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# Getting Started

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- Open your browser and navigate to <https://www.datatools.sjri.res.in/FOP/index>



## Your first Optimization

- Select State and District and Click Fetch Population

Welcome Guest, [Login Here!](#)

Or Start your Optimization Right Away!

State

Andhra Pradesh ▼

District

Prakasam ▼

Fetch Population

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- The projected populations from Census data are fetched for the respective state and district which you have selected.
- By default the projected population for the newly formed states and districts after 2011 census will have the population value as 1 for all age groups
- Edit the Population values for respective Age Groups, and Adults Proportions are also available. Please note that the total proportion of Sedentary, Moderate and Heavy should be equal to 100. Otherwise, an Error would be shown.

State  
Andhra Pradesh

District  
Prakasam

Fetch Population

**Population of Prakasam, Andhra Pradesh**

**CHILDREN**

Age Group	Total
00 - 03 Yrs	166727
04 - 06 Yrs	173922
07 - 09 Yrs	186560

	Male	Female
10 - 12 Yrs	104500	98483
13 - 15 Yrs	99346	89653
16 - 18 Yrs	100829	84727

**ADULTS**

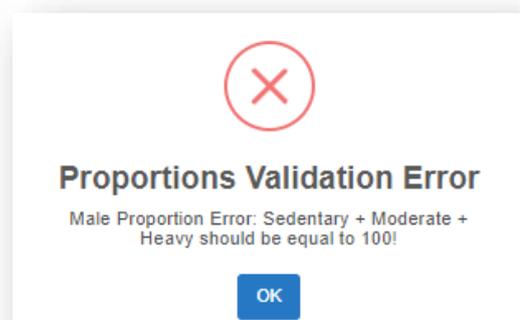
	Male	Female
Total Adults	1088876	1107836

**Proportions Based on Work Type**

Sedentary (%)	0	0
Moderate (%)	100	100
Heavy (%)	0	0

Optimize

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Verify All Values and Click '**Optimize**' (Red Button)

*\*Please Note that the Optimization and Loading of Results can take between 15 – 20 Seconds.*

# Understanding Results Page

The screenshot shows the FOP application interface. At the top is a blue header with 'FOP' and user information. Below it are four diet selection tabs: Diet 1, Diet 2, Diet 3, and Diet 4. The left sidebar (Input Pane) contains sections for Basic Information (State: Andhra Pradesh, District: Prakasam, Population: 3,301,459), Common Foods Selection (Cereals and Millets, Pulse, Green Leafy Vegetables, Oil, Salt, Sugar, Vegetables, Roots and Tubers, Fruits, Nuts, Spices), and Population (Children 1-9 Yrs, Children 10-18 Yrs, Adults). The main Results Pane displays a warning for Diet 1, a Population radar chart, a donut chart for 'Nuts & Seeds' at 15.42%, and a table of Optimal Cost Calculations. The table shows costs per day, week, month, and year for a population of 3,301,459, with an optimized cost of ₹ 58,522,408 per day. A right-side panel (Age Group Selection) lists age groups and gender categories.

## Understanding Diets

There are 4 Diets included in the Application. There will be Diet Selection tabs in both input and results pane. On hovering will reveal what kind of diet it is.



Diet	Diet Type	Food Components
Diet 1	vegetarian	Common Foods (CF)
Diet 2	lacto-vegetarian	CF + Milk Products
Diet 3	lacto-ovo-vegetarian	CF + MP + Egg
Diet 4	non - vegetarian	CF + MP + Egg + Non Veg

\*Please Note that there would be limitations to Optimizations for each diets, will be shown as a dismissible error message at the top of every results tab.

## Input Pane

Input Pane consists of Food Selections, Populations (as the previous window). You can change food selections and populations and try optimizing with different combinations for any number of times.

- Depending on diet tab selected, the Food selections might change. Common Food Selection are common for all foods. Diet 2, Diet 3 and Diet 4 will have Diet Specific Food Items.

