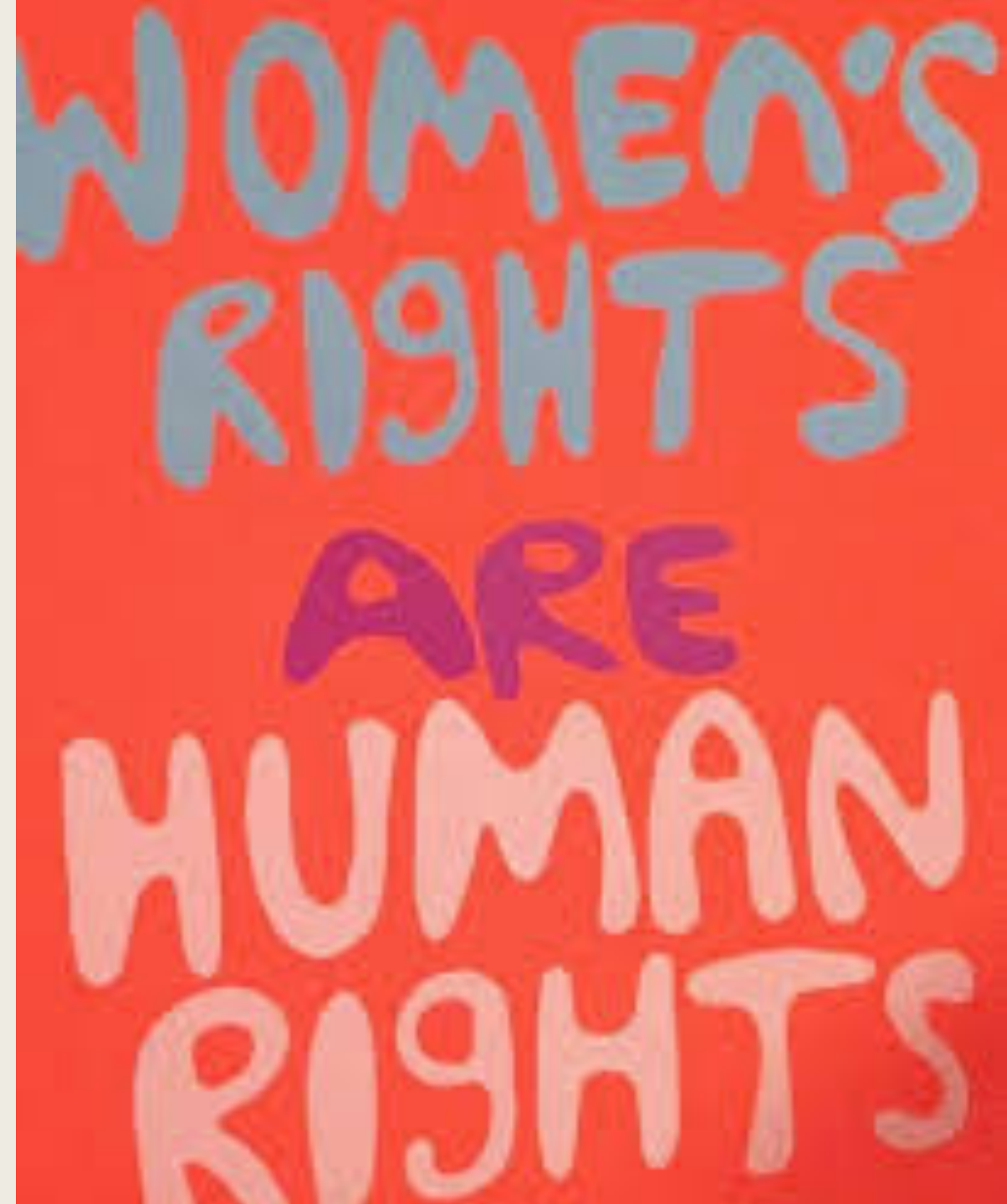
Related Reference

◆ The WASH Poverty Diagnostics showed that 25 percent of women in Nigeria lack adequate privacy for MHM, while only 54 percent of schools in India had a separate and usable girls' toilet.

◆ According to World Health Organization (WHO) research in the former Yugoslav Republic of Macedonia, 90 percent of female students in rural areas do not visit school for four or five days while on their period.

◆ In the UK, a reported 137,700 girls have missed school due to period poverty. They risk falling 145 education days behind male counterparts.

Continuous attention and proactive improvement of the current physiological health problems faced by women will be a multi-plural and lasting process of effort.

— Thank you —