Developing an Index of Socio-Economic Development Consistent with Maqasid Al-Shari'ah

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Presentation Outline

- Need for a Separate Index
- Sampling Methodology
- Definition of Data
- Rationale for Selection of Variables
- Construction Methodology
- Results & Findings

Need for a Separate Index

- The benefit of using an index is that it enables us to get representation of reality by looking at summary measures.

- It can be used for relative comparison and assessment of policies, actions, performance and achievement in different socio-economic contexts.

Historical Evolution of Development Literature

- In early literature, per capita GDP was considered sufficient to measure development.
- Long run macroeconomic literature focused on capital accumulation as one of the primary instruments to ensure development.
- Haq (1963) gave the concept of functional inequality in 1960s. He reasoned:

  "There exists, therefore, a functional justification for inequality of income if this raises production for all and not consumption for a few. The road to eventual equalities may inevitably lie through initial inequalities."

Historical Evolution of Development Literature

- However, in 1960s, functional inequality of income and social utility of greed could not ensure trickle down of economic growth benefits.
- Pakistan is a prime example of that failure.
- Despite exemplary growth in the 1960s, the country got divided. One of the prime reasons for that unfortunate episode was considered to be widespread regional disparities of income.

Historical Evolution of Development Literature

- Haq (1995) later on accepted that humans are ‘means’ as well as ‘ends’ of any development process or initiative.
- He finally accepted that ‘Ends’ cannot be sacrificed for the future, even when benefits are certain, and ignoring ‘ends’ undermines the entire development process.
- HDI was developed by Mehboob-ul-Haq and Amartya Sen. It put the focus on human development, especially in the sphere of education and health besides per capita income.

Historical Evolution of Development Literature

- But, during the last 30 years, a lot of other challenges have sprung up which require a renewed focus on environmental resource conservation, equitable income distribution, intergenerational equity and enhancing social infrastructure.

- Is rapid growth accompanied by equally rapid depletion of environmental resources and high fiscal deficit and public debt burden a truly admirable growth model?

Historical Evolution of Development Literature

- Just at the right time, the concept of sustainable development has come to the shore.

- It is realized that for growth to be sustainable, the growth shall provide widespread benefits and must not come at the expense of worsening income distribution and environment quality.

Sampling Methodology

We had taken three groups of countries from WDI, i.e.

- High Income Countries Excluding Muslim Countries (39)
- Middle Income Countries Excluding Muslim (27) Countries
- Muslim Countries (54)

Definition of Data

Indicator Name	Category
School enrollment, secondary (% net)	Human Capital
Health expenditure per capita, PPP (constant 2005 international $)	Human Capital
Health expenditure, total (% of GDP)	Human Capital
Hospital beds (per 1,000 people)	Human Capital
Nurses and midwives (per 1,000 people)	Human Capital
GNI per capita, Atlas method (current US$)	Income
GINI index	Income
Poverty Rate	Income
CO_2 emissions (metric tons per capita)	Social Maqasid
Labor participation rate, male (% of male population ages 15+)	Social Maqasid
Unemployment, male (% of male labor force)	Social Maqasid
Strength of legal rights index (0=weak to 10=strong)	Social Maqasid
Total Public Debt to GDP Ratio (% of GDP)	Social Maqasid

For each country, average value of each variable is taken for the period 2008-2012. It enables us to overcome any gaps in reporting of data and to avoid any irregularity or outliers.

Rationale & Selection of Variables

- Al-Ghazali (d. 505/1111) divided Maqasid-e-Shari'ah into five categories: Protection of religion, life, reason, progeny and property.

- Siddiqui (2009) rightly argued that objectives should not be limited to the protection from harm, but should also include securing benefits.

- Hence, one can include basic freedom, justice, equity, poverty alleviation, equitable income distribution etc to name a few important concepts.

Rationale & Selection of Variables

- In the human capital category, we combine different health and education indicators.
- Per capita availability of hospital beds and nursing staff can enable us to account for current infrastructure availability for boosting human capital.
- Health expenditure as percent of GDP can enable us to know the policy direction.
- Hence, countries can differ in their initial endowments and infrastructure, but they can catch up with policy directed towards human capital development.
- Likewise, for education, we take net enrollment rate in secondary school.

Rationale & Selection of Variables

- It is possible that a country has high per capita income as well as high poverty rate and high inequality of income.
- Such a phenomenon is missed in HDI since only per capita income is taken in HDI construction.
- In line with Maqasid-e-Shari'ah, poverty rate and income inequality should also simultaneously reduce for income growth to mean and reflect any meaningful development.

Rationale & Selection of Variables

- In the social Maqasid category, we take five indicators. In line with Islamic social system in which men are made responsible to earn for their family, we take labor force participation rate for males.