**Diet Specific Food Selection**

**Milk products** - Select min. 0

Food Name	Price (₹/Kg)
<input checked="" type="checkbox"/> Curd	110.0
<input checked="" type="checkbox"/> Milk Buffalo	43.0
<input checked="" type="checkbox"/> Milk cow	40.0
<input checked="" type="checkbox"/> Paneer	220.0

**Egg** - Select min. 1

Food Name	Price (₹/Kg)
<input checked="" type="checkbox"/> Egg	2.29

- Note that there would be constraints for Optimization like the minimum no of food items to be selected in each food group. Which is been mentioned along with the name of the Food group in food selection; if the constraints are not met. You will get an Error Message

**Diet 2**

Select at least 1 Milk Product

OK

- Default food selections for the first optimizations are computed based on production and consumptions of foods at respective State and District selected by user. You can change the selections any way you wish according to the constraints
- Verify Selections and Food Prices, if the Food prices are incorrect, you can change it.
- Population will be same as the first window. You can change it if any corrections are needed.
- Click the Red Optimize Button after all edits.

Diet 1
Diet 2
Diet 3
Diet 4

**Basic Information**

**State:** Andhra Pradesh  
**District:** Prakasam  
**Population:** 3,301,459

**Common Foods Selection**

**Cereals and Millets** - Select min. 2

Food Name	Price (₹/Kg)
<input checked="" type="checkbox"/> Bajra	15.07
<input type="checkbox"/> Barley	16.34
<input type="checkbox"/> Jowar	22.49
<input checked="" type="checkbox"/> Maize and Products	17.83
<input checked="" type="checkbox"/> Ragi	25.98
<input type="checkbox"/> Refined wheat flour	24.00
<input checked="" type="checkbox"/> Rice	27.72
<input type="checkbox"/> Rice flakes	38.00
<input type="checkbox"/> Rice puffed	42.00
<input checked="" type="checkbox"/> Wheat flour atta	22.24

**Pulse** + Select min. 2

**Green Leafy Vegetables** + Select min. 3

**Oil** + Select min. 1

**Salt** + Select min. 1

**Population**

**Children (1 - 9 Yrs)** -

Age Group	Total
1 - 3 Yrs	166727
4 - 6 Yrs	173922
7 - 9 Yrs	186560

**Children (10 - 18 Yrs)** -

Age Group	Male	Female
10 - 12 Yrs	104500	98483
13 - 15 Yrs	99346	89653
16 - 18 Yrs	100829	84727

**Adults** -

	Male	Female
<b>Total Adults</b>	1088876	1107836

**Proportions Based on Work Type**

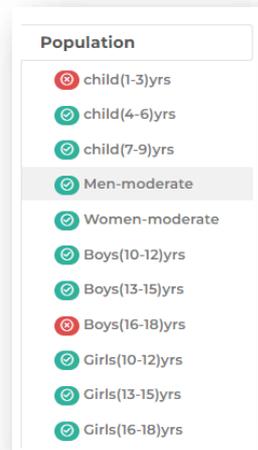
	Male	Female
Sedentary (%)	0	0
Moderate (%)	100	100
Heavy (%)	0	0

Optimize

## Age Group Selection Pane

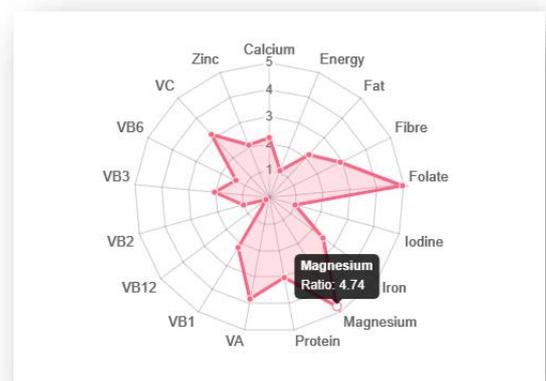
Based on the Population Data you have given. Results are computed for each age group and for each diet.

