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GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

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Faculty of Management, Social Science, and humanities

Department of Languages

Advanced SQL and Cloud Databases

Assignment 1

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Introduction

The lifestyles of 12,000 children in low middle-income countries; Ethiopia, India (in the states of Andhra Pradesh and Telangana), Peru, and Vietnam were observed over the period of fifteen years by the global study Young Lives on childhood poverty. (www.younglifes.org.uk)

'Young Lives' project's goal is to gather evidence to guide decision makers in creating programs that truly benefit underprivileged children and their families. It also aims to provide information on the impacts and causes of childhood poverty.

Material poverty is not the only characteristic of poverty. More than just a lack of income, absence of finances, low level of education etc. Alcohol and smoke addiction among children in underdeveloped communities has contributed in numerous ways to poverty in low-income nations. Many studies presently reveal that underprivileged communities are more vulnerable to the negative effects of alcohol. Addiction among teenagers, especially those under 18, is one of the biggest issues they are currently facing. The situation is the same in both Vietnam and Ethiopia.

DATABASE DESIGN

In the process of developing the child wellbeing monitor, as the initial steps a database was designed with the use of SQL server. The link https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000060#!/access provides the access to the datasets from young lives project. Those SPSS data related to the two countries namely Vietnam and Ethiopia were then downloaded and then the SPSS data was converted to excel using a software and then we created a database named young lives within the SQL server and then the previously downloaded two csv files related to two countries were uploaded to the newly created database.

After that, within the SQL, we created five views with the use of following set of codes;

```sql
---- Creating new columns and adding them to Ethiopia table
ALTER TABLE [dbo].[ethiopia]
ADD [country_name] NVARCHAR(500)


----Filling the blanks with country name
select childid , isnull (country_name,'Ethiopia') as country_name
from [dbo].[ethiopia]

---- Creating new columns and adding them to Vietnam table
ALTER TABLE [dbo].[Vietnam]
ADD [country_name] NVARCHAR(500)

----Filling the blanks with country name
select childid , isnull (country_name,'Vietnam') as country_name
from [dbo].[Vietnam]
```

First View

The first view was created as child Health by selecting childid,bwgt,bcg,measles,tetanus,chhrel and bmi columns from both Ethiopia and Vietnam;

```sql
----First View
create view Child_Health as
SELECT childid, bwght, bcg, measles,tetanus,chhrel,bmi
FROM [dbo].[ethiopia]
WHERE childid<>'' AND bwght<>'' AND bcg<>'' AND measles<>'' AND tetanus<>'' AND chhrel<>'' AND bmi<>''
UNION ALL
SELECT childid, bwght, bcg, measles,tetanus,chhrel,bmi
FROM [dbo].[Vietnam]
WHERE childid<>'' AND bwght<>'' AND bcg<>'' AND measles<>'' AND tetanus<>'' AND chhrel<>'' AND bmi<>''

SELECT *
FROM [dbo].[Child_Health]

----- Adding country name column to the view

alter view Child_Health as
SELECT childid, bwght, bcg, measles,tetanus,chhrel,bmi,isnull (country_name ,'Ethiopia') as  country_name
FROM [dbo].[ethiopia]
WHERE childid<>'' AND bwght<>'' AND bcg<>'' AND measles<>'' AND tetanus<>'' AND chhrel<>'' AND bmi<>''
UNION ALL
SELECT childid, bwght, bcg, measles,tetanus,chhrel,bmi,isnull (country_name ,'Vietnam') as  country_name
FROM [dbo].[Vietnam]
WHERE childid<>'' AND bwght<>'' AND bcg<>'' AND measles<>'' AND tetanus<>'' AND chhrel<>'' AND bmi<>''

SELECT *
FROM [dbo].[Child_Health]
```

Second View

Second View was created as Child household by combining the columns hhsize, headsex, headage, headedu, ownlandhse and ownhouse in ethipoia and Vietnam.

```sql
----Second View

create view Child_House_Hold as
SELECT hhsize, headsex, headage, headedu, ownlandhse, ownhouse
FROM [dbo].[Ethiopia]
WHERE hhsize<>' ' AND headsex<>' ' AND headage<>' ' AND headedu<>' ' AND ownlandhse<>' ' AND ownhouse<>' '
UNION ALL
SELECT hhsize, headsex, headage, headedu, ownlandhse, ownhouse
FROM [dbo].[Vietnam]
WHERE hhsize<>' ' AND headsex<>' ' AND headage<>' ' AND headedu<>' ' AND ownlandhse<>' ' AND ownhouse<>' '

SELECT *
FROM [dbo].[Child_House_Hold]

----- Adding country name column to the view

alter view Child_House_Hold as
SELECT hhsize, headsex, headage, headedu, ownlandhse, ownhouse,isnull (country_name ,'Ethiopia') as  country_name
FROM [dbo].[Ethiopia]
WHERE hhsize<>' ' AND headsex<>' ' AND headage<>' ' AND headedu<>' ' AND ownlandhse<>' ' AND ownhouse<>' '
UNION ALL
SELECT hhsize, headsex, headage, headedu, ownlandhse, ownhouse,isnull (country_name ,'Vietnam') as  country_name
FROM [dbo].[Vietnam]
WHERE hhsize<>' ' AND headsex<>' ' AND headage<>' ' AND headedu<>' ' AND ownlandhse<>' ' AND ownhouse<>' '

SELECT *
FROM [dbo].[Child_House_Hold]
```

Third View

Third View was created as Child Habits by combining the childid, headid , headedu, headage, headsex, chsmoke and chalcohol columns from Vietnam and Ethiopia;

```sql
----Fourth View

create view Child_Habits as
select [childid],[headid],[headedu],[headage],[headsex],[chsmoke],[chalcohol]
from [dbo].[Ethiopia]
where [childid]<> ' ' AND [headid]<> ' ' AND [headedu]<> ' ' AND [headage]<> ' ' AND [headsex]<> ' ' AND [chsmoke]<> ' ' AND [chalcohol]<> ' '
union ALL
select [childid],[headid],[headedu],[headage],[headsex],[chsmoke],[chalcohol]
from [dbo].[Vietnam]
where [childid]<> ' ' AND [headid]<> ' ' AND [headedu]<> ' ' AND [headage]<> ' ' AND [headsex]<> ' ' AND [chsmoke]<> ' ' AND [chalcohol]<> ' '

SELECT*
FROM [dbo].[Child_Habits]

----- Adding country name column to the view

alter view Child_Habits as
select [childid],[headid],[headedu],[headage],[headsex],[chsmoke],[chalcohol],isnull (country_name ,'Ethiopia') as  country_name
from [dbo].[Ethiopia]
where [childid]<> ' ' AND [headid]<> ' ' AND [headedu]<> ' ' AND [headage]<> ' ' AND [headsex]<> ' ' AND [chsmoke]<> ' ' AND [chalcohol]<> ' '
union ALL
select [childid],[headid],[headedu],[headage],[headsex],[chsmoke],[chalcohol],isnull (country_name ,'Vietnam') as  country_name
from [dbo].[Vietnam]
where [childid]<> ' ' AND [headid]<> ' ' AND [headedu]<> ' ' AND [headage]<> ' ' AND [headsex]<> ' ' AND [chsmoke]<> ' ' AND [chalcohol]<> ' '

SELECT*
FROM [dbo].[Child_Habits]
```

