

Gh06 → Determination of National Income

Unit 1 → National Income Accounting

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Different Concept of National Income

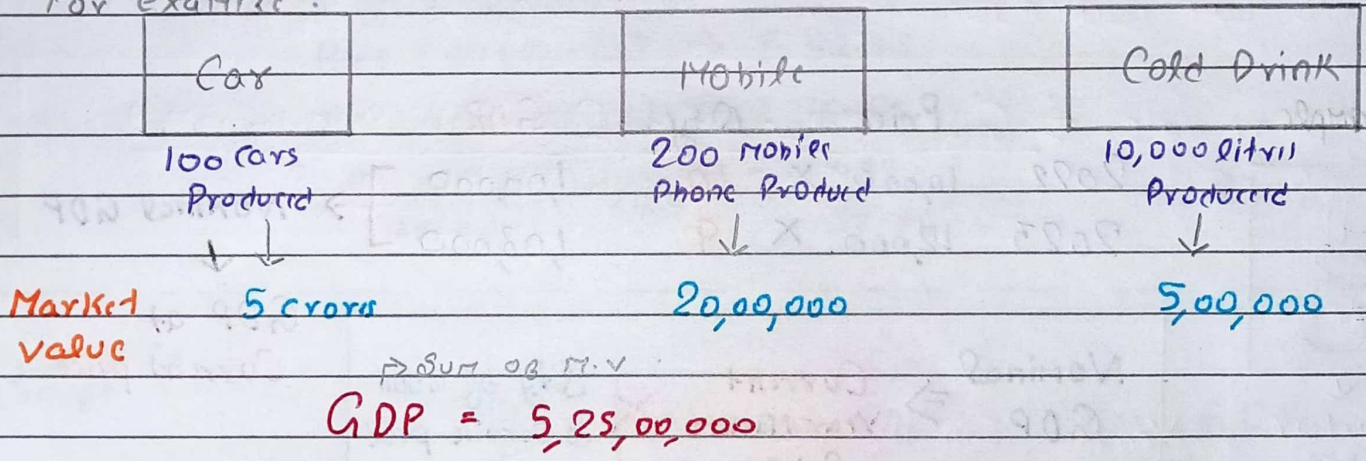
→ एक साल में India में कितने value of GDS Produce hue hai

Gross Domestic Product

GDP is a Measure of the **Market value** of all **Final economic Goods and Services**, Produced Within the **Domestic territory** of a country during a **Given time Period**.

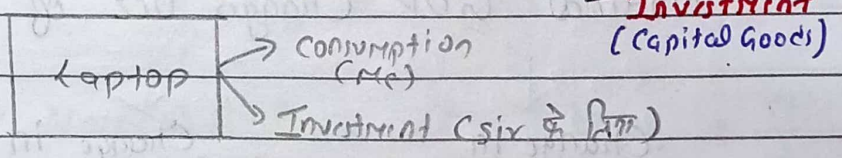
1. **Market value** → Means Goods की Market में value कितनी है। In other words → इस value में ही Goods सेो बहुतग।

For example :-

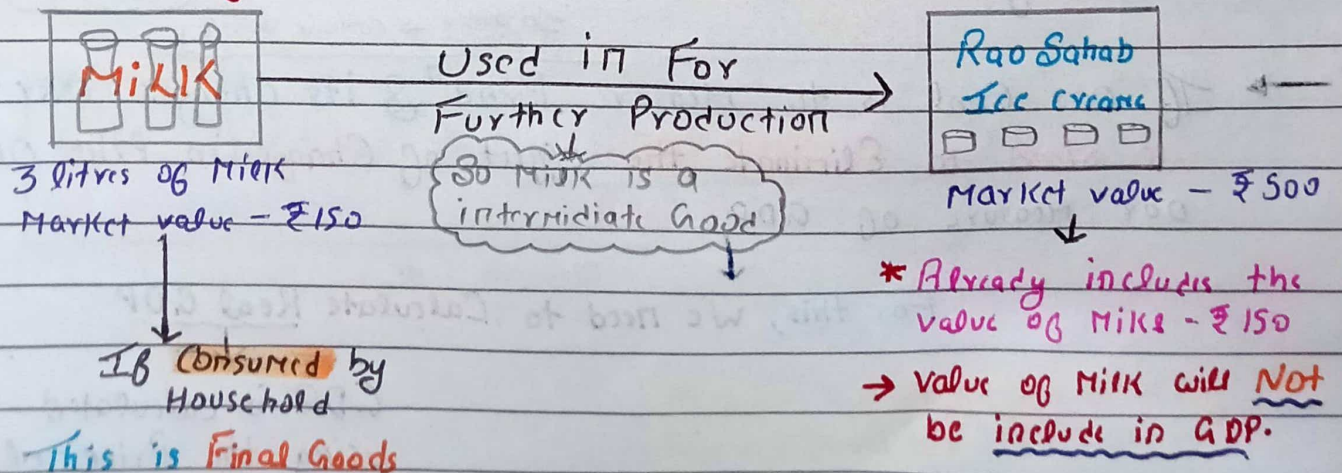


2. **Final Goods & Services** → Those Goods which are either used for **Consumption** or **Investment** (Capital Goods)

For example :-



→ **Value of Intermediate Goods are Not Included.**



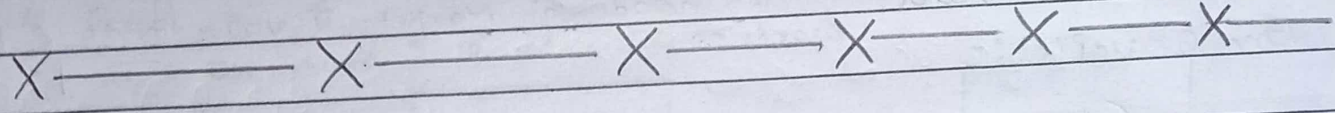
* Economic Goods - which are exchange in a Market

3) Domestic territory : **Geographical Boundary of the Country**
 ↳ यह कहेला है एने कारक नही पड़ेला Person कहेला का है Bas GSS India ये Produce hani Chaiye.