Rationale & Selection of Variables

- For assessing the economic policymaking, we also take unemployment rate as an indicator.
- Unemployment rate in recent years had been as high as 30% to 40% even in rich countries.
- Such phenomenon is not conducive for sustainable development. Very high unemployment will necessarily involve more taxation, more transfer payments and increased size of government.
- In times when fiscal deficit is high and economy is in a recession, this may not even be possible as the evidence from the recent European crisis has shown.

Rationale & Selection of Variables

- For intergenerational justice and equity, we also need to take account of excessive debt burdens taken by present generation that will be inherited by the future generations by default.
- We account for this by using public debt to GDP ratio.
- Not only excessive leveraging bad for economic reasons, but as per Islamic ethos and philosophy, unnecessary indebtedness is not encouraged.

Rationale & Selection of Variables

- For ensuring equity in environmental resource quality and quantity between present and future generations, environmental degradation must be taken negatively for its effect on sustainable development.

- We account for this by using per capita emission of CO_2.

Construction Methodology

$$I - HDI = \frac{1}{3}(Human\ Capital) + \frac{1}{3}(Income) + \frac{1}{3}(Social\ Maqasid)$$

Indicator Name	Weights
School enrollment, secondary (% net)	0.2
Health expenditure per capita, PPP (constant 2005 international $)	0.2
Health expenditure, total (% of GDP)	0.2
Hospital beds (per 1,000 people)	0.2
Nurses and midwives (per 1,000 people)	0.2
GNI per capita, Atlas method (current US$)	0.33
GINI index	0.33
Poverty Rate	0.33
CO2 emissions (metric tons per capita)	0.2
Labor participation rate, male (% of male population ages 15+)	0.2
Unemployment, male (% of male labor force)	0.2
Strength of legal rights index (0=weak to 10=strong)	0.2
Total Public Debt to GDP Ratio (% of GDP)	0.2

Construction Methodology

$$Indicator\ Index\ Value = \frac{Actual\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

For some indicators, the higher value has a negative interpretation, for instance, unemployment rate, Gini coefficient, CO_2 emissions and poverty rate.

Index value for such indicators is taken with negative sign in the I-HDI Index value computation.

HDI and I-HDI Value & Ranking of High Income Countries

Country Name	HDI Index Value	HDI Rank	I-HDI	I-HDI Rank	Difference
Australia	0.938	2	0.217	8	-6
Austria	0.895	17	0.191	12	5
Belgium	0.897	16	0.159	19	-3
Canada	0.911	11	0.133	20	-9
Chile	0.819	32	0.041	36	-4
Croatia	0.805	36	0.102	29	7
Cyprus	0.848	28	0.167	18	10
Czech Republic	0.873	26	0.125	24	2
Denmark	0.901	14	0.251	6	8
Estonia	0.846	29	0.103	28	1
Finland	0.892	20	0.263	2	18
France	0.893	19	0.175	15	4
Germany	0.92	5	0.173	17	-12
Greece	0.86	27	0.054	32	-5
Iceland	0.906	13	0.254	4	9
Ireland	0.916	7	0.192	11	-4
Israel	0.9	15	0.102	30	-15
Italy	0.881	23	0.041	37	-14
Japan	0.912	10	0.131	21	-11
Korea, Rep.	0.909	12	0.175	16	-4
Latvia	0.814	35	0.124	25	10
Lithuania	0.818	33	0.114	26	7
Luxembourg	0.875	24	0.207	9	15
Netherlands	0.921	4	0.231	7	-3
New Zealand	0.919	6	0.200	10	-4
Norway	0.955	1	0.291	1	0
Poland	0.821	31	0.129	22	9
Portugal	0.816	34	0.045	35	-1
Russian Federation	0.788	38	0.030	38	0
Singapore	0.895	18	0.054	33	-15
Slovak Republic	0.84	30	0.105	27	3
Slovenia	0.892	21	0.129	23	-2
Spain	0.885	22	0.101	31	-9
Sweden	0.916	8	0.252	5	3
Switzerland	0.913	9	0.257	3	6
Trinidad and Tobago	0.76	39	0.010	39	0
United Kingdom	0.875	25	0.177	14	11
United States	0.937	3	0.181	13	-10
Uruguay	0.792	37	0.047	34	3

HDI and I-HDI Value & Ranking of Middle Income Countries

Country Name	HDI Index Value	HDI Rank	I-HDI	I-HDI Rank	Difference
Angola	0.508	27	-0.036	25	2
Argentina	0.811	2	-0.008	21	-19
Belarus	0.793	3	0.111	4	-1
Belize	0.702	21	0.011	17	4
Botswana	0.604	26	0.014	16	10
Brazil	0.73	16	-0.010	22	-6
Bulgaria	0.782	6	0.125	2	4
China	0.699	23	0.038	13	10
Colombia	0.719	20	-0.014	24	-4
Costa Rica	0.773	9	0.046	11	-2
Dominican Republic	0.745	12	-0.011	23	-11
Ecuador	0.724	19	0.021	15	4
Fiji	0.702	22	0.053	9	13
Hungary	0.831	1	0.113	3	-2
Jamaica	0.73	17	0.011	18	-1
Macedonia	0.74	14	-0.039	26	-12
Mauritius	0.737	15	0.035	14	1
Mexico	0.775	8	0.004	19	-11
Montenegro	0.791	4	0.088	6	-2
Panama	0.78	7	0.043	12	-5
Peru	0.741	13	0.050	10	3
Romania	0.786	5	0.127	1	4
Serbia	0.769	10	0.103	5	5
South Africa	0.629	25	-0.079	27	-2
St. Lucia	0.725	18	0.068	8	10
Thailand	0.69	24	0.085	7	17
Venezuela	0.748	11	0.004	20	-9