Fourth View

Fourth View was created as Child Education by considering the childid, preprim, enrol, engrade, entype, levelwrit, levelread, hsleep, htask, hschool, hstudy and hplay columns in two countries;

```sql
----Thrid View

create view Child_Education as
select [childid],[preprim],[agegr1],[enrol],[engrade],[entype],[levlwrit],[levlread],[hsleep],[htask],[hwork],[hschool],[hstudy],[hplay]
from [dbo].[Ethiopia]
where [preprim]<> ' ' AND [agegr1]<> ' ' AND [enrol]<> ' ' AND [engrade]<> ' ' AND [entype]<> ' ' AND [levlwrit]<> ' ' AND [levlread]<> ' ' AND [hsleep]<> ' '
AND [htask]<> ' ' AND [hwork]<> ' ' AND [hschool]<> ' ' AND [hstudy]<> ' ' AND [hplay]<> ' '
union ALL
select [childid],[preprim],[agegr1],[enrol],[engrade],[entype],[levlwrit],[levlread],[hsleep],[htask],[hwork],[hschool],[hstudy],[hplay]
from [dbo].[Vietnam]
where [preprim]<> ' ' AND [agegr1]<> ' ' AND [enrol]<> ' ' AND [engrade]<> ' ' AND [entype]<> ' ' AND [levlwrit]<> ' ' AND [levlread]<> ' '
AND [hsleep]<> ' ' AND [htask]<> ' ' AND [hwork]<> ' ' AND [hschool]<> ' ' AND [hstudy]<> ' ' AND [hplay]<> ' '


SELECT*
FROM [dbo].[Child_Education]

----- Adding country name column to the view

alter view Child_Education as
select [childid],[preprim],[agegr1],[enrol],[engrade],[entype],[levlwrit],[levlread],[hsleep],[htask],[hwork],[hschool],[hstudy],[hplay],isnull (country_name ,'Ethiopia') as  country_name
from [dbo].[Ethiopia]
where [preprim]<> ' ' AND [agegr1]<> ' ' AND [enrol]<> ' ' AND [engrade]<> ' ' AND [entype]<> ' ' AND [levlwrit]<> ' ' AND [levlread]<> ' ' AND [hsleep]<> ' '
AND [htask]<> ' ' AND [hwork]<> ' ' AND [hschool]<> ' ' AND [hstudy]<> ' ' AND [hplay]<> ' '
union ALL
select [childid],[preprim],[agegr1],[enrol],[engrade],[entype],[levlwrit],[levlread],[hsleep],[htask],[hwork],[hschool],[hstudy],[hplay],isnull (country_name ,'Vietnam') as  country_name
from [dbo].[Vietnam]
where [preprim]<> ' ' AND [agegr1]<> ' ' AND [enrol]<> ' ' AND [engrade]<> ' ' AND [entype]<> ' ' AND [levlwrit]<> ' ' AND [levlread]<> ' '
AND [hsleep]<> ' ' AND [htask]<> ' ' AND [hwork]<> ' ' AND [hschool]<> ' ' AND [hstudy]<> ' ' AND [hplay]<> ' '

SELECT*
FROM [dbo].[Child_Education]
```

Fifth View

Fifth View was created as Child Food Security where childid, foodsec, chsex, underweight, stunning, thinness and bmi columns were selected and combined from the two countries;

```sql
----Fifeth View

create view Child_Food_security as
select [childid],[foodsec],[chsex],[underweight],[stunting],[thinness],[bmi],[chhealth]
from [dbo].[Ethiopia]
where [foodsec]<> ' ' AND [chsex]<> ' ' AND [underweight]<> ' ' AND [stunting]<> ' ' AND [thinness] <> ' ' AND [bmi]<> ' '  AND [chhealth]<> ' '
union ALL
select [childid], [foodsec], [chsex], [underweight], [stunting], [thinness], [bmi],[chhealth]
from [dbo].[Vietnam]
where [foodsec]<> ' ' AND [chsex]<> ' ' AND [underweight]<> ' ' AND [stunting]<> ' ' AND [thinness] <> ' ' AND [bmi]<> ' ' AND [chhealth]<> ' '



SELECT*
FROM [dbo].[Child_Food_security]

----- Adding country name column to the view

alter view Child_Food_security as
select [childid],[foodsec],[chsex],[underweight],[stunting],[thinness],[bmi],[chhealth],isnull (country_name ,'Ethiopia') as  country_name
from [dbo].[Ethiopia]
where [foodsec]<> ' ' AND [chsex]<> ' ' AND [underweight]<> ' ' AND [stunting]<> ' ' AND [thinness] <> ' ' AND [bmi]<> ' 'AND [chhealth]<> ' '
union ALL
select [childid], [foodsec], [chsex], [underweight], [stunting], [thinness], [bmi],[chhealth],isnull (country_name ,'Vietnam') as  country_name
from [dbo].[Vietnam]
where [foodsec]<> ' ' AND [chsex]<> ' ' AND [underweight]<> ' ' AND [stunting]<> ' ' AND [thinness] <> ' ' AND [bmi]<> ' 'AND [chhealth]<> ' '

SELECT*
FROM [dbo].[Child_Food_security]
```

Views created in SQL were imported to report builder and then five reports were created.

REPORTS

1.Children Health in Ethiopia and Vietnam

Young Lives

Children Helth in Ethiopia & Vietnam

childid	bwght	bcg	Status of BCG	measles	Status of Measles	tetanus	Status of Tetanus	chhrel	Status of chhrel	bmi	Status of BMI	country name
ET010002	2700	1	✓	1	✓	1	✓	2	●	16.21972318		Ethiopia
ET010005	3000	1	✓	1	✓	1	✓	3	●	14.16764989		Ethiopia
ET010006	3100	1	✓	0	✗	0	✗	1	●	13.26530612		Ethiopia
ET010007	2500	0	✗	0	✗	1	✓	2	●	19.39618823		Ethiopia
ET010009	3250	1	✓	1	✓	1	✓	3	●	16.61797002		Ethiopia
ET010010	3000	1	✓	1	✓	1	✓	2	●	15.15704929		Ethiopia
ET010012	4500	1	✓	1	✓	1	✓	1	●	15.52227904		Ethiopia
ET010014	2500	1	✓	1	✓	1	✓	1	●	13.14924392		Ethiopia
ET010018	3500	1	✓	1	✓	1	✓	2	●	17.84651993		Ethiopia
ET010021	2300	1	✓	1	✓	1	✓	2	●	17.42222256		Ethiopia
ET010022	2200	1	✓	1	✓	1	✓	2	●	13.4593809		Ethiopia
ET010023	3000	1	✓	1	✓	1	✓	1	●	15.43209877		Ethiopia
ET010026	3500	1	✓	0	✗	1	✓	2	●	16.39660494		Ethiopia
ET030050	3500	1	✓	1	✓	1	✓	2	●	17.15304034		Ethiopia
ET030051	3500	1	✓	1	✓	1	✓	2	●	18.87119048		Ethiopia
ET030054	3500	1	✓	1	✓	1	✓	2	●	15.06168822		Ethiopia
ET030074	3000	1	✓	1	✓	1	✓	2	●	15.46280297		Ethiopia
ET030076	3200	1	✓	1	✓	1	✓	2	●	20.6222229		Ethiopia
ET030078	3400	1	✓	1	✓	1	✓	2	●	18.67346861		Ethiopia
ET030079	3200	1	✓	1	✓	1	✓	2	●	16.26661339		Ethiopia
ET030080	2200	1	✓	1	✓	1	✓	2	●	17.75147929		Ethiopia