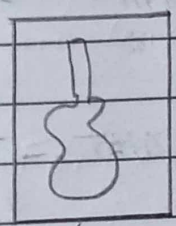
For ex:- Hardik [Indian] → Services in India - ₹100
 Taylor Swift [Non-Indian] → Concert in India - ₹10 cr. } Will be include in GDP

→ Hardik [Indian] → Service Outside India } NOT include in GDP

4) Given time Period ⇒ **GDP is a Flow Variable**, Includes Goods & Services during the Year



Example



Guitar Shop

	Price	Qty	GDP
2022	10,000	10	1,00,000
2023	12,000	9	1,08,000

} → Nominal GDP
 ↓
 GDP at Current price

Nominal GDP ⇒ Current Year Market Price × Qty of Good & Service prod. during the Year

• Nominal GDP Changes Bcz of 2 Reasons

Change in Qty

Change in Price

Settle En Nominal GDP ke Compare ke liye "Not" show Real Picture of Economy

In other words → Compare करेला है।

→ If our Goal is to Measure Prodⁿ & its Changes Over time WE Need to Eliminate the effect of Change in Price On our measure of GDP

For this, We need to Calculate Real GDP

GDP is calculated using the Price of Selected 'Base year'

* GDP at a Constant Prices

For Example :-

	Price	Qty	Nominal GDP	Real GDP
2022	10,000	10	1,00,000	1,00,000
2023	12,000	9	1,08,000	$[10,000 \times 9] \Rightarrow 90,000$

↓
Base Year Price

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* Base Year \Rightarrow Nominal GDP = Real GDP

* Real GDP is NOT affected by change in Prices.

* It shows Real Picture of Economy.

* It is only affected by change in Qty

• Real GDP Growth % $\Rightarrow \frac{C.Y \text{ Real GDP} - P.Y \text{ Real GDP}}{P.Y \text{ Real GDP}} \times 100$

For Example :-

Real GDP [21-22] \rightarrow ₹ 32.46

Real GDP [22-23] \rightarrow ₹ 36.85

$\Rightarrow \frac{36.85 - 32.46}{32.46} \times 100 \Rightarrow \frac{4.39}{32.46} \times 100 \Rightarrow 13.53\%$

Ex :-

Concept

	Price	Qty	Nominal GDP	Real GDP
2011-12	150	50	7500	7500
2022-23	300	200	60,000	30,000

↓
 200×300 ↓
 150×200

$\Rightarrow \frac{\text{Nominal GDP}}{\text{Real GDP}} = \frac{200 \times 300}{200 \times 150} \Rightarrow 2$

↓
GDP Deflator
↓
Means

• GDP Deflator $\Rightarrow \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$

$\Rightarrow \frac{60,000}{30,000} \times 100 \Rightarrow 200$

Product की ₹ 100 ka tha in the Base year [11-12] wo C.Y (22-23) me ₹ 200 ka hoga hai.

→ GDP Deflator ⇒ Can be used to $\left\{ \begin{array}{l} \text{Deflate} \\ \text{or} \\ \text{take Inflation} \end{array} \right\}$ → Out of GDP.

Price Index \rightarrow इस ये भी बोलते है बेच ये एने का Ratio Bta रहे है $\frac{\text{Price of CV}}{\text{Price of Base Year}}$

* Deflator measures change in prices that occurred b/w $\left\{ \begin{array}{l} \text{Base year} \\ \text{and} \\ \text{Current Year} \end{array} \right.$

↳ In other words → ये एने Prices b/w Base & Current का Relation Bta रहे है

* GDP Deflator of Base Year ⇒ always 100

* GDP Deflator > 100, this indicates ⇒ Price level has increased as compared to the Base Year

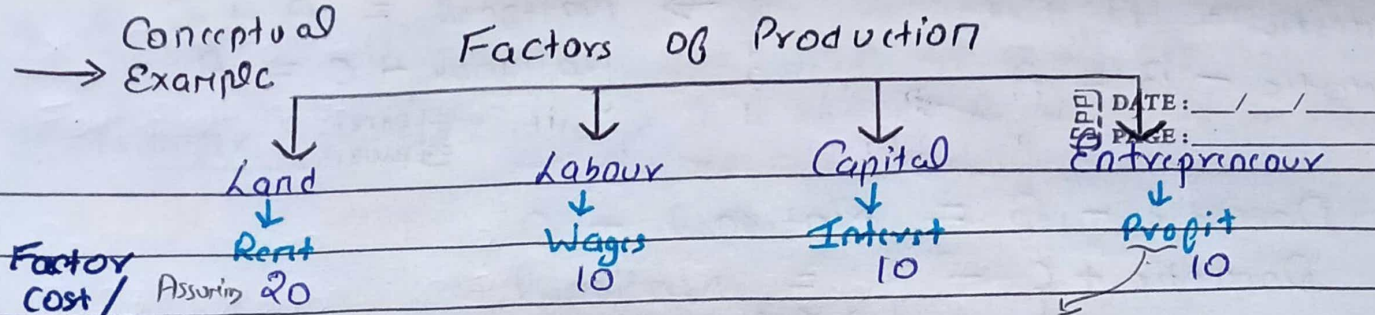
→ We can Calculate Inflation Rate using GDP Deflator.

$$\text{Inflation rate} \Rightarrow \frac{\text{GDP Deflator in Year 2} - \text{GDP Deflator in Year 1}}{\text{GDP Deflator in Year 1}} \times 100$$

in Year 2 \rightarrow consecutive

For ex:-

Years	(In Billion Rs) GDP Deflators	Inflation Rate
2014	100	—
2015	123.08	$\rightarrow \frac{123.08 - 100}{100} \times 100 \Rightarrow 23.08\%$
2016	143.75	$\rightarrow \frac{143.75 - 123.08}{123.08} \times 100 \Rightarrow 16.79\%$
2017	136.84	$\rightarrow \frac{136.84 - 143.75}{143.75} \times 100 \Rightarrow -4.81\%$
2018	130.25	→ Same steps
2019	137.10	→ Same steps



Factor Cost / Assurance 20

Factor Income

Cost of Calculator - 40 + 10

Factor Cost ⇒ 50 → Amt. Received by Factor owners

← (+) Indirect taxes - 10

Govt. देना है ← (-) Subsidy - (5)