HDI and I-HDI Value & Ranking of Muslim Countries

Country Name	HDI Index Value	HDI Rank	I-HDI	I-HDI Rank	Difference
Albania	0.749	8	0.047	15	-7
Algeria	0.713	15	-0.010	32	-17
Azerbaijan	0.734	12	0.128	1	11
Bahrain	0.796	3	0.079	4	-1
Bangladesh	0.515	27	0.046	16	11
Benin	0.436	35	-0.005	31	4
Bosnia	0.735	11	-0.003	30	-19
Cameroon	0.495	29	-0.029	36	-7
Chad	0.34	41	-0.058	41	0
Egypt	0.662	18	0.001	28	-10
Ghana	0.558	25	0.013	25	0
Guinea	0.355	39	-0.024	34	5
Guinea-Bissau	0.364	37	0.028	19	18
Indonesia	0.629	21	0.064	8	13
Iran	0.742	10	0.039	17	-7
Iraq	0.59	24	0.006	27	-3
Kazakhstan	0.754	7	0.127	2	5
Kenya	0.519	26	0.021	21	5
Kuwait	0.79	4	0.017	23	-19
Lebanon	0.745	9	-0.020	33	-24
Malaysia	0.769	6	0.075	5	1
Maldives	0.688	17	0.056	10	7
Mali	0.344	40	0.038	18	22
Mauritania	0.467	32	-0.086	43	-11
Morocco	0.591	23	-0.046	39	-16
Mozambique	0.327	42	-0.061	42	0
Niger	0.304	43	-0.002	29	14
Nigeria	0.471	30	-0.045	37	-7
Oman	0.731	13	0.073	6	7
Pakistan	0.515	28	0.009	26	2
Qatar	0.834	1	0.105	3	-2
Saudi Arabia	0.782	5	0.050	12	-7
Senegal	0.47	31	-0.027	35	-4
Sierra Leone	0.359	38	0.052	11	27
Sudan	0.414	36	-0.045	38	-2
Syria	0.648	20	0.020	22	-2
Tajikistan	0.622	22	0.049	13	9
Tunisia	0.712	16	0.015	24	-8
Turkey	0.722	14	0.048	14	0
UAE	0.818	2	0.067	7	-5
Uganda	0.456	34	0.024	20	14
Uzbekistan	0.654	19	0.058	9	10
Yemen	0.458	33	-0.054	40	-7

Findings for High Income Countries

- Negative value of the difference shows that the country had a better rank in HDI as compared to I-HDI.
- Countries with very high unemployment rate and debt to GDP ratio rank low in I-HDI as compared to their ranking in HDI.
- For instance, Japan and Italy are ranked 11 and 14 places below their respective HDI rank.
- USA also goes down in I-HDI rank by 10 places. Countries like Finland, Luxembourg, Latvia and Cyprus make significant jump in I-HDI by more than 10 places as compared to their ranking in HDI.

Findings for Middle Income Countries

- Countries with high income inequality and poverty rate go down in rankings significantly.
- Argentina and Mexico go down by more than 10 places in I-HDI as compared to their HDI rank.
- China by controlling its poverty rate and good performance on unemployment, labor force participation and low public debt burden goes up by 10 places in I-HDI as compared to its HDI rank.
- Interestingly, pretty much isolated economies like Fiji, St. Lucia and Thailand also go up by more than 10 places on I-HDI as compared to their HDI rank.

Findings for Muslim Countries

- The most striking result is that none of the oil rich countries make a step up in I-HDI rank as compared to their HDI rank.

- All of them go down several places including Iran, Iraq, Kuwait and Saudi Arabia.

Findings for Muslim Countries

- Another interesting finding is that Central Asian Muslim countries like Azerbaijan, Uzbekistan and Tajikistan improve their ranking on I-HDI as compared to their ranking in HDI.
- East Asian countries like Malaysia and Indonesia had also improved their ranking on I-HDI as compared to their HDI rank.
- These countries face much less acute macroeconomic imbalances and political unrest.

Findings for Muslim Countries

- Muslim countries with political unrest like Iraq, Lebanon, Egypt, Syria and Yemen all go down several places in I-HDI rank.
- Countries that have got independence after warfare like Albania and Bosnia also shed places in I-HDI rank.
- African countries have mixed changes in I-HDI. Countries like Sierra Leone and Mali take a significant jump in I-HDI as compared to their HDI rank.