Young Lives

Children Helth in Ethiopia & Vietnam

childid	bwght	bcg	Status of BCG	measles	Status of Measles	tetanus	Status of Tetanus	chhrel	Status of chhrel	bmi	Status of BMI	country name
VN010001	2800	1	✓	0	✗	1	✓	1	●	14.92214584		Vietnam
VN010002	3300	1	✓	1	✓	1	✓	1	●	15.54716778		Vietnam
VN010003	3200	1	✓	1	✓	0	✗	1	●	15.73418522		Vietnam
VN010004	3000	1	✓	1	✓	1	✓	1	●	15.62744236		Vietnam
VN010005	2200	1	✓	1	✓	1	✓	1	●	17.1019516		Vietnam
VN010007	3000	1	✓	1	✓	1	✓	1	●	15.59114742		Vietnam
VN010008	3000	1	✓	1	✓	1	✓	2	●	13.64135265		Vietnam
VN010009	3200	1	✓	1	✓	1	✓	3	●	14.91162682		Vietnam
VN010010	3300	1	✓	1	✓	1	✓	1	●	13.25879097		Vietnam
VN010012	3000	1	✓	1	✓	1	✓	2	●	14.63559914		Vietnam
VN010013	3500	1	✓	0	✗	0	✗	2	●	17.80175591		Vietnam
VN010014	3400	1	✓	0	✗	1	✓	1	●	14.42884445		Vietnam
VN010015	3300	1	✓	1	✓	1	✓	1	●	15.53855705		Vietnam
VN010018	2900	1	✓	0	✗	1	✓	1	●	15.15667439		Vietnam
VN010019	3000	1	✓	1	✓	1	✓	2	●	16.68955994		Vietnam
VN010021	3000	1	✓	1	✓	1	✓	3	●	14.888587		Vietnam
VN010022	3200	1	✓	1	✓	1	✓	1	●	16.79362869		Vietnam
VN010024	3500	1	✓	0	✗	1	✓	1	●	16.86851311		Vietnam
VN010025	2200	1	✓	0	✗	1	✓	1	●	16.35555458		Vietnam
VN010026	3800	1	✓	1	✓	1	✓	1	●	16.03705978		Vietnam
VN010027	3000	1	✓	1	✓	1	✓	1	●	14.99375343		Vietnam

This report contains the details of the health of children in two countries; Ethiopia and Vietnam. For the child health report, we have used childid(child ID), bwght(Birth weight),bcg(Child has received BCG vaccination), measles(Child has received vaccination against measles) and tetanus(mother received at least two injections for tetanus during pregnancy with younge lives child), chhrel(status of health) BMI and country name. for the columns of bcg, measles and tetanus, two measures have been used; 1 – vaccine taken 0- not taken the vaccine. An indicator was used to indicate whether the vaccine was taken or not.

Chhrel column states the child health compares to the peers. It contains three stages; 1 – same, 2- Better, 3- Worse and these three stages were again indicated by three different colors; yellow, Green and Red respectively. The average BMI was calculated as 16. The BMI values which are less than sixteen were represented in orange color while the values which are greater than sixteen were depicted in purple color. For the report two parameters were used; country parameter which represent two countries Vietnam and Ethiopia and the Color parameter to add different colors for the report.

Here with this report, we have combined the vaccine details and the BMI values of each child and obtained some relationships regarding the health of the children in Vietnam and Ethiopia. It can be concluded that the most of the children who had all the tree vaccines have a better health status but if at least one of the vaccines were not taken their health was worse. But there are some instances where although they have taken all the three vaccines, their health status was not so good because of their low BMI. On the other hand, there are some children who had not taken the vaccines correctly but their health condition is better this is because of their high BMI. Accordingly, we can conclude that the, health condition of children are based on the vaccination and BMI values. In order to maintain a better health status of children, it is important to have proper vaccination and necessary BMI value.

For this we can give some suggestions such as conducting of awareness programs about the vaccination details and how to maintain ones BMI values. Healthy diets, excercises can be given for the children in order to maintain their BMI.

2.Children Household in Ethiopia and Vietnam

Young Lives

Child's House hold in Ethiopia & Vietnam

hhsize	Satus of hhsize	headsex	M/F	headage	Status of Land headage	headedu	Status of Land headedu	ownlandhse	Status of Land	ownhouse	Status of House Ownership	country name
3		1		40		6		0	✗	0	✗	Ethiopia
3		2		66		28		0	✗	0	✗	Ethiopia
5		1		84		0		1	✓	1	✓	Ethiopia
6		1		87		0		1	✓	1	✓	Ethiopia
5		1		91		0		1	✓	1	✓	Ethiopia
5		2		44		28		0	✗	0	✗	Ethiopia
5		2		51		28		0	✗	0	✗	Ethiopia
6		2		39		0		1	✓	1	✓	Ethiopia
3		1		45		7		0	✗	0	✗	Ethiopia
3		1		49		7		0	✗	0	✗	Ethiopia
3		1		26		6		0	✗	0	✗	Ethiopia
3		1		33		6		0	✗	0	✗	Ethiopia
5		2		74		28		1	✓	1	✓	Ethiopia
4		2		77		28		1	✓	1	✓	Ethiopia
4		1		65		12		1	✓	1	✓	Ethiopia
6		1		39		4		0	✗	0	✗	Ethiopia
6		1		46		4		0	✗	0	✗	Ethiopia
7		1		54		7		0	✗	0	✗	Ethiopia

Activate Windows
Go to Settings to activate Windows.

Young Lives

Child's House hold in Ethiopia & Vietnam

hhsize	Satus of hhsize	headsex	M/F	headage	Status of Land headage	headedu	Status of Land headedu	ownlandhse	Status of Land	ownhouse	Status of House Ownership	country name
4		1		43		11		1	✓	1	✓	Vietnam
4		1		46		11		1	✓	1	✓	Vietnam
10		1		68		2		1	✓	1	✓	Vietnam
4		1		49		13		1	✓	1	✓	Vietnam
6		1		40		7		1	✓	0	✗	Vietnam
5		1		43		9		1	✓	1	✓	Vietnam
7		1		46		6		1	✓	1	✓	Vietnam
6		1		49		7		1	✓	1	✓	Vietnam
2		2		45		9		1	✓	1	✓	Vietnam
3		1		37		14		0	✗	0	✗	Vietnam
5		1		51		5		1	✓	1	✓	Vietnam
4		1		55		5		1	✓	1	✓	Vietnam
5		1		38		9		1	✓	1	✓	Vietnam
5		1		41		9		1	✓	1	✓	Vietnam
5		1		47		9		1	✓	1	✓	Vietnam
5		1		50		9		1	✓	1	✓	Vietnam
5		2		72		4		1	✓	1	✓	Vietnam
5		1		40		3		1	✓	1	✓	Vietnam

Report Two includes the characteristics about household in Ethiopian and Vietnam families. The report contains 13 columns. Those columns and their following descriptions are;

hhsize and *status of hhsize* - Household size

headsex - Sex of household head

M/F - Male or Female

headage and *Status of Land headage* - Age of household head

headedu - Household head education

ownlandhse and *Status of land* - whether a household member owns the land

ownhouse and *Status of House ownership* - Household own the house

country name - *Vietnam or Ethiopia*

hhsize column stands for size of the house and it represent how many members of the family and *headsex* shows that whether the head of the family is male for scale 1 and female for scale 2. *status of hhsize* and *Status of Land headage* columns shows its scales by Data bars. Then the *M/F* column would help to identify by Males

from Blue square and females from Red square. Headedu column contains how far each household head has got their education. The column created by using 1 to 15 education levels (1- and each row represent their education level respectively. *ownlandhse* column contains details that whether the household owns a land and *Status of land* column shows by Data Bar according to the scales. Also *ownhouse* and *Status of House ownership* shows that the household owns a house and *Status of House ownership* column indicates the status by using green tick and red cross. Finally, the two countries in last column and by using two parameters can change the country and to two colors easily.