Market Price ⇒ 55 → Amt. to be PAID by Buyer

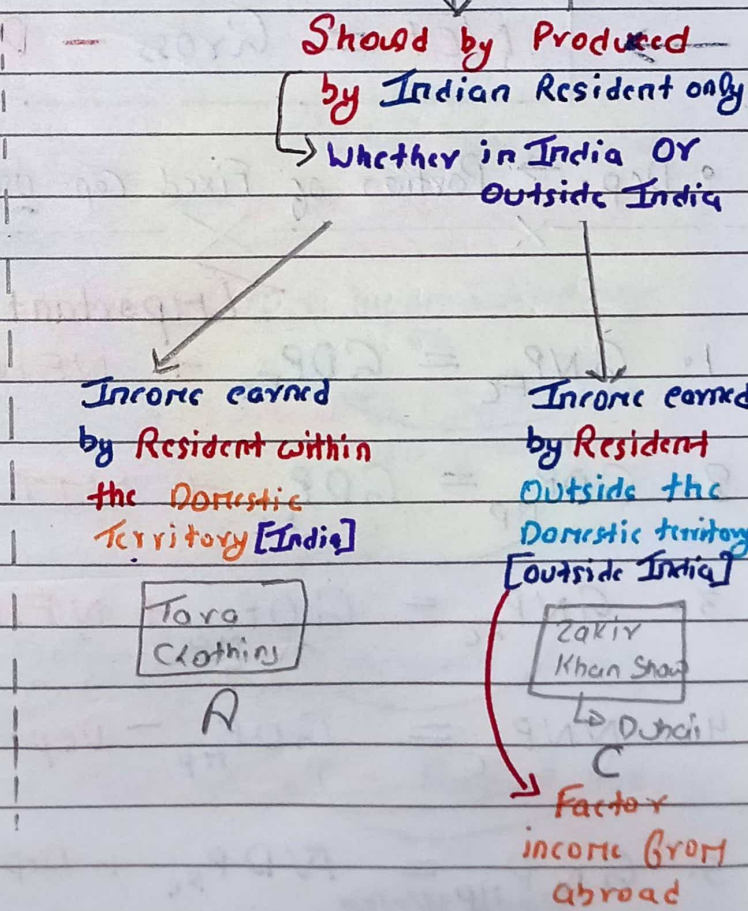
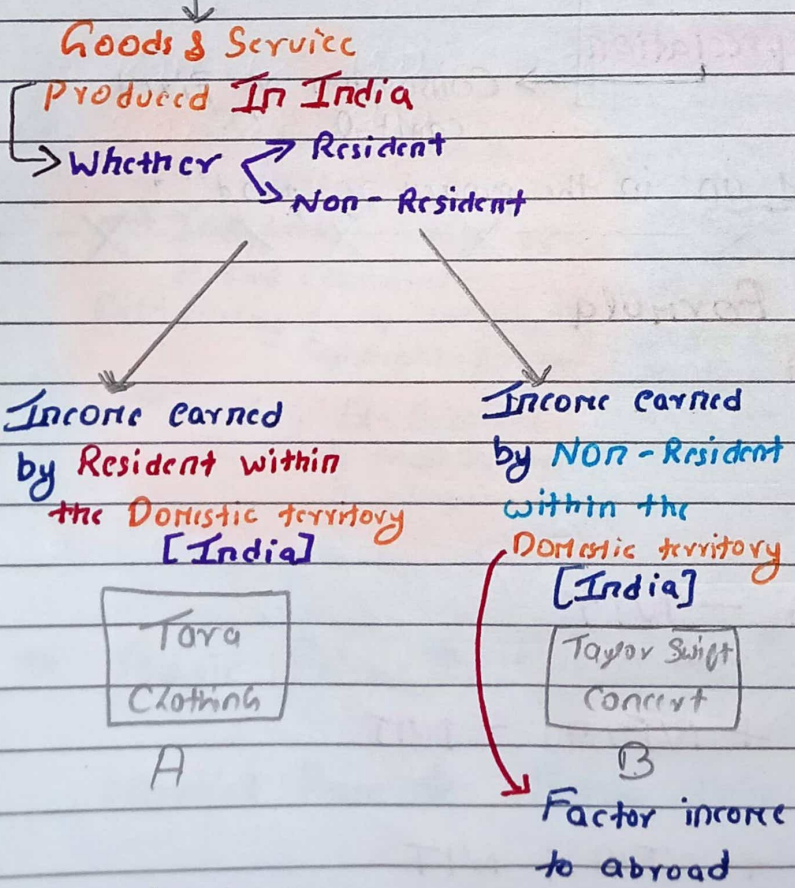
Market Price ⇒ Net Indirect Taxes + Factor cost

+ Indirect Taxes - Subsidy

we say ⇒ $GDP_{MP} = GDP_{FC} + \text{Net Indirect Taxes}$

★ Domestic vs National

Means Indian Resident ने दुनिया में कही है पैसा कमाया है जो National Income में आता है



$$\rightarrow \text{Domestic} = A + B$$

$$\text{Domestic} - B = A$$

$$\rightarrow \text{National} = A + C$$

$$\text{National} - C = A$$

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$$\rightarrow \text{Domestic} - B = \text{National} - C$$

$$\text{Domestic} + C - B = \text{National}$$

\downarrow Zakir Khan \downarrow Taylor Swift
 \downarrow Factor income from abroad \downarrow Factor income to abroad

So we conclude Formula

$$\text{Domestic} + \text{Factor Income From Abroad} - \text{Factor income to abroad} = \text{National}$$

\downarrow
 Net Factor Income From Abroad [NFIA]

Conceptual Ex :-

	Domestic	National
1. Income earned by Indian Co. in USA	X	✓
2. Income earned by foreign Co. in India	✓	X
3. Income earned by Indian Resident in India	✓	✓

$$\rightarrow \text{Net} = \text{Gross} - \text{Depreciation}$$

\rightarrow Consumption of Fixed capital

• Dep. \rightarrow Portion of Fixed Cap. used up in the process of prodⁿ.