Findings for Muslim Countries

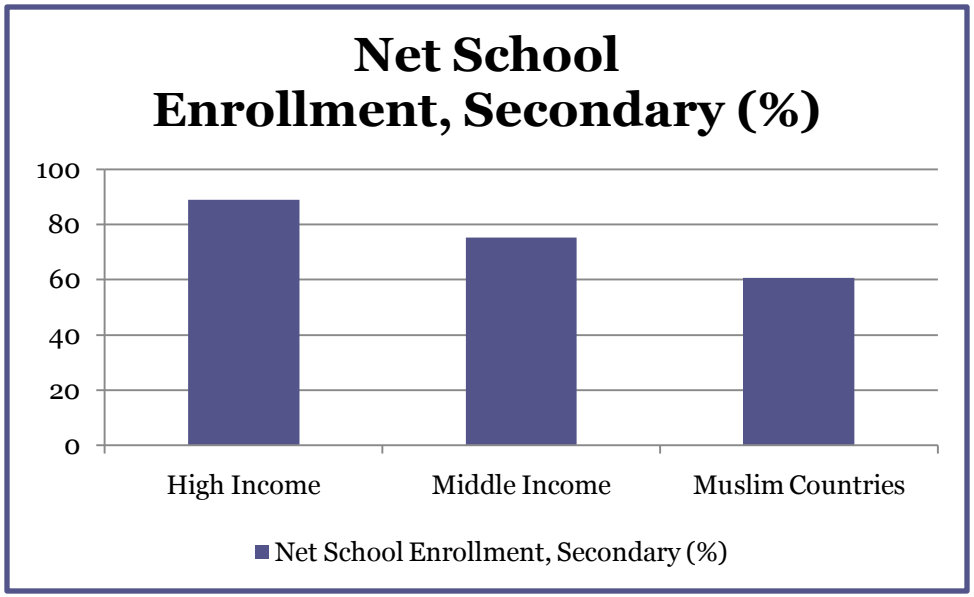
When combined rankings of HDI and I-HDI are taken for all three categories of countries in one place, we find several interesting findings:

- In HDI, Qatar rank is 32 and no Muslim country has a better HDI rank than this.
- In HDI, only 5 Muslim countries are ranked in top 50 and all are oil rich countries.
- In HDI, the bottom 30 countries includes 28 Muslim countries. However, we have not used low income countries in the sample. Hence, this does not mean that all Muslim countries are at bottom in an all countries list.
- In I-HDI, Azerbaijan rank is 25 and no Muslim country has a better I-HDI rank than this.
- In I-HDI, only 10 Muslim countries are ranked in top 50.
- In I-HDI, the bottom 30 countries include 19 Muslim countries. However, we have not used low income countries in the sample. Hence, this does not mean that all Muslim countries are at bottom in an all countries list.
- In both I-HDI and HDI, none of the Muslim country features in Top 20.

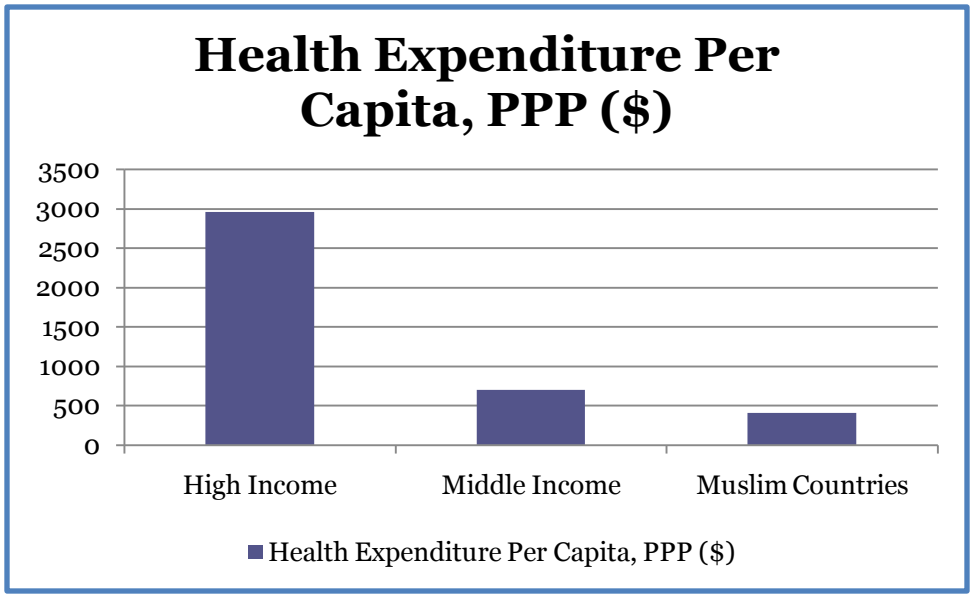
Findings for Muslim Countries

- In I-HDI, Azerbaijan rank is 25 and no Muslim country has a better I-HDI rank than this.
- In I-HDI, only 10 Muslim countries are ranked in top 50.
- In I-HDI, the bottom 30 countries include 19 Muslim countries. However, we have not used low income countries in the sample. Hence, this does not mean that all Muslim countries are at bottom in an all countries list.
- In both I-HDI and HDI, none of the Muslim country features in Top 20.