3.Child Habit in Ethiopia and Vietnam

Young Lives

Children Habit in Ethiopia and Vietnam

childid	headid	headedu	Status of Head Edu.	headage	Status of Head Age	headsex	M/F	chsmoke	Status of Smoking	chalcohol	Status of Drinking Alcohol	country name
VN031001	2	12		39		2		5		0		Vietnam
VN031001	2	13		43		2		5		0		Vietnam
VN031002	1	12		50		1		5		0		Vietnam
VN031002	1	12		54		1		5		0		Vietnam
VN031003	2	8		39		1		5		0		Vietnam
VN031004	2	3		56		1		5		0		Vietnam
VN031004	7	8		21		1		5		1		Vietnam
VN031005	1	5		45		1		5		0		Vietnam
VN031005	1	7		47		1		5		0		Vietnam
VN031006	1	9		54		1		5		0		Vietnam
VN031006	1	9		56		1		5		0		Vietnam
VN031007	1	0		62		1		5		0		Vietnam
VN031007	1	2		66		1		5		1		Vietnam
VN031008	1	5		52		1		5		1		Vietnam
VN031008	1	5		57		1		5		1		Vietnam
VN031008	1	5		60		1		4		1		Vietnam
VN101001	1	4		58		1		5		0		Vietnam
VN101001	21	8		20		1		5		0		Vietnam
VN101004	1	9		43		1		5		0		Vietnam
VN101004	1	9		48		1		5		0		Vietnam

Activate Windows
Go to Settings to activate Windows.

ET030024	1	13		54		1		5		0		Ethiopia
ET030025	1	11		59		1		5		0		Ethiopia
ET030026	2	8		56		1		5		0		Ethiopia
ET060067	1	0		46		1		5		0		Ethiopia
ET060068	1	28		64		1		5		0		Ethiopia
ET060071	1	29		47		1		5		0		Ethiopia
ET060072	1	2		44		1		5		1		Ethiopia
ET060073	2	28		39		2		5		1		Ethiopia
ET060074	16	3		50		1		5		0		Ethiopia
ET060075	1	7		52		1		5		0		Ethiopia
ET060076	2	28		53		2		5		0		Ethiopia
ET060077	1	28		54		1		5		0		Ethiopia
ET060078	2	8		50		1		5		0		Ethiopia
ET060080	1	4		41		1		5		1		Ethiopia
ET060081	1	29		64		1		5		0		Ethiopia
ET060082	1	0		61		1		5		1		Ethiopia
ET060083	1	28		42		1		5		0		Ethiopia
ET060084	1	28		51		1		5		0		Ethiopia
ET060085	1	3		46		1		5		0		Ethiopia
ET021023	1	28		68		1		5		0		Ethiopia
ET021023	1	28		75		1		5		0		Ethiopia
ET021024	1	8		42		1		5		0		Ethiopia
ET021025	1	0		57		1		5		0		Ethiopia
ET021025	1	0		64		1		5		0		Ethiopia
ET021028	1	3		44		2		5		0		Ethiopia

Activate Windows
Go to Settings to activate Windows.

Third report contains the perspectives about smoking and drinking habits among Ethiopian and Vietnamese children have under 18. This report has 13 columns describing about them and those columns respectively are;

childid - Child ID

headid - Household head ID in roster

headedu and Status of head edu - Household head education

headage and Status of head age - Age of household head

headsex - Sex of household head

M/F - Male or Female

chsmoke and Status of smoking - Child's frequency of smoking

chalcohol and Status of drinking Alcohol - Child consumes alcohol every day or at least once a week

Country name - Vietnam or Ethiopia

In this report first two used to identify the child Id and the head ID of the family that child belongs to and third column shows the education level each household head had been educated. This education level contains by a scale and each value

and its label shown as below;

Value = 0.0 Label = None
Value = 1.0 Label = Grade 1
Value = 2.0 Label = Grade 2
Value = 3.0 Label = Grade 3
Value = 4.0 Label = Grade 4
Value = 5.0 Label = Grade 5
Value = 6.0 Label = Grade 6
Value = 7.0 Label = Grade 7
Value = 8.0 Label = Grade 8
Value = 9.0 Label = Grade 9
Value = 10.0 Label = Grade 10
Value = 11.0 Label = Grade 11
Value = 12.0 Label = Grade 12
Value = 13.0 Label = post-secondary, vocational
Value = 14.0 Label = University
Value = 15.0 Label = Masters, doctorate
Value = 28.0 Label = Adult literacy
Value = 29.0 Label = Religious education
Value = 30.0 Label = Other

Status of head edu column shows the same information by using Data bar so then the client can get a rough idea before exploring the report. *headage and Status of head age* columns include age of household head and its data bar, further all these data bars created by using colored squares. *chsmoke and Status of smoking* columns are how frequently the children smoke, and it is consisting with 5 levels;

1 - everyday - Red circle

2 - at least once a week – Blue circle

3 - at least once a month – Black circle

4 - hardly ever – Yellow circle

5 - never smoke – Green circle

chalcohol and Status of drinking Alcohol columns describe about child consumes alcohol every day or at least once a week with 2 values,

0 – do not drink alcohol – Green star

1 – drink alcohol – Red star

4.Child Education in Ethiopia and Vietnam

Young Lives

Child's Education in Ethiopia & Vietnam

childid	preprim	Status of Preprim	agegr1	Status of agegr1	enrol	Status of enrol	engrade	entype	Status of entype	levlwrit	Status of Level Write	levlread	Status of Level Read	hsleep	htask
ET011010	1	✓	6		1	✓	6	4	★	3		4		10	0
ET011012	0	✗	7		1	✓	6	4	★	3		4		9	0
ET011013	1	✓	6		1	✓	6	4	★	3		4		9	1
ET011014	1	✓	7		1	✓	6	4	★	3		2		9	0
ET011015	1	✓	9		1	✓	3	1	★	3		1		9	0
ET011016	1	✓	9		1	✓	3	4	★	3		4		8	0
ET011017	1	✓	6		1	✓	6	4	★	3		4		9	0
ET011018	1	✓	6		1	✓	6	4	★	3		4		10	0
ET011019	0	✗	8		1	✓	5	4	★	3		4		9	0
ET011020	1	✓	7		1	✓	5	1	★	3		4		9	0
ET011021	0	✗	6		1	✓	6	4	★	3		4		8	0
ET011022	0	✗	8		1	✓	5	4	★	3		4		10	0
ET011024	1	✓	6		1	✓	7	4	★	3		4		8	0
ET011025	1	✓	7		1	✓	6	4	★	2		4		9	0
ET011026	1	✓	4		1	✓	8	4	★	3		4		9	0
ET011027	1	✓	7		1	✓	6	4	★	3		4		8	0

Activate Windows
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hsleep	htask	hwork	Status of entype	hschool	hstudy	hplay	How Chilld Spent Hours	country name
10	0	0		8	2	1		Ethiopia
9	0	0		9	2	2		Ethiopia
9	1	1		8	1	2		Ethiopia
9	0	0		7	3	4		Ethiopia
9	0	0		7	2	5		Ethiopia
8	0	0		9	1	2		Ethiopia
9	0	0		8	2	3		Ethiopia
10	0	0		7.300000191	1	4		Ethiopia
9	0	0		8	2	4		Ethiopia
9	0	0		8	2	3		Ethiopia
8	0	0		8	1	4		Ethiopia
10	0	4		7	1	2		Ethiopia
8	0	0		8	2	4		Ethiopia
9	0	0		8	2	3		Ethiopia
9	0	0		7	4	2		Ethiopia
8	0	0		7	2.299999952	2		Ethiopia