X — X — X — X — X — X — X — X

Important Formula

$$1. \text{GNP}_{FC} = \text{GDP}_{FC} + \text{NFIA}$$

$$2. \text{GDP}_{MP} = \text{GDP}_{FC} + \text{NIT}$$

$$3. \text{GNP}_{FC} = \text{GDP}_{MP} + \text{NFIA} - \text{NIT}$$

$$4. \text{NNP}_{FC} = \text{GDP}_{MP} - \text{Dep.} + \text{NFIA} - \text{NIT}$$

$$5. \text{GNP}_{MP} = \text{NDP}_{FC} + \text{Dep.} + \text{NFIA} + \text{NIT}$$

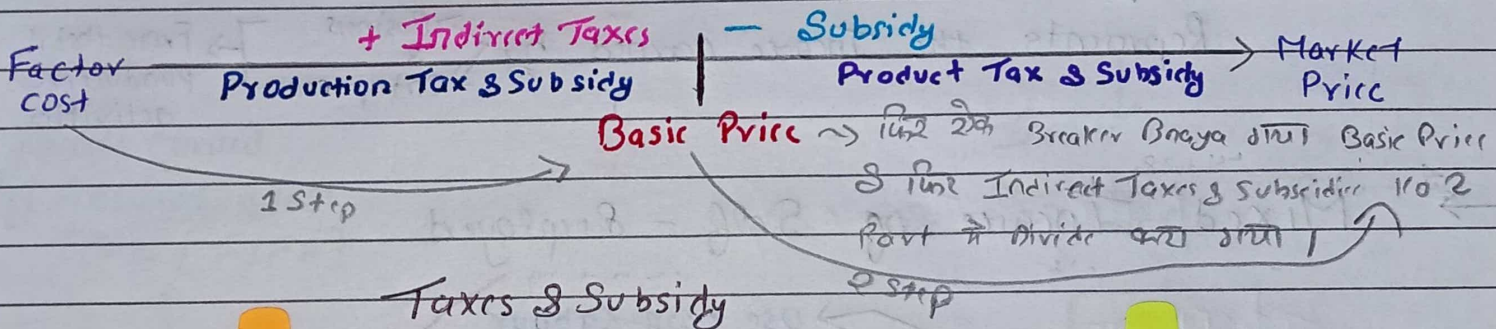
• Exclusions from GDP

1. Transfer Payments/Income → **These payments do not result in the prodⁿ of Good & Services.**
 Non-Factor Income
 For ex: Social Security Benefits, Donation etc, Gift...
 ↳ Like Pension.

2. Financial Transaction → Stock/Shares which are exchanged in the Market are not included
 However, Value of service that accompany Sale & Purchase are included.
 ↳ Like Brokerage by Zerodha, Growl App.

3. Sale of 2nd Hand Goods.

4. Unreported Output → **Illegal transaction**
 Ex: Gambling



Production Tax & Subsidy

- Independent volume of Actual Production
- Ex:- Factory licence, pollution Tax, Registration fees etc.
- Subsidy Ex- Subsidies to small industries in villages.

हमें ये फरक नहीं पड़ता और कितनी unit प्रोड्यूस कर रहे हैं।
 इस और प्रोडⁿ का रहे तो unit पर Tax देना

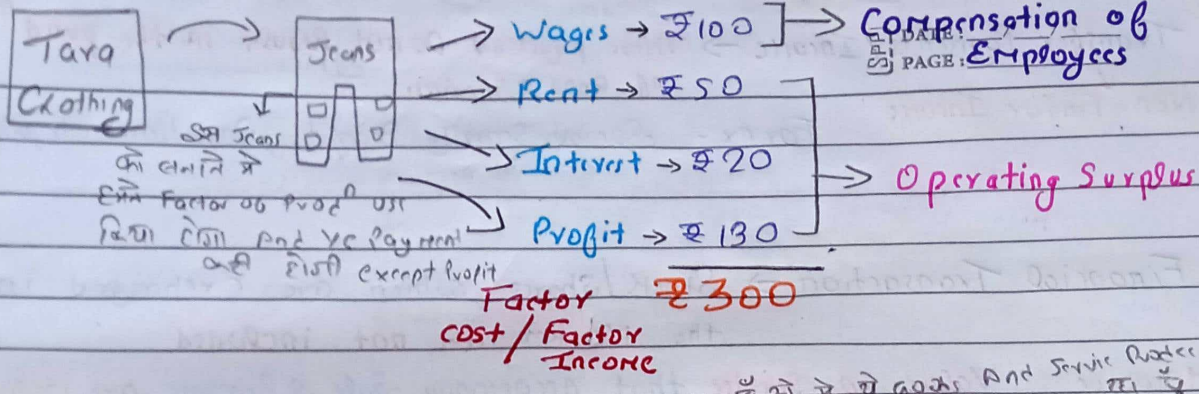
Product Tax & Subsidy

- On the Basis of units of Production
- Ex - GST, import & Export duty etc.....
- Subsidy Ex - Subsidies on LPG, fertilizers, etc.

\Rightarrow Basic Price \Rightarrow Factor Cost + Production Tax - Production Subsidy

Market Price \Rightarrow Basic Price + Product Tax - Product Subsidy

★ Calculation of National Income using Income Method



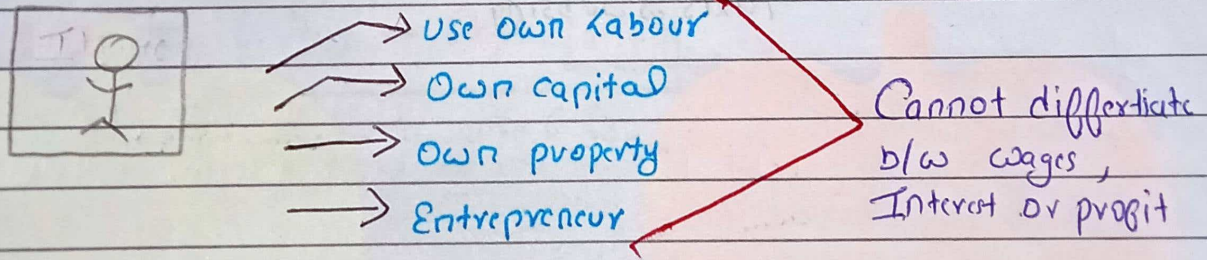
→ Whatever is produced by a producing unit is distributed among factor of production.

→ $Operating\ Surplus = Rent + Interest + Profit$

\downarrow \downarrow \downarrow
 Income from Property Income from Entrepreneurship

Represents the Income earned by Business & Entrepreneur] \rightarrow From their productive activities.