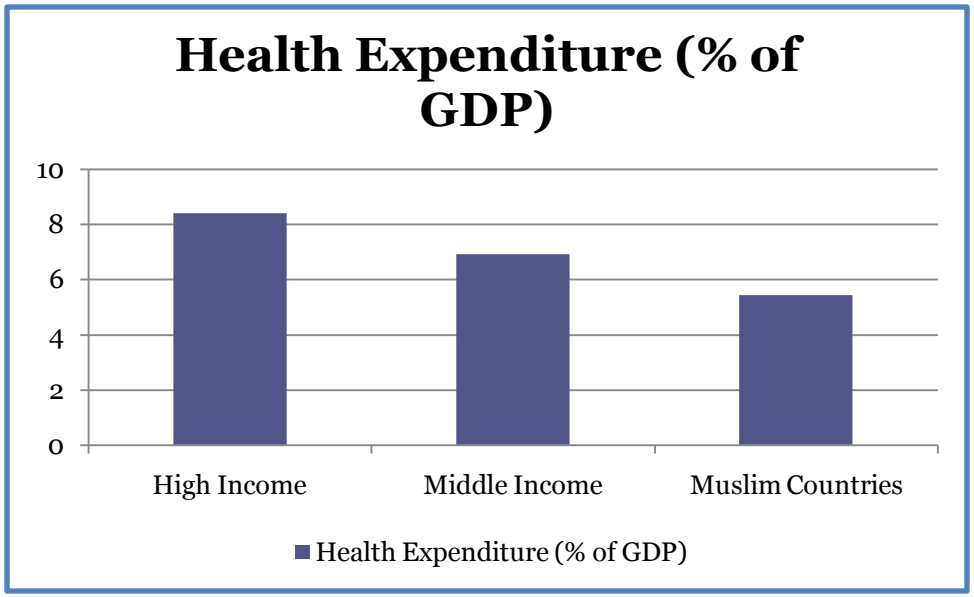
Net School Enrollment



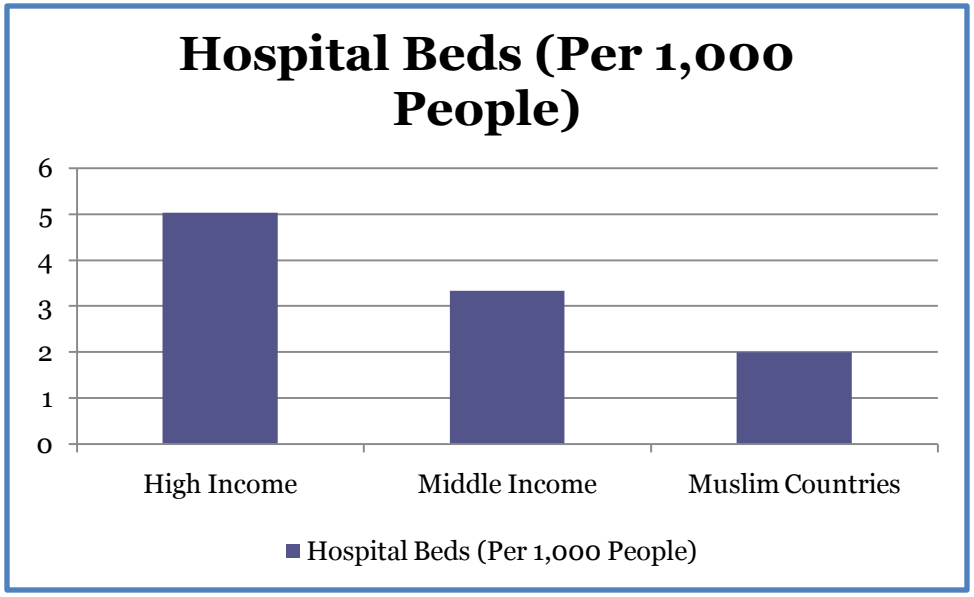
Health Expenditure Per Capita, PPP ($)