- There would be an Additional Population tab for each diets this gives you the average values of all values.
- Green tick Means Optimal Solution.
- Red cross means that the optimization could not find a solution with the inputs given
- Navigate through the Age group selection pane to view different solutions.

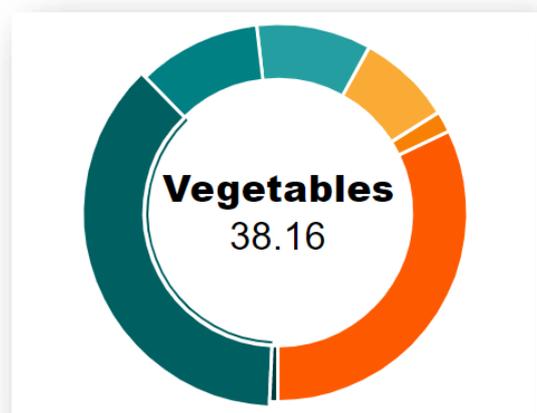


## Understanding your Optimization Results

- **Radar Chart**
  - The Radar chart depicts the ratio between your intake and requirement.
  - For example: If your Energy ratio is 3:1, than it implies that you are consuming it 3 times of your requirement.
  - On Hovering, The Exact ratio will be revealed.



- **Pie Chart**
  - The Pie chart depicts the intake percentage of each food group.
  - For example: If the value for cereals is 35, then it implies that cereals intake is 35% of your total intake
  - Hovering over each sectors will reveal more values.



- **Optimal Cost Calculations**

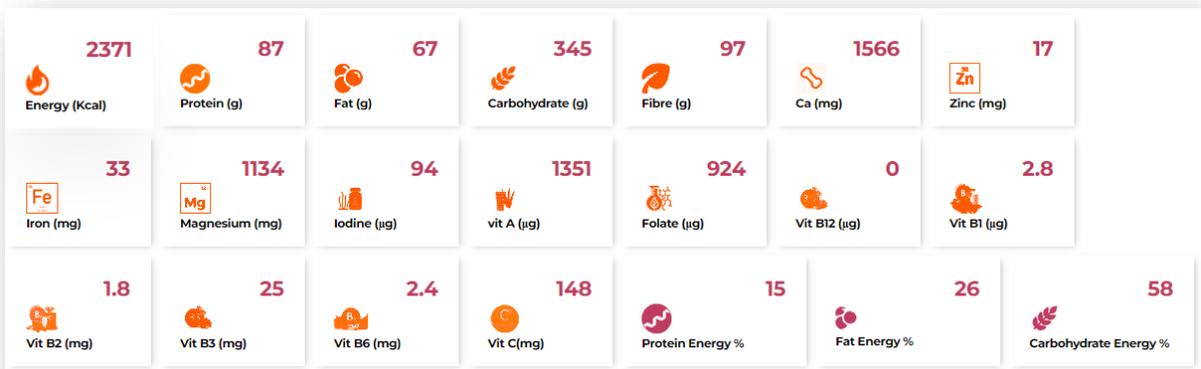
- Optimal Cost Calculations gives you an idea of how much money is needed for the proposed diet on the respective diet and age group.

Population	Per Day (₹)	Per Week (₹)	Per Month (₹)	Per Year (₹)	<b>Optimised Cost</b>
N=3,301,459	111,367,990.2	779,575,931.5	3,341,039,706.3	40,649,316,426.6	<b>₹ 111,367,990</b>

for all Population in Prakasam, Andhra Pradesh per day.

- **Average Nutritional Breakdown**

- This shows the composition of various nutrients based on the optimal diet.



- **Food Intake**

- The Food Intake shows which and how much of each food Item should an Individual and Population Intake per day.
- For population tab there would be multiple units (Kg and T). for individual age groups hovering mouse over population will reveal the value in Kilogram.