→ Mixed Income of Self - Employed

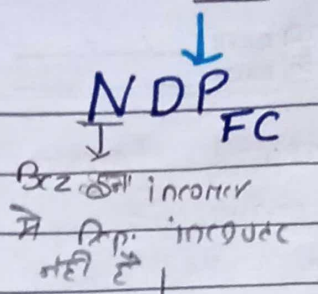


Enterprises which are not incorporated, Use their own land, labour, capital & entrepreneur

• Remuneration earned by Self employed \rightarrow is known as **Mixed Income**

→ Domestic Income :- Total Factor income earned by factor of production within the Domestic territory

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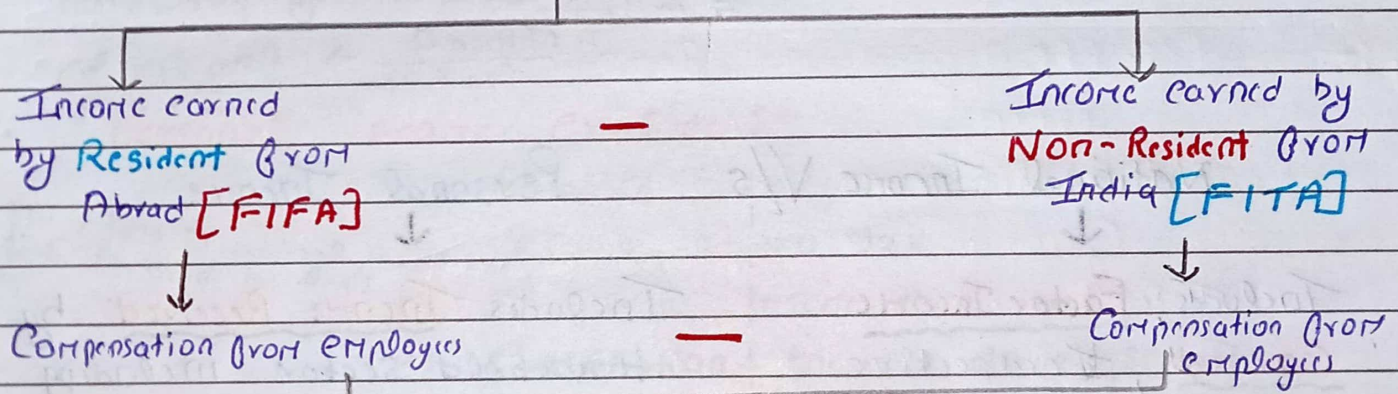
- Wages → Compensation of employees
 - + Rent
 - + Interest
 - + Profit
 - + Mixed Income of self employed
- } Operating surplus/Profit

→ National Income = Domestic Income + NFIA

→ $NNP_{FC} = NDP_{FC} + NFIA$

• Some formulas Derivations

NFIA



- ↓
- + Net compensation from employees
 - + Net Income from property
 - + Net Income from entrepreneurship
 - + Net Retained earnings

एक ही Formula दोनों का है

#	NFIA ⇒	<ul style="list-style-type: none"> Net compensation from emp. + Net Income from Property + Net Income from Entrepreneurship + Net Retained earnings
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$GDP_{FC} = NDP_{FC} + \text{Depreciation}$

\downarrow Domestic income
Comp. of EMP.

+ Op. Surplus [Rent + Int. + Profit]

+ Mixed income of self EMP.

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• Per Capita Income / Per Capita GDP

\downarrow
Country's GDP \rightarrow adjusted by Inflation \rightarrow Real GDP

$\frac{\text{Total Population}}$

\rightarrow Measure of Country's economic Output per person

\rightarrow It serves as indicator of the Standard of living of a Country

\rightarrow ये इसे Country के Loga पर Standard of living बताता है

NCO

Q GDP per capita is $\left\{ \begin{array}{l} \text{Measure of country's econ. output per person} \\ \text{National income divided by population} \end{array} \right.$
 $\rightarrow \frac{\text{National Income}}{\text{Population}} \rightarrow$ Per capita Income

• National Income V/s

Personal Income

\downarrow
Includes Factor Income earned, Irrespective of whether received or NOT

\downarrow
 \rightarrow इसी income को Received है और इसे इसी source से प्राप्त है।
Includes Income Received by Household sector including NPISH.

\rightarrow Factor income as well as Transfer income are included.

\rightarrow Measure of Income earned Factor

\rightarrow Measure of Actual Income Receive from all sources

Conceptual Chart

Factor Income [Learned Income]

Transfer Income

Received

NOT Received

Received

Not Received

National Income

✓

✓

✗

✗

Personal Income

✓

✗

✓

✗

Good Write

Personal Income = National Income
 (-) Income earned but NOT Received
 + Income received but NOT earned

Important points :-

1. Individuals also contribute Income which they do not receive

Undistributed Corporate Profits

Contribution of employers to Social Security → EPF

Ex - Corporate Profit - ₹100

National Income

मे count ho gye honge
 Bez मे Profit hai Factory income.

And Tax & Retained Earning जो मेरी inc. मे

Tax

Dividend

Retained Earning

है But मुझे received

25

15

undistributed corporate Profit

60

अभी नही समाविष्ट Personal Income मे count नहीं होगी

Only this is included in Personal Income

Bez Sirf मे ही Receive हुआ है

Conclusion

2. Personal income exclude :-

- a) Retained Earning
- b) Indirect business Tax
- c) Corporate income tax
- d) Contribution towards social security

3.

Firms
Govt

Int. paid to household + 60



Int. paid to firm & Govt - 100

Net Interest जो नही Pay करना ⇒ (40)

→ Net Interest Paid by Household to firms & Govt is also deducted from National Income

⇒ Net Interest Payment = Int. to be paid - Int. to be Received

Good Write

⇒ So, Personal Income = National Income

- Undistributed profits
- Corporate Tax
- + Transfer payments to the Household
- Net Int. paid by household
↳ Net financial obligation

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4. National Income is Not the Sum of Personal Income

→ Disposable Personal Income

↓
Personal Income

- (-) Personal Income Tax
- (-) Non Tax payment → Lites, fees, challan

* Money in the Hands of household available for consumption, Savings

₹ in Crore

Eg:-	NDP _{FC}	8000	} + → NNP _{FC}
	NFA	200	
	Undistributed Profit	1000	-
	Corporate Tax	500	-
	Interest rec. by Household	1500	+
	Int. paid by Household	1200	-
	Transfer income	300	+
	Personal Tax	500	