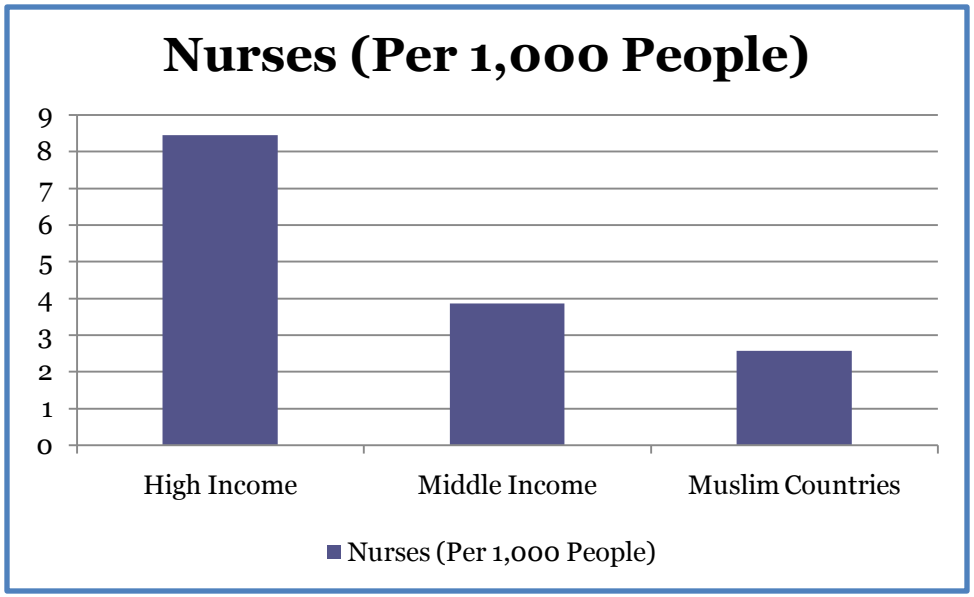
Health Expenditure (% of GDP)



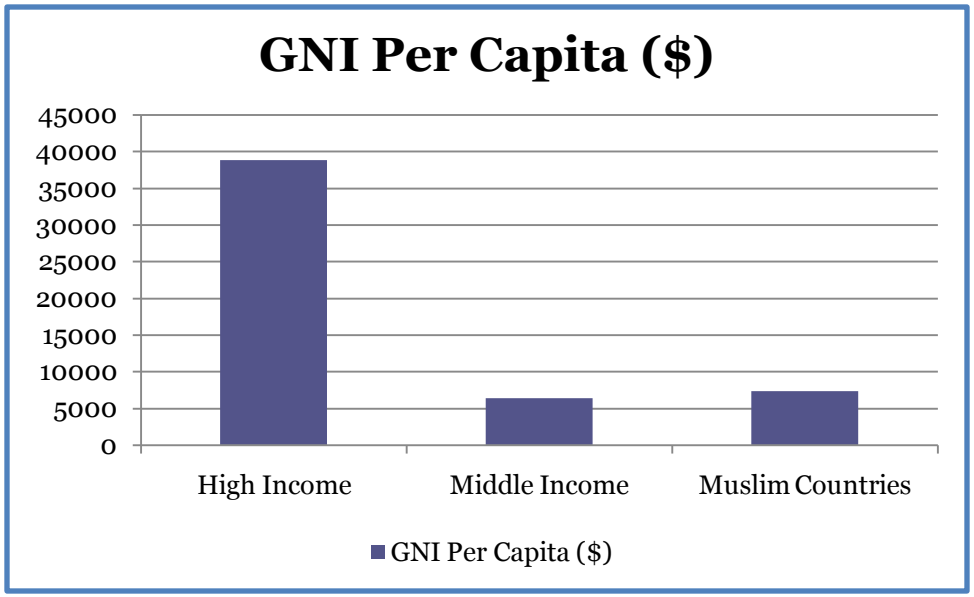
Hospital Beds (Per 1,000 People)



Nurses (Per 1,000 People)



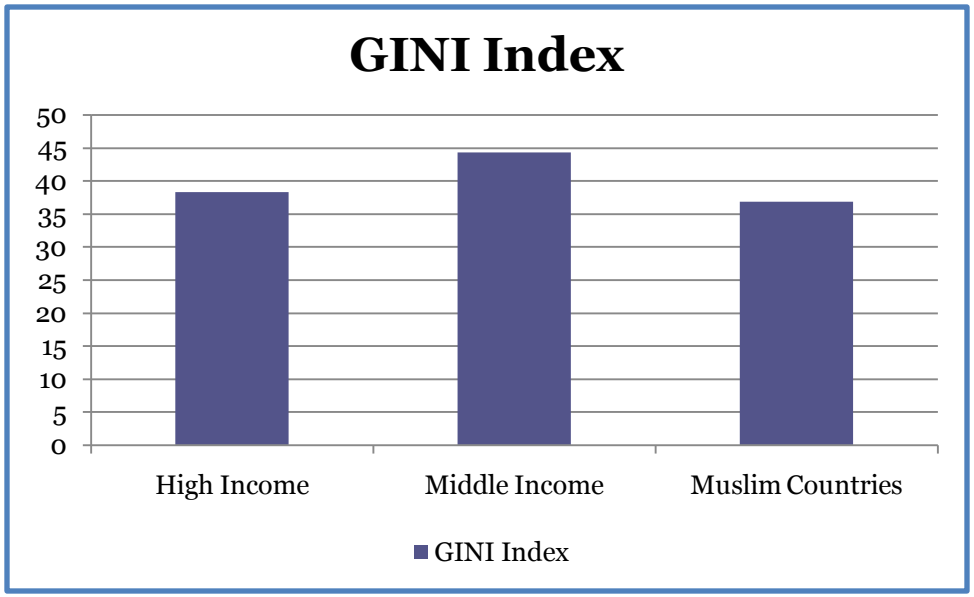
GNI Per Capita ($)