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9	0	0		8	1	6		Ethiopia
9	0	0		8	1	5		Ethiopia
9	0	0		7	2	5		Ethiopia
9	0	0		9	1	4		Ethiopia
10	0	0		9	1	3		Ethiopia
10	0	0		8	3	3		Ethiopia
10	0	0		9	1	2		Ethiopia
9	0	0		8	3	4		Ethiopia
9	0	0		8.300000191	2	2		Ethiopia
9	0	0		8	2	3		Ethiopia
9	0	2		7.300000191	1	2.299999952		Ethiopia
9	0	0		8	3	3		Ethiopia
9	0	0		8	1	6		Ethiopia
10	0	0		8	1	3		Ethiopia
8	0	0		9	2	4		Ethiopia
9	0	0		8	3	3		Ethiopia
10	0	0		8	2	3		Ethiopia
10	0	0		8	2	2		Ethiopia
9	0	0		9	2	1		Ethiopia
9	0	0		6	1	7		Ethiopia

Activate Windows
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Young Lives

Child's Education in Ethiopia & Vietnam

childid	preprim	Status of Preprim	agegr1	Status of agegr1	enrol	Status of enrol	engrade	entype	Status of entype	levlwrit	Status of Level Write	levlread	Status of Level Read
VN010002	1	✓	6		1	✓	3	3	★	3		2	
VN010003	1	✓	6		1	✓	3	3	★	3		2	
VN010004	1	✓	6		1	✓	3	3	★	3		4	
VN010005	1	✓	5		1	✓	3	3	★	3		3	
VN010006	1	✓	6		1	✓	3	3	★	3		2	
VN010007	1	✓	6		1	✓	3	3	★	3		4	
VN010008	1	✓	6		1	✓	3	3	★	3		3	
VN010009	1	✓	6		1	✓	3	3	★	3		3	
VN010010	1	✓	6		1	✓	3	3	★	3		2	
VN010011	1	✓	5		1	✓	3	3	★	3		4	
VN010012	1	✓	6		1	✓	3	3	★	3		3	
VN010013	1	✓	6		1	✓	2	3	★	3		4	
VN010014	1	✓	7		1	✓	2	3	★	3		4	
VN010015	1	✓	5		1	✓	3	3	★	3		4	
VN010016	1	✓	7		1	✓	2	3	★	3		3	
VN010017	1	✓	6		1	✓	3	3	★	3		3	

Activate Wi
Go to Settings to

hsleep	htask	hwork	Status of entype	hschool	hstudy	hplay	How Childd Spent Hours	country name
9	0	0		7	2	5		Vietnam
10	0	0		4	2	5		Vietnam
11	0	0		4	2	6		Vietnam
9	0	0		5	4	4		Vietnam
10	0	0		5	2	6		Vietnam
9	0	0		5	4	4		Vietnam
9	0	0		5	4	5		Vietnam
10	0	0		5	1	5		Vietnam
10	0	0		5	2	6		Vietnam
9	0	0		4	1	10		Vietnam
10	0	0		5	2	7		Vietnam
9	0	0		4	4	7		Vietnam
10	0	0		5	3	4		Vietnam
9	1	0		5	3	5		Vietnam
10	0	0		5	4	4		Vietnam
10	0	0		5	2	4		Vietnam

VN031007	0	✗	5		1	✓	6	3	★	3		4	
VN031008	0	✗	7		1	✓	5	3	★	3		4	
VN100106	1	✓	6		1	✓	3	3	★	3		4	
VN100107	1	✓	5		1	✓	3	3	★	3		4	
VN100108	1	✓	5		1	✓	3	3	★	2		4	
VN100111	1	✓	6		1	✓	3	3	★	3		4	
VN100113	1	✓	6		1	✓	3	3	★	3		4	
VN100115	1	✓	6		1	✓	2	3	★	3		3	
VN100118	1	✓	6		1	✓	2	3	★	3		4	
VN101005	0	✗	5		1	✓	7	3	★	3		4	
VN101010	0	✗	5		1	✓	7	3	★	3		4	
VN101011	0	✗	6		1	✓	7	3	★	3		4	
VN101013	0	✗	5		1	✓	7	3	★	3		4	
VN101014	0	✗	6		1	✓	7	3	★	3		4	
VN101015	0	✗	6		1	✓	7	3	★	3		4	
VN101016	0	✗	5		1	✓	7	3	★	3		4	
VN101017	0	✗	5		1	✓	7	3	★	3		4	
VN101018	0	✗	6		1	✓	7	3	★	3		4	
VN101019	1	✓	7		1	✓	6	3	★	3		4	

The report visualized how the education level and the literacy of the children in Ethiopia and Vietnam. Overall report contains with 23 columns and their label descriptions as shown below.

childid - Child ID

preprim and *Status of Preprim* - Child has attended pre-primary school

agegr1 and *Status of agegr1* - Age at start of Grade 1

enrol and *Status of enroll* - Enrolled in formal school during survey year

engrade -Grade enrolled during survey year

entype and *Status of entype* -Type of school enrolled during survey year

levlwrit and *Status of level write* - Child's reading level

levlread and *status of level read* - Child's writing level

hsleep -Hours/day spent sleeping

htask -Hours/day spent in domestic tasks - farming, family business

hwork -Hours/day spent in paid activity

hschool -Hours/day spent at school

hstudy -Hours/day spent studying outside school

How child spent hours

hplay - How many hours spent playing

country - *Ethiopia or Vietnam*

In the *preprim* and *Status of Preprim columns* shows that the children in Ethiopia and Vietnam have taken the pre school education and green tick gives the rough idea with the first look. Then the column *agegr1* shows about the age that each child started their Grade one class and *Status of agegr1* shows itself as a data bar.

enrol column describes children's age when they were participated by the Young Lifes project. *entype* and *Status of enroll* illustrates what type of school children has enrolled during survey year and the indicator contains with 8 types;

Value = 1.0 Label = Private – Purple star

Value = 2.0 Label = NGO/Charity/ Religious (not for profit) – Maroon star

Value = 3.0 Label = Public – Orange star

Value = 4.0 Label = Others, specify – Red star

Value = 5.0 Label = Informal - Blue star

Value = 77.0 Label = Half public/Half Private – Gray star

Value = 79.0 Label = Centre for continuing education – Aqua Star

Value = 88.0 Label = NK - Black star

levlwrit and *Status of level write* columns represents about children's writing level, plus it shows with three stages staring from 1- cannot write , 2- can write but with difficulties and errors, 3- can write but without difficulties and errors and Status of level column displays those stages with red square, yellow square and green square respectively. Same as l*evlwrit*, *levlread* and *status of level read* shows about Children's writing level indicates from 1 to 4.

1 – cannot read anything

2 – can read letters

3 – can read words

4 – can read sentences

and the Status of level read represents bar chart with indicating values of levlread column.

hsleep, *htask, hwork* columns shows sleeping hours per day, schooling hours per day and spent time in paid activity per day respectively and Status of entype column gives the overall idea about above columns by using three colour chart (*hsleep* – orange*, htask* – blue , *hwork* – crimson)

Last three column sequence display *hschool, hstudy*, *hplay which explains* each how many hours each child spent at school and for studying, how many hours they spent playing outside the school.

How child spent hours column shows above all three-column information together by showing a bar chart with three colors (*hschool* – light blue*, hplay* – light maroon, *hstudy* – light orange). Finally, the country column helps to filter information between Ethiopia and Vietnam and can change the colors of the report by using color change parameter.