Food Intake		
<b>Cereals and Millets</b>	Intake per day	
	Individual	Population
	Maize and Products	308 g / 336 T
Ragi	367 g / 399 T	
		399312.6 Kg
<b>Green Leafy Vegetables</b>	Intake per day	
	Individual	Population
	Curry leaves	5 g / 5 T
	Spinach (Palak)	190 g / 207 T
Mint	5 g / 5 T	
<b>Pulse</b>	Intake per day	
	Individual	Population
Bengal gram whole	90 g	98 T
<b>Oil</b>	Intake per day	
	Individual	Population
Mustard Oil	10 g	11 T
<b>Sugar</b>		

## Affordability Checker

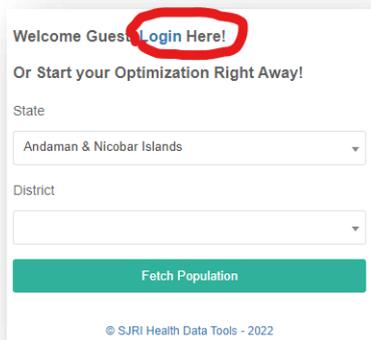
FOP has an in built Household Affordability Checker. Click on the  icon on the top toolbar to access.

Household Affordability Check					
Age Group	No. of Individuals	Optimal Cost per Day			
		Diet 1	Diet 2	Diet 3	Diet 4
1 - 9 Years Child	<u>4</u>	₹ 13.7	₹ 26.7	₹ 23.0	₹ 23.3
10 - 18 Years Boys & Girls	<u>2</u>	₹ 24.8	₹ 44.5	₹ 40.7	₹ 39.5
Adult Men	<u>1</u>	₹ 26.1	₹ 45.7	₹ 42.0	₹ 38.0
Adult Women	<u>2</u>	₹ 20.3	₹ 43.6	₹ 40.0	₹ 39.9
Household Cost for Optimal Diet		₹ 171.10	₹ 328.70	₹ 295.40	₹ 290.00
Total Number of Individuals		9			
No of Earning People in Household		<u>1</u>			
Average Wage per day for Andhra Pradesh (₹) <small>*Average wages from 2020-21 RBI Handbook</small>		<u>305</u>			
Household Affordability Status		YES	NO	YES	YES
Food Expenditure to Wages Ratio		56%	108%	97%	95%

- The Underlined values are inputs (Blue). Change the number of individuals over different age groups, and the total number of Individuals will be calculated Automatically.
- Optimal Cost values are calculated from the result page where you are accessing the Affordability checker. Diet 1, Diet 2, Diet 3 and Diet 4 values over different age groups will be displayed (Brown)
- Change the Number of Earning People in the Household (Blue).
- The average Wage per day for States are fetched from RBI Handbook 2020-21.
- The Results are dynamically updated as you make changes.
- Household Affordability Status will show YES (Green) if the optimized diet cost is less than total income.
- Household Affordability Status will show NO (Red) if the optimized diet cost is greater than total income.
- Food Expenditure to Wages Ratio shows how much percentage of Income is optimized diet cost.
- Click anywhere outside the affordability checker to exit the window

## Users

Some functionalities of FOP are only limited to logged users. You can login from both index page and FOP window.



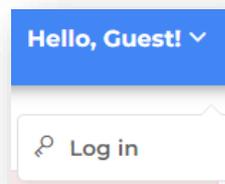
Welcome Guest **Login Here!**  
Or Start your Optimization Right Away!