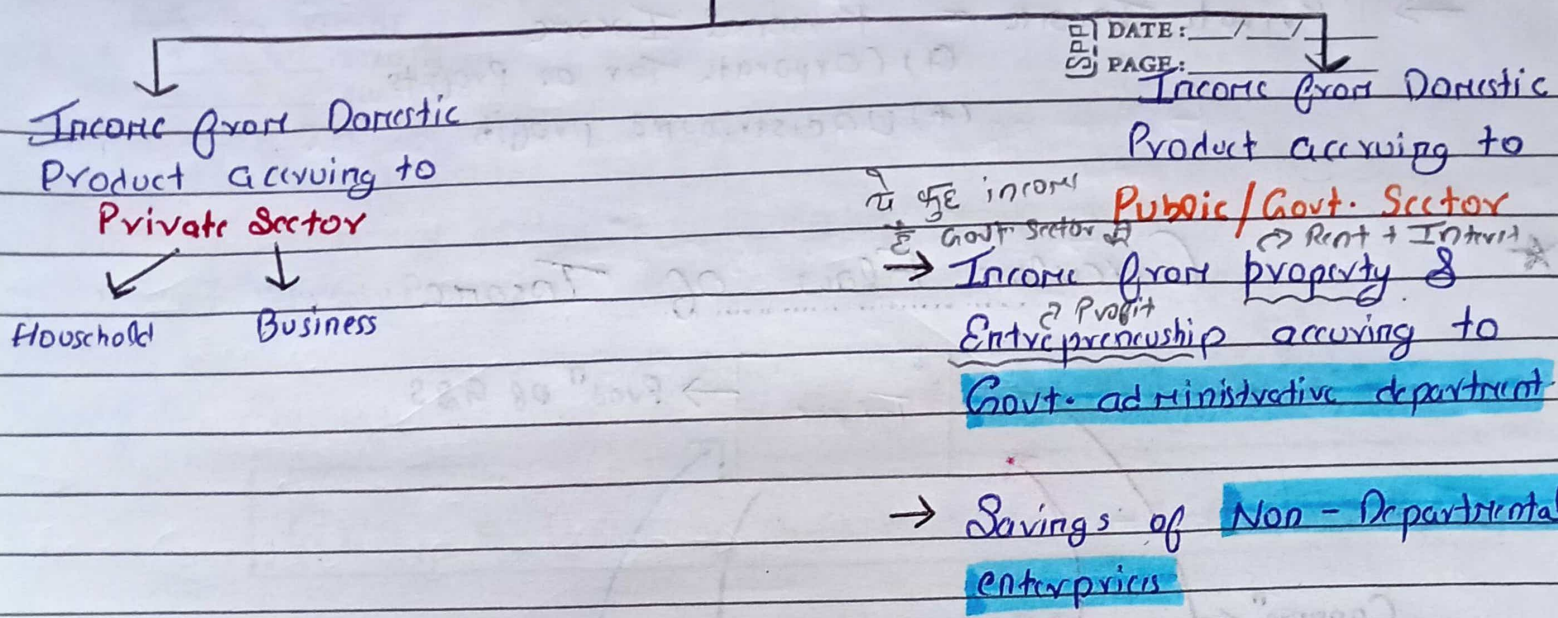
→ Personal Income ⇒ 8000 + 200 - 1000 - 500 + 1500 - 1200 + 300

⇒ 7300

→ Personal Disposable Income ⇒ 7300 - 500

⇒ 6800

Domestic Income [NDP_{FC}]



$$NDP_{FC} = \text{Income from Domestic Product accruing to Private Sector} + \text{Income from Domestic Product accruing to Govt. Sector}$$

So, \rightarrow Factor Income \rightarrow Income from Domestic Product accruing to Private Sector \Rightarrow NDP_{FC} $(-)$ Income from Domestic Product accruing to Govt. Sector

Means, कि मेरी Domestic territory में Private Sector का Total Factor income कितनी है।

• Private Income = Income which accrues to the Private Sector from all sources within Outside the country

\swarrow Factor Income \swarrow Transfer Income \swarrow NFIA
 Household Business

$$\rightarrow \text{Private Income} = \text{Income from Domestic Product Accruing to Private Sector} + \text{NFIA} + \text{Transfer Income}$$

\rightarrow Factor Income already include hai

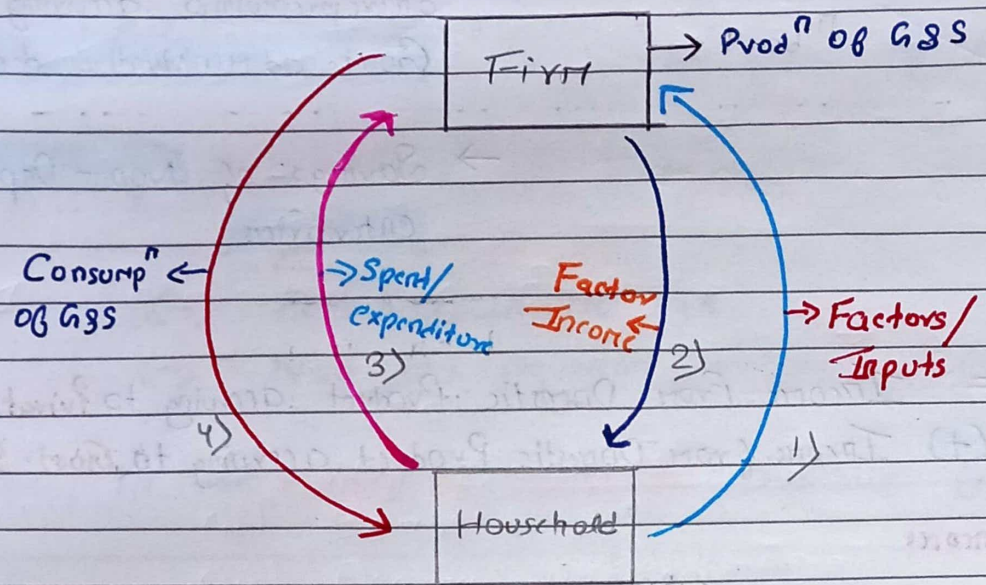
- Transfer Income \Rightarrow
 1. Interest on National Debt \rightarrow Loan taken by Govt. For consumption
 2. Transfer from Govt. department \rightarrow Like Pension etc.
 3. Transfer from Rest of the World.