The fundamental solution to this low education level of problem is to offer children free education in schools, colleges, and universities. As a consequence, many people are attending to school. Government-level remedies include mandating that all children under the age of 18 receive a proper education, establishing it as a basic human right, and providing scholarships to kids who demonstrate academic curiosity.

5.Child's Food Security in Ethiopia and Vietnam

The Child's Food Security report was created using the fifth view created using SQL. Using Microsoft power BI report builder. This report consist of childid(Child ID), chsex(Child's Sex), foodsec(Household's food situation in last 12 months), underweight(Low weight for age), stunting(Short height for age), thinness(Low BMI for age), bmi(BMI), chhealth(Child Health) and country name columns.

Here two parameters were used; color parameter for an interactive report where colors can be changed. And country name which displays Vietnam and Ethiopia. Foodsec was represented by four values 1,2,3 and 4 where; 1 – we always eat enough of what we want, 2- we eat enough but not always what we would like, 3- we sometimes do not eat enough, 4- we frequently do not eat enough. Value 1 is good but when its come to 4 its worse. To represent the foodsec status an indicator named four ratings was used. Underweight column have three values as 0- not underweight, 1- moderately underweight and 2- severly underweight. Each three values were denoted in three colors green, yellow and red respectively.

The column thinness also have three values represented as 0 – not thin, 1- moderately thin and 2- severly thin and each values were represented in three different colors green, yellow and red respectively. Stunting column represents three values as 0- not stunt, 1- moderately stunt and 2- severly stunt where 0,1,2 values were represented in green, yellow and red color circles respectively.

BMI values which are greater than the average BMI was indicated using a green uphead arrow while the values which are lower than the average BMI were represented by a downhead red arrow. Child Health column represented by five values where; 1- very poor, 2- poor , 3-average, 4- Good, 5- Very good . Each

values were indicated in colored rectangles in the status of childhealth column with different colors where 1- red,2-brown,3- blue,4-plum and 5-Green.

When we go through the report we can come to a conclusion when the food security increases, health can be improved and hence BMI can be maintained properly.

Child's Food Security in Ethiopia & Vietnam

childid	chsex	M/F	foodsec	Status of Foodsec	underweight	Status of Underweight	stunting	Status of Stunting	thinness	Status of thinness	bmi	Status of bmi	chhealth	Status of chhealth	country nam
ET010001	1		2		0		0		1		12.63622002		4		Ethiopia
ET010002	1		2		1		1		0		13.47163188		4		Ethiopia
ET010004	1		2		0		0		0		14.27083333		4		Ethiopia
ET010005	2		3		0		0		0		15.02365652		4		Ethiopia
ET010006	2		1		0		0		0		13.83680556		4		Ethiopia
ET010007	2		3		0		0		0		19.23044967		3		Ethiopia
ET010008	2		1		0		0		0		13.32269094		4		Ethiopia
ET010009	1		1		0		0		0		14.54724043		3		Ethiopia
ET010010	2		2		0		0		0		13.94229875		4		Ethiopia
ET010011	2		3		1		0		1		12.50536065		3		Ethiopia
ET010012	1		3		0		0		0		15.19447947		4		Ethiopia
ET010014	2		2		0		0		0		15.11690406		4		Ethiopia
ET010015	1		3		0		0		0		14.16468392		2		Ethiopia
ET010016	1		2		0		0		0		13.75562903		5		Ethiopia
ET010017	2		2		0		0		0		14.31108348		5		Ethiopia
ET010018	1		3		0		0		0		15.68603137		4		Ethiopia
ET010020	2		2		0		0		0		14.57601261		3		Ethiopia
ET010021	1		1		0		0		0		14.35674202		4		Ethiopia
ET010022	1		1		1		0		2		12.25936524		4		Ethiopia
ET010023	1		3		0		0		0		13.696		3		Ethiopia

Child's Food Security in Ethiopia & Vietnam

childid	chsex	M/F	foodsec	Status of Foodsec	underweight	Status of Underweight	stunting	Status of Stunting	thinness	Status of thinness	bmi	Status of bmi	chhealth	Status of chhealth	country nam
ET010001	1		2		0		0		1		12.63622002		4		Ethiopia
ET010002	1		2		1		1		0		13.47163188		4		Ethiopia
ET010004	1		2		0		0		0		14.27083333		4		Ethiopia
ET010005	2		3		0		0		0		15.02365652		4		Ethiopia
ET010006	2		1		0		0		0		13.83680556		4		Ethiopia
ET010007	2		3		0		0		0		19.23044967		3		Ethiopia
ET010008	2		1		0		0		0		13.32269094		4		Ethiopia
ET010009	1		1		0		0		0		14.54724043		3		Ethiopia
ET010010	2		2		0		0		0		13.94229875		4		Ethiopia
ET010011	2		3		1		0		1		12.50536065		3		Ethiopia
ET010012	1		3		0		0		0		15.19447947		4		Ethiopia
ET010014	2		2		0		0		0		15.11690406		4		Ethiopia
ET010015	1		3		0		0		0		14.16468392		2		Ethiopia
ET010016	1		2		0		0		0		13.75562903		5		Ethiopia
ET010017	2		2		0		0		0		14.31108348		5		Ethiopia
ET010018	1		3		0		0		0		15.68603137		4		Ethiopia
ET010020	2		2		0		0		0		14.57601261		3		Ethiopia
ET010021	1		1		0		0		0		14.35674202		4		Ethiopia
ET010022	1		1		1		0		2		12.25936524		4		Ethiopia
ET010023	1		3		0		0		0		13.696		3		Ethiopia

DASHBORD DESIGN

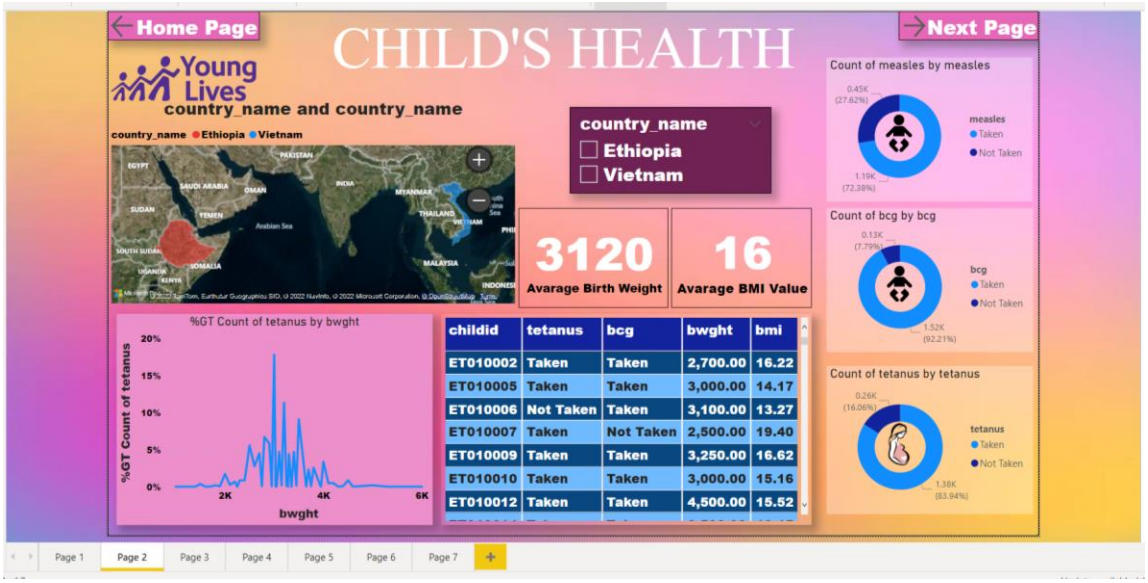
Child Poverty Monitor in Ethiopia and Vietnam

The dashboard was designed with the use of power BI which contains different types of visualizations in seven pages including the home page and the five views created. The home page displays the main topic of

the dashboard and the sub topics of the five views created; Child Health, Child Household, Child Habit, Child Education and Child Food Security. Page navigations were used to return to each page.