State  
Andaman & Nicobar Islands

District

Fetch Population

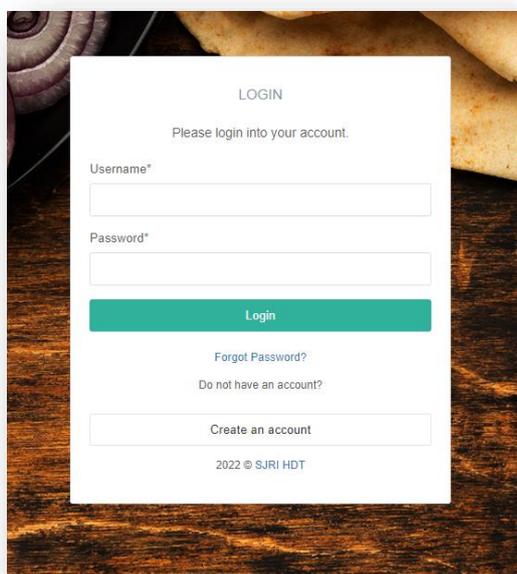
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Hello, Guest! ▾

Log in

### Login Page:



LOGIN

Please login into your account.

Username\*

Password\*

Login

Forgot Password?

Do not have an account?

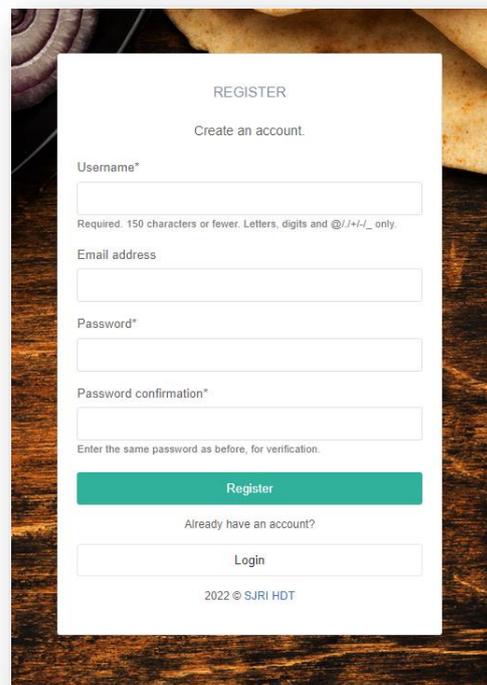
Create an account

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If you don't have an account Click on the Create an Account Button.

### Registration:

- Username
- Email ID
- Password
- Confirm Password



REGISTER

Create an account.

Username\*

Required: 150 characters or fewer. Letters, digits and @/!/+/\_ only.

Email address

Password\*

Password confirmation\*

Enter the same password as before, for verification.

Register

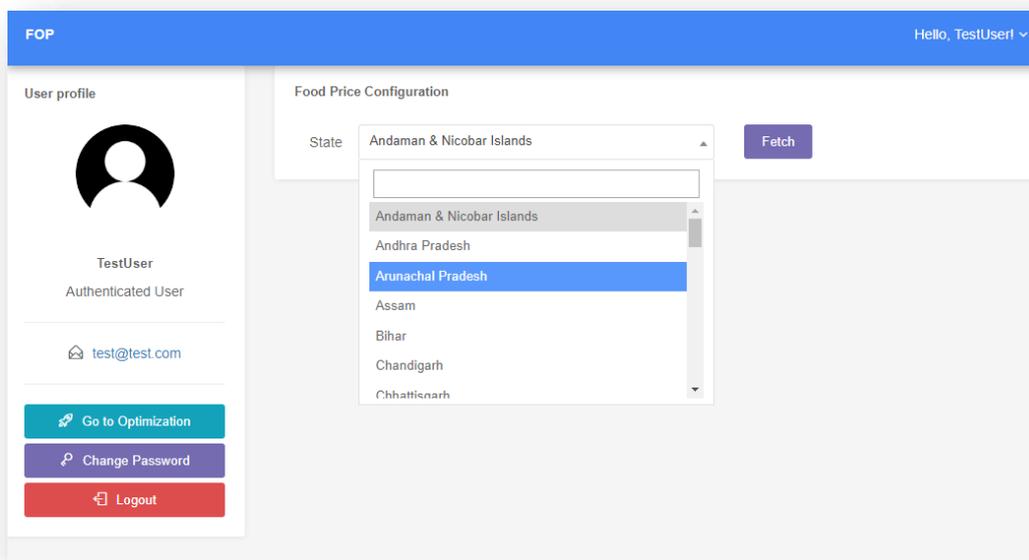
Already have an account?