* Personal Income v/s Private Income

→ Private Income = Personal Income
 (+) Corporate Tax on Profits
 (+) Undistributed profits

→ Some Biz ki Income include nhi hoti
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* Circular Flow of Income



→ Three different interlinked phases:

1. Production of Goods & Services :- Firms produce goods & services with the help of factors/inputs.
2. Income or Distribution phases :- Flow of factor income in the form of Rent, wages, Int. & Profit.
3. Expenditure Or Disposition Phases :- Income received by diff. factor of prodⁿ is spent on consumption of goods & services.

Diff. Method of Calculating National Income

Production Method
 - Value Added Method

Income Method

Expenditure Method

Method 1 :- Value Added Method OR Product Method

Step 1 :- Identify the producing enterprises & classify them into following sectors :-

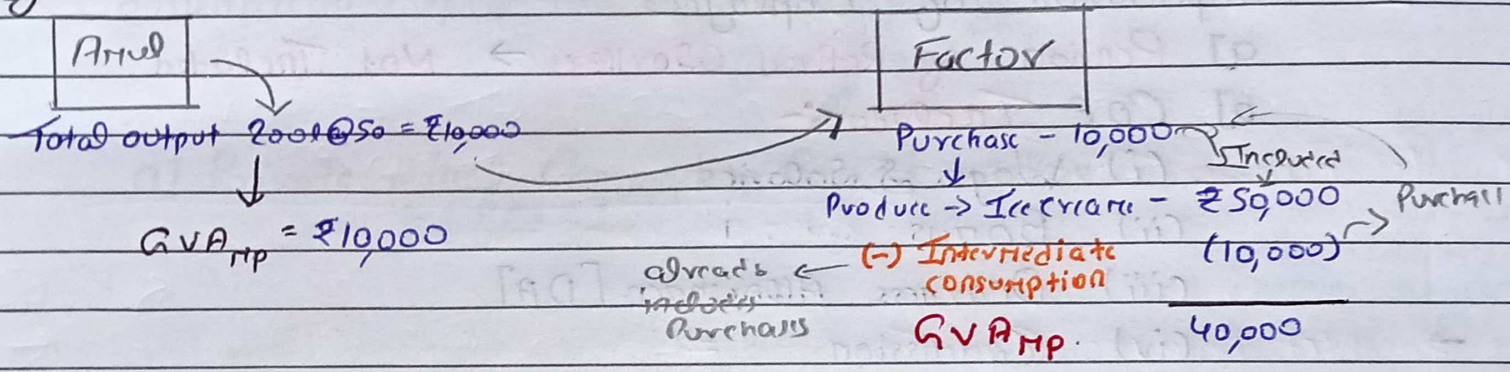
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- a) Primary Sector → Ex: Agriculture, extraction of Natural Resources
- b) Secondary Sector → Ex: Textile, Manufacturing
- c) Tertiary or Service Sector → Ex: Banking, Transport

Step 2 :- Estimate the Gross Value Added (GVA_{MP}) by Each Producing Enterprise.

$$GVA_{MP} = \text{Value of Output} - \text{Intermediate Consumption}$$

Eg:



• $\sum GVA_{MP} = 10,000 + 40,000$
⇒ ₹50,000 → $\sum GVA_{MP} = GDP_{MP}$

• Value of Output ⇒ Sales + Changes in Stock
↓
Cl. Stock - Op. Stock

Step 3 :- Estimation of National Income

$$MNP_{FC} = GDP_{MP} - Dep. + NFIA - NIT$$

Method 2 :- Income Method \rightarrow Factor Income Method / Distributed Share Method

NDP_{FC}

\rightarrow Sum of factor incomes Paid out by all production unit within Domestic territory of Country

\rightarrow Compensation of employees

+ Operating Surplus [Rent + Int. + Profit]

+ Mixed income of self employed

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Imp. Points :-

1. Compensation of Employees

a] Pension of Retired Workers \rightarrow Not Included

b] COE Includes :-

(i) Wages & Salaries

(ii) Bonus

(iii) Dearness Allowance [DA]

(iv) Commission

(v) Employers Contribution to Provident fund.

(vi) Imputed Value of Compensation in Kind.

\rightarrow Estimated

2. Int. paid by Govt. on Public Debt \rightarrow Transfer Income, will not be included
Int. on Consumption Loans

\rightarrow Gains, Lottery

3. Capital gains, Windfall Profits, transfer incomes & Income from sale of Second hand goods \rightarrow Not Include

\rightarrow However, Commission brokerage will be included.

Method 3 :- Expenditure Method \rightarrow Income Disposal Method

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$GDP_{MP} \Rightarrow \sum \text{Final Expenditure}$

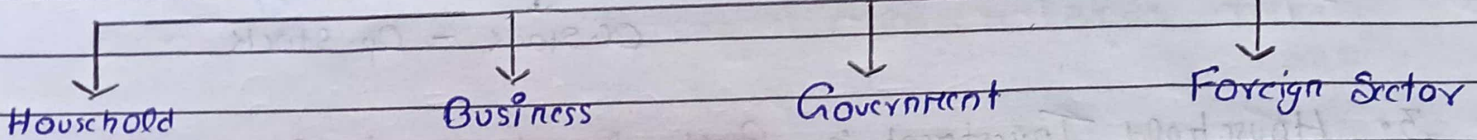
\rightarrow Total amt. of Spending on G&S,

Produced within Domestic territory.

एक उस Goods के Exp. को include करते हैं जो

Domestic territory के अंदर produce हुई है।

वही Exp. की ये सी हुआ है o/s or
Inside the India



1. Consumption Expenditure :- Total Spending on goods & services for final use.

a] Private final Consumption Exp. :- Total spending by Household & Non-Profit organisation (NPO/NSI)
[PFCE]
For :- Food, clothing, education etc.

* \rightarrow It also includes the value \rightarrow Primary Goods, which are Produced for Own Consumption by Household

* \rightarrow Land & Residential Building Purchased or Constructed by Household \rightarrow Not Part of PFCE
 \rightarrow Bcz include in investment

b] Govt. Final Consumption Exp. :- Exp. made by Govt. on providing Public Services such as Defense, education, healthcare etc.

* \rightarrow Govt. exp. on pension, Scholarship, etc. should be Excluded bcz these are transfer payment.

2. Investment

↳ Gross Domestic Capital Formation → Gross Investment
 → Country's Total exp. Which is Not Consumed But **ADDED** to Nation's Fixed Assets & Stocks.

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1. Gross Business Fixed Investment :- Spending on Capital Goods. Such as Machinery, equipment etc.