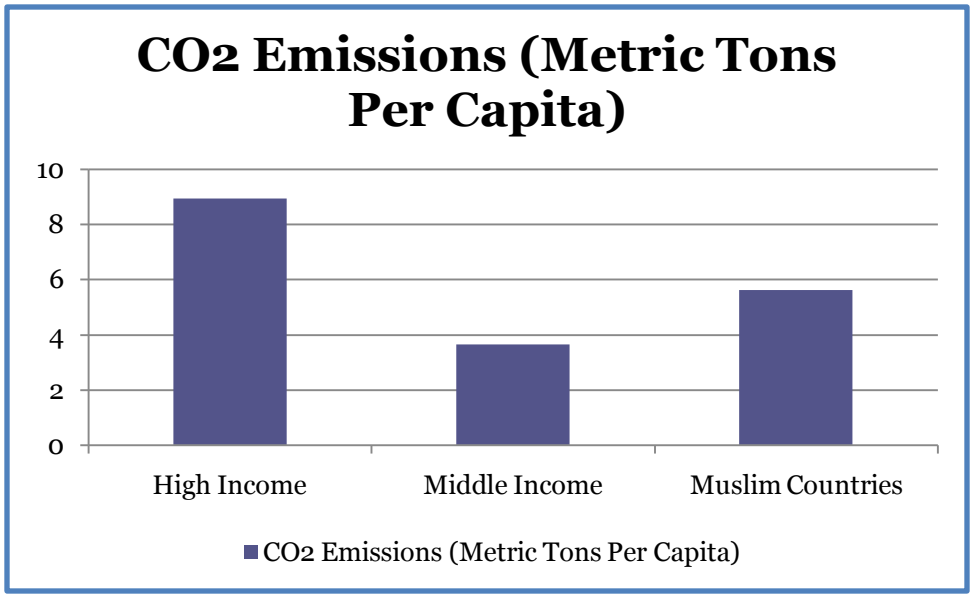
Muslim countries had on average lower per capita income as compared to the high income countries. But, as compared to middle income countries, per capita income in Muslim countries is higher.

This presents an interesting result that despite having higher per capita income than middle income countries, Muslim countries still lag behind them in all education and health related indicators.

GINI Index

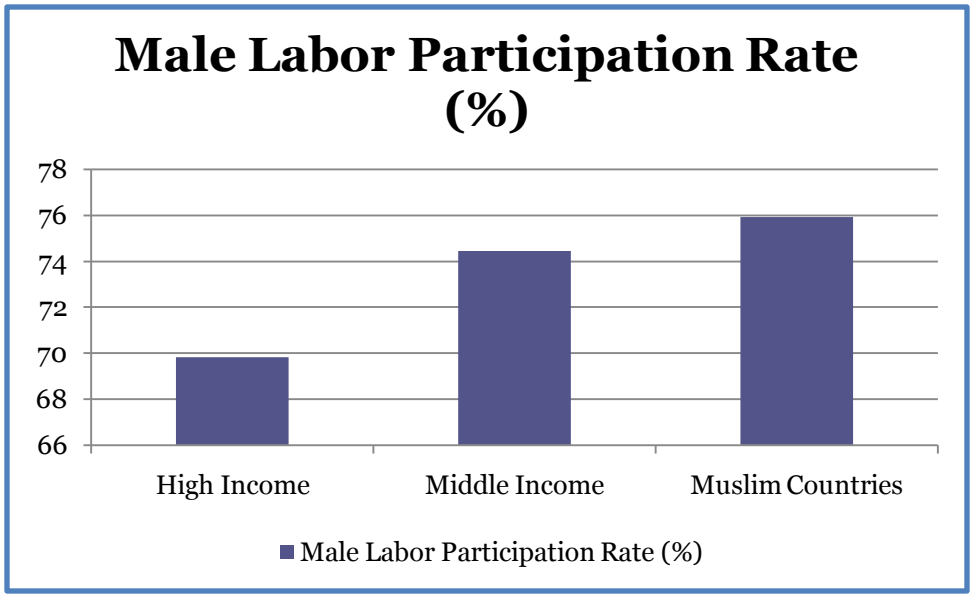

GINI Index
50
45
40
35
30
25
20
15
10
5
0
High Income
Middle Income
Muslim Countries
GINI Index