Login

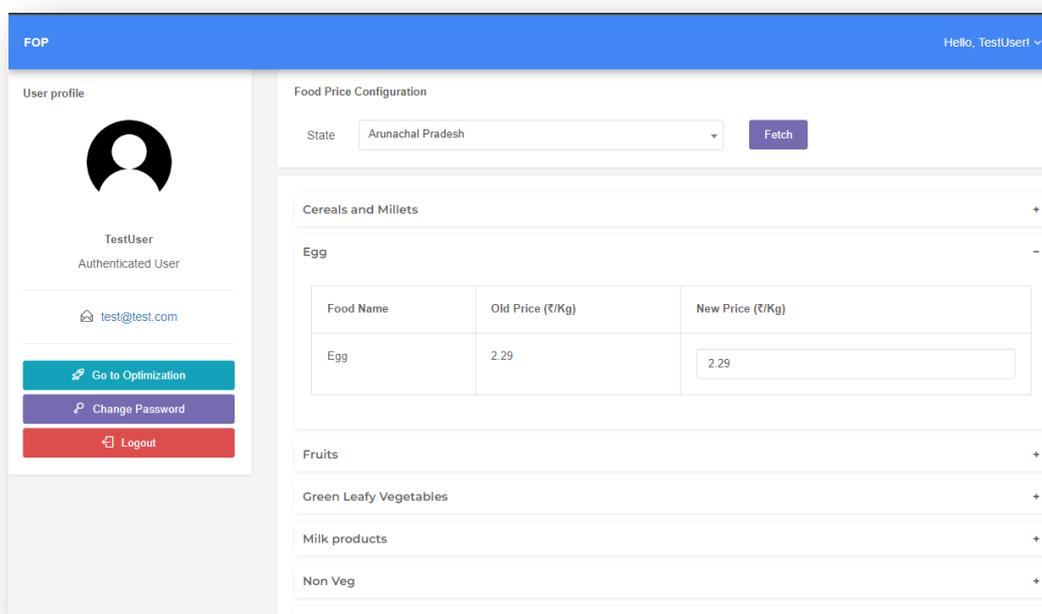
2022 © SJRI HDT

## Cost Editor

- Cost Editor can set prices of foods over different states. To open cost editor click on the  icon on the toolbar.
- Cost editor is only accessible to logged in users. If you are not logged in Cost Editor will automatically prompt you to the login page.
- Select State from the drop down and click Fetch



- Select Food Group and Edit the price in the New Price column



- If the price has changed, it will indicate yellow
- After Changing All prices, Click Save Changes Button at the Bottom of the Page.
- From next optimizations onwards, your new prices will be used.

Apple	78.94	80.00
Apricot	47.02	47.02
Bael	40.00	45
Banana	22.70	22.70

## Exporting Results

You can export Optimization results as PDF file.

### I. Individual Export

Find the Printer Icon inside the Page. Clicking the Button will instantly download the respective solution in single page

**Diet 1** **Diet 2** **Diet 3** **Diet 4**

If Curd and Chicken is the only Animal foods, VB12 is not considered; If Curd, Chicken and Egg is the only animal foods, Half the daily requirement of VB12 is considered  
Please add Cow's Milk or Buffaloes Milk and Fish or Pork or Mutton in your list to meet the Daily requirement of VB12.