2. Inventory Investment :- Change in Inventory
 ↓
 Cl. Stock - Op. Stock

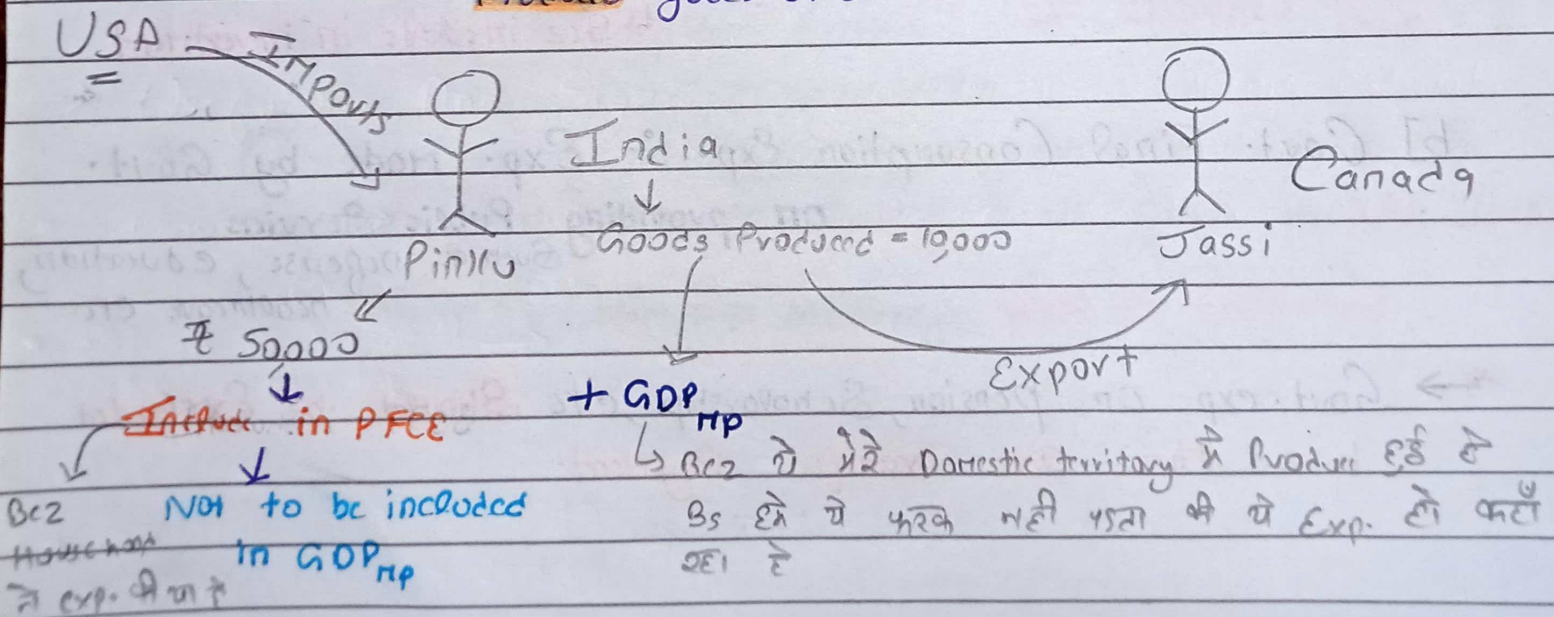
3. Household Investment :- Amt. Spent on building of Housing units, Acquisition of valuable.
 ↳ Purchase of jewelry etc

4. Public Investment :- All Investment by Govt.
 Such as roads, hospital, etc.

→ Net Domestic Cap. Formation = Gross Domestic Cap. Formation [Gross Investment] - Dep. [Conspⁿ of Fixed capital] [Net Investment]

3. Net Exports (Export - Import)

Exp. by foreign entities on domestically Produced goods or services



$GDP_{MP} \Rightarrow$ Final Consumption Expenditure
 + Gross Domestic Capital Formation
 + Net Exports [Exports - Imports]

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Q ^{MCQ} Concept of 'Resident unit' \rightarrow Unit Having Predominant Economic interest in the economic territory of the country for once or more year

\downarrow
 Irrespective of the nationality or citizenship

Q ^{MCQ} Non-Economic activities are \rightarrow which produce goods & services
 \rightarrow But since these are not exchanged in a market transaction they do not command any market value.

Theory Portion

- Income method Most Suitable \rightarrow Developed Economies
 \rightarrow Bcz People properly file their income tax returns.
- Expenditure Method \rightarrow Bcz with the growing facility in the use of commodity flow method of estimating expenditure are now used more.
- \rightarrow Most Suitable Method for India?
- Agricultural Sector \Rightarrow Net value Added is estimated by \rightarrow Production method
- Small Scale Sector \Rightarrow " \rightarrow Income method
- Construction Sector \Rightarrow " \rightarrow Expenditure Method

★ National Income Accounting
 \rightarrow Economists \Rightarrow Simon Kuznets & Richard Stone

Responsible for the
Compilation of National
Accounts Statistics

→ Central Statistical Organisation [CSO]
↓
In the Ministry of Statistics and Programme
Implementation (MOSPI)

• Responsible for the
Compiling their
State Domestic Product
& other aggregates

→ State Directorates of Economics &
Statistics [DESs]

→ The System of Regional Accounts in India

• State Income Or
Net State Domestic Product (NSDP)

is a measure in Monetary terms of
the volume of all goods & services
produced in the state within
a given period of time accounted
without duplication.

• Per Capita State Income ⇒ NSDP

Mid Year Projected population of the State

• In the Preparation of State Income Estimates

Ex: Railways,
Communication,
Banking & Insurance
& etc.

↳ Certain Activities that Cut across State Boundaries

↳ Means, i.e. activities which involve multiple states & involve Kavi Rohi hai

↓
Their Economic Contribution Cannot Be assigned to any
One state directly

↳ Are known as 'Supra-Regional Sectors'

→ Usefulness And Significance of National Income Estimates.

• Business → Forecast the Future Demand For their products.

→ ये सारे सेक्टर की contribution बताता है

• Estimate of National Income show the
→ Composition & Structure of National Income
in terms of diff. Sectors of the Economy.

• Sectoral Contribution to
NI information is used by
the Government ⇒ Decide various Sector-specific development
policies to Increase growth Rate.

- also provide → Quantitative Basis for Macroeconomic