CO_2 Emissions (Metric Tons Per Capita)

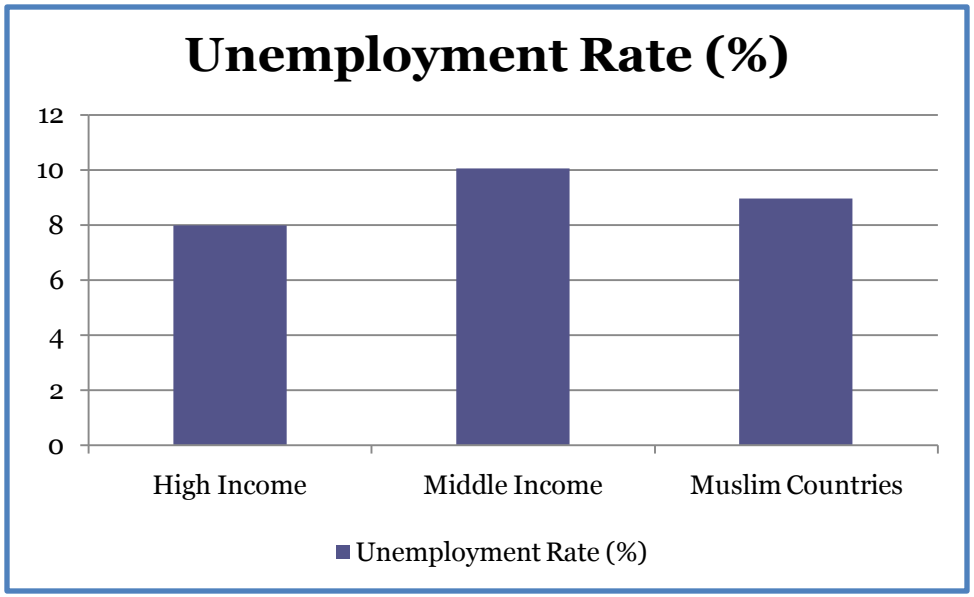


But, average income per capita multiple is 4 to 1 between high income countries and Muslim countries; whereas, carbon emissions multiple is 2 to 1. It means that adjusted for income, Muslim countries emit more carbon for each additional income per capita they earn.

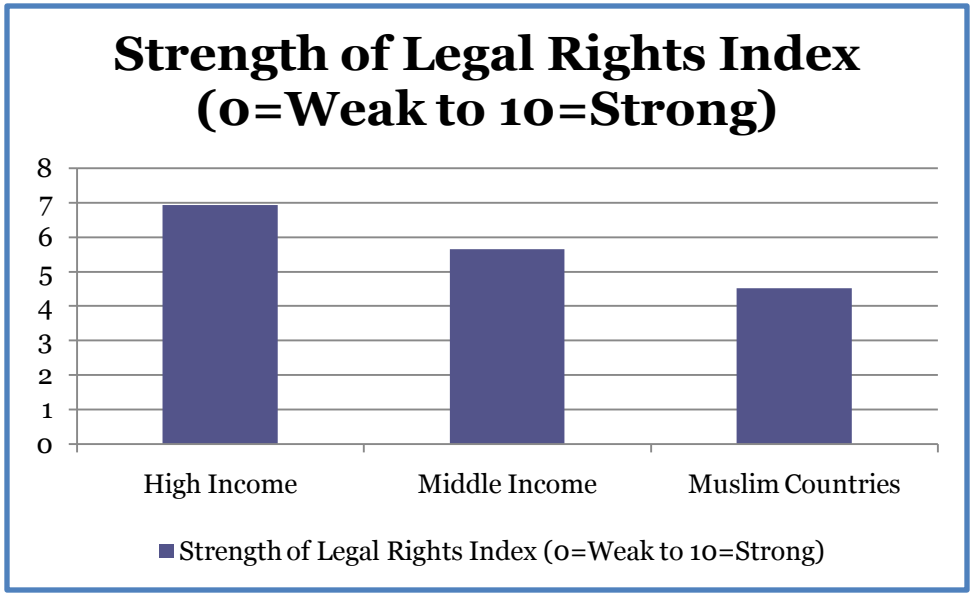
Male Labor Participation Rate (%)



Unemployment Rate (%)



Strength of Legal Rights Index (0=Weak to 10=Strong)



Conclusion

- Our findings represent striking differences between HDI and Islamic HDI (I-HDI) rankings.
- Oil rich Muslim countries go several places down in I-HDI as compared to their HDI rankings.
- Similarly, countries with political unrest do much worse in I-HDI than in HDI. Several rich countries of Latin America and Europe due to high debt burden, unemployment rate and income inequality also rank low in I-HDI as compared to their standing in HDI.
- Overall, the results indicate that Muslim countries are themselves far behind in meeting the ideals of Maqasid-e-Shari'ah and ensuring sustaining development.

For Feedback & Comments

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