**Men-moderate**

The Radar chart depicts the ratio between your intake and requirement.  
For example: If your Energy ratio is 31, then it implies that you are consuming it 3 times of your requirement

The Pie chart depicts the intake percentage of each food group.  
For example: If the value for cereals is 35, then it implies that cereals intake is 35% of your total intake

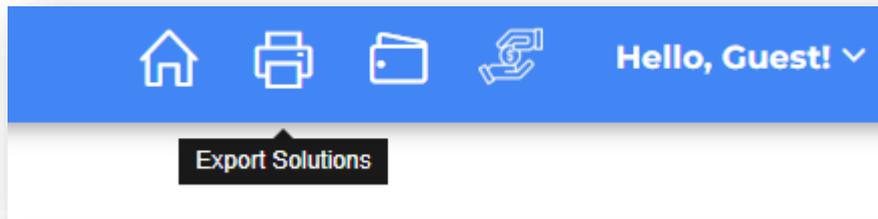
**Optimal Cost Calculations**

**Population**

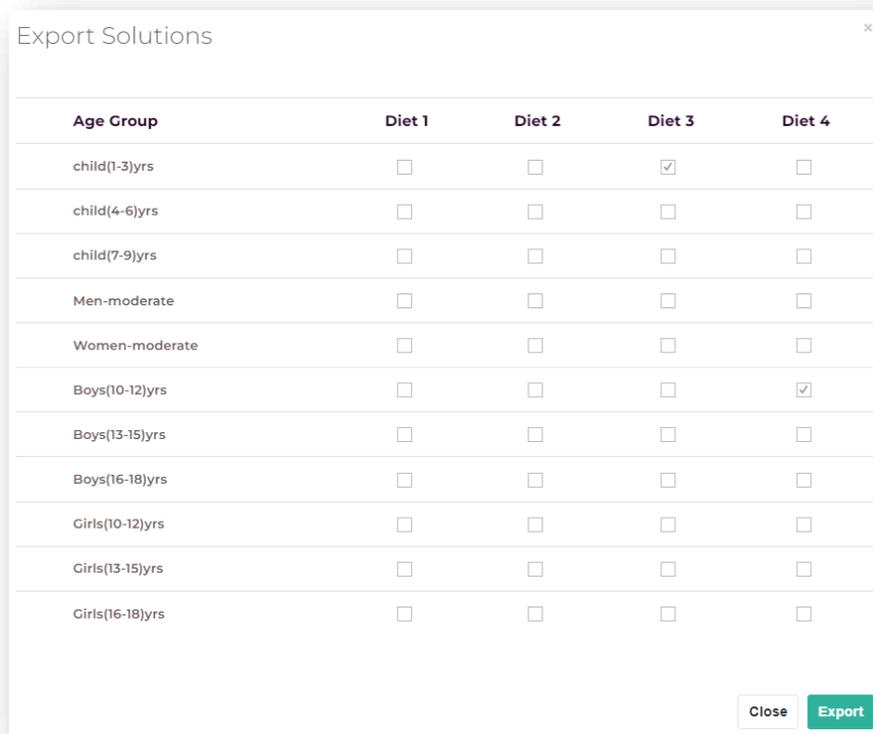
- child(1-3)yrs
- child(4-6)yrs
- child(7-9)yrs
- Men-moderate**
- Women-moderate
- Boys(10-12)yrs
- Boys(13-15)yrs
- Boys(16-18)yrs
- Girls(10-12)yrs
- Girls(13-15)yrs
- Girls(16-18)yrs

## II. Multi Export

You can have multiple Solution exported in a single page. Find the Printer icon on the main toolbar.



It will open a dialog. Select what all solutions you want for exporting. And click Export Button. A Single PDF file consisting of all your requested solutions will be downloaded instantly.



Age Group	Diet 1	Diet 2	Diet 3	Diet 4
child(1-3)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
child(4-6)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
child(7-9)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men-moderate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women-moderate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boys(10-12)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Boys(13-15)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boys(16-18)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Girls(10-12)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Girls(13-15)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Girls(16-18)yrs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Close Export