The second page of the dashboard displays the first view created which is about child Health which represents the child health of the children in Vietnam and Ethiopia. Here we have used a map to visualize the two countries namely Vietnam and Ethiopia. Within the map blue color was used to depict the Vietnam while red color was used to represent the Ethiopia. A slicer was used to contrast two countries with the use of country name column. Average Birth Weight and Average BMI values were represented by a card. A donut chart was used to represent the measles count. Light blue color region of the donut chart denotes the count of measles vaccine taken people. while the dark blue color depicts the count of children who was not taken the vaccines. Accordingly, it shows that the highest percentage of children have taken the vaccines for measles. The count of the BCG vaccine was depicted with the use of a donut chart where light blue color represents the count of children who have taken the vaccines while the dark color illustrates the one who have not taken the BCG vaccines.

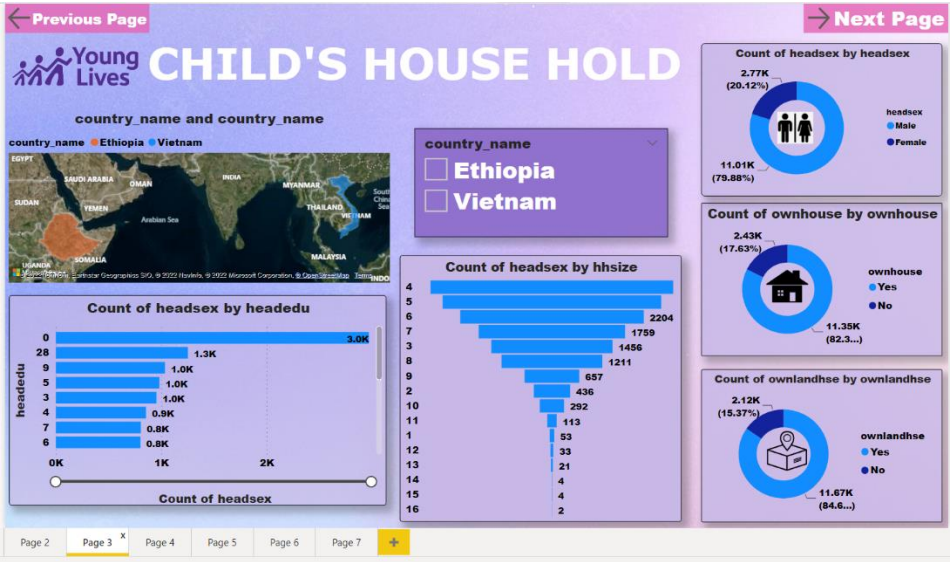
According to the donut chart it shows that the highest percentage of children have taken the vaccine. Count of the tetanus vaccine was represented with the use of a donut chart. Light blue color was used to represent the count of the children who was taken the vaccine while the dark blue color represents the count of ones who have not taken the vaccine. By using the donut chart which was used to represent the tetanus count, it can be concluded that the of highest percentage of children has got the vaccine. In these three donut charts, we have changed the measures in database; 1 for Taken and 0 for Not Taken. A chart was used to display the columns of the child health view which represents the child ID, Status of the tetanus vaccine (whether the vaccine was taken or not), status of the BCG vaccine (whether the vaccine was taken or not), status of the Tetanus vaccine (whether the vaccine was taken or not), and the BMI value of each children. A line chart was used to illustrate the percentage of GT of Tetanus vaccine with the birth weight.



Third page of the dashboard represents the second view; child's household. Where it describes the household status of the children in Ethiopia and Vietnam. A map was used to illustrate the two countries

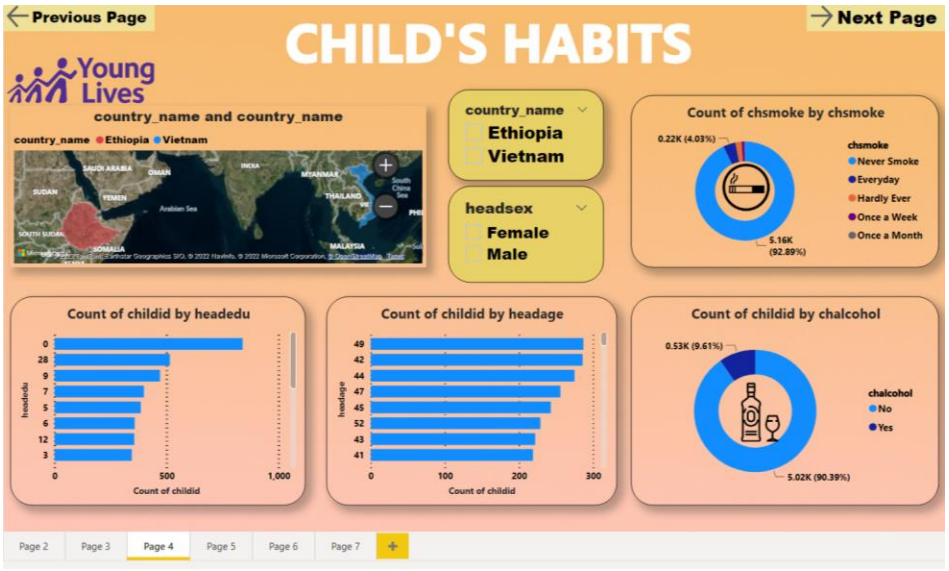
where Vietnam was depicted by blue color and the Ethiopia was depicted by red color. A slicer was used to contrast the two countries.

A donut chart was used to represent the head sex which describes the head of the family is a male or a female. Here also we have changed the measures in the database as 1- Male and 0- Female. Light blue color illustrates the count of males while females are represented by dark blue. From this pie chart it can be concluded that highest percentage of count of head sex was reported from males. In order to represent the own house that is whether the person is having his or her own house a donut chart was used. And the measures were changed as 1 – Yes and 0 – No. Light blue color was used to represent the count of individuals having their own house while dark blue region illustrates that the person does not have her or his own house. As a whole, this visualization shows that the highest percentage of people have their own house. For the illustration of the count of the own land again a pie chart was used. Measures were changed as Yes for 1 and No for 0. Where; light blue was used for having own land and dark blue for not having a own land. Here a stat bar chart was used to represent the education level count of head sex. A visualization named funnel was used to represent the household size.



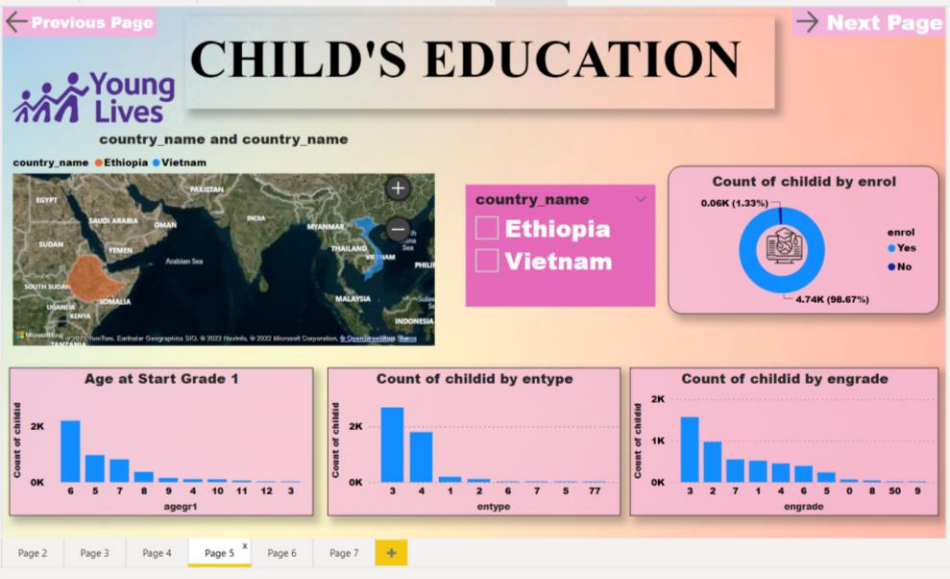
Forth page of the dashboard shows the third view which was created regarding the child's habits. Here a map was used to depict the two countries with two different colors and the two countries were contrasted by a slicer with the use of country name column. Another slicer was used to display the head sex (weather the head of the family is a male or female). Two pie charts were used to represent the smoking percentages and alcohol usage.

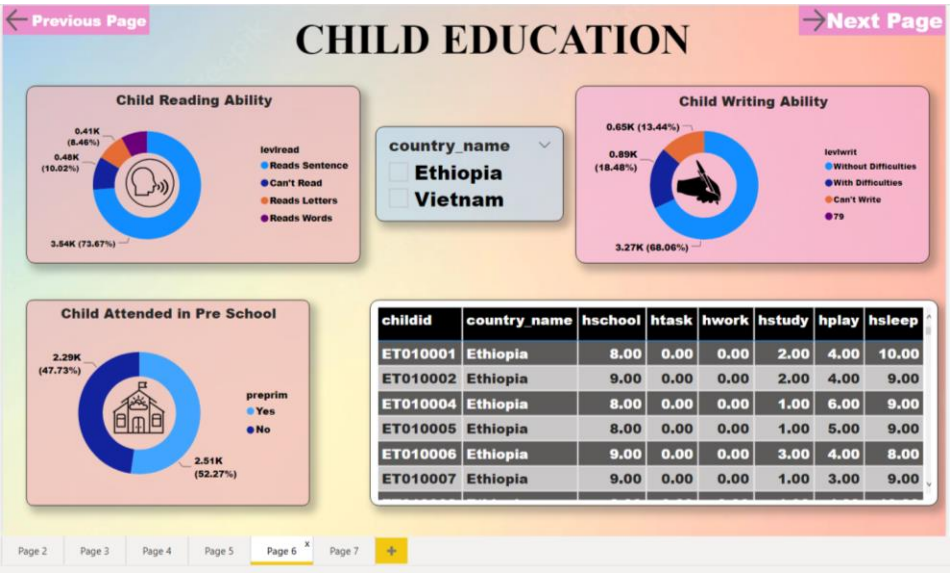
The pie chart used to represent the smoking count, contains the counts of the different frequencies of the use of smoke. In order to have a more detailed visualization, we changed the measures as; Never some, Everyday, Hardly Ever, Once a week and Once a month. Then the pie chart which represents the Alcohol usage with the child id was used with changed measures as No and Yes. Another two bar charts were used to represent the education level according to the child id and the count of head sex according to the house hold size.



Fifth page and the sixth page of the dashboard represents the forth view which was created as child's Education. Map was used to depict the two countries. Blue color used to represent Vietnam and Ethiopia was represented by red. A slicer was used to contrast the two countries by using country_name column. A pie chart was used to represent the count of enrolled child ids. the measures have been changed to yes and no in order to indicate enrolled children and children who have not enrolled. Three column charts were used to represent age at start garde 1, count of childid by entype and count of child id by enroll grade. In the next page, three donut charts, a slicer and a table was used. A donut chart was used to illustrate the child reading ability, there the level of reading measures were changed as; reads sentence, can't read, reads letters and reads words. Child writing ability was represented by another donut chart where the levels of writing measures were changed as; without difficulties, with difficulties and can not write. A table which contains the columns child id, country name, hours at school, hours of task, hours of work, hours of study, hours of play and hours of sleep. Another donut chart was used to represent the child attended in preschool. (whether the child has

attended the preschool or not) measures were changed as ‘yes ‘ and ‘No’.

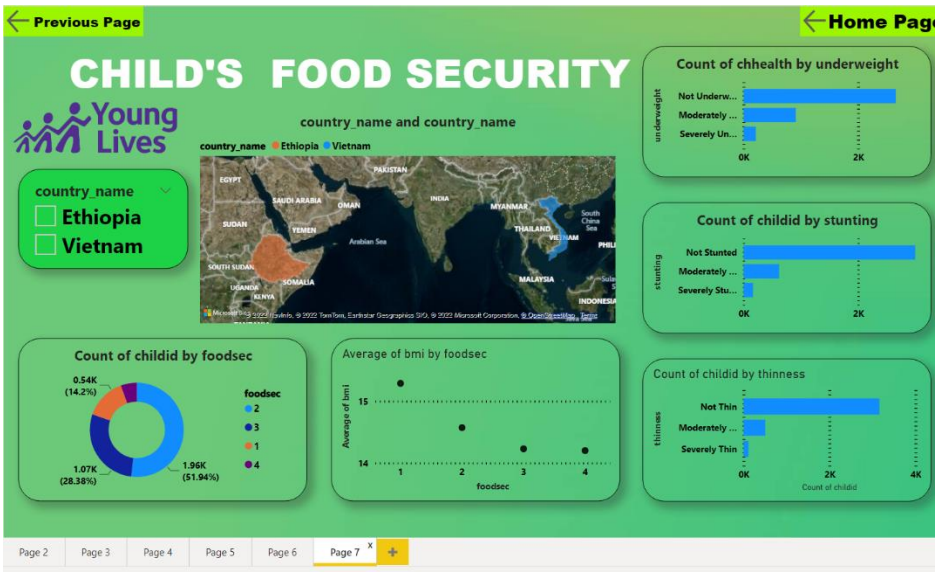




childid	country_name	hschool	htask	hwork	hstudy	hplay	hsleep
ET010001	Ethiopia	8.00	0.00	0.00	2.00	4.00	10.00
ET010002	Ethiopia	9.00	0.00	0.00	2.00	4.00	9.00
ET010004	Ethiopia	8.00	0.00	0.00	1.00	6.00	9.00
ET010005	Ethiopia	8.00	0.00	0.00	1.00	5.00	9.00
ET010006	Ethiopia	9.00	0.00	0.00	3.00	4.00	8.00
ET010007	Ethiopia	9.00	0.00	0.00	1.00	3.00	9.00

The last page of the dashboard represents the fifth view named ‘child’s food security’. A map was used to represent the two countries by two different colors. Vietnam was depicted by blue color while the red color is used for Ethiopia. A slicer was used to represent the country_name column. A donut chart was used to depict the count of child id by food

security. Measures for the food security was given was as 1, 2,3 and 4. Three stack bar charts were used to represent the count of child health by underweight, count of child health by stunning and count of child health by thinness. The change of average BMI according to the food security was displayed by a scatter chart.



Conclusion

The child poverty monitor built with the use of young lives data in Ethiopia and Vietnam provides an analysis of the health status, family status, household status, food consuming status and education status of children in Ethiopia and Vietnam. Thus, by analyzing these data, we can conclude that the most of the children are facing severe conditions due to low income, low nutritional levels, poor health and low educational levels etc. Therefor with this monitor we can have a clear understanding on how these children were affected from different factors and hence we can suggest the necessary steps to be taken in order to minimize or eradicate those factors.

References

(https://www.younglives.org.uk/)

https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000060#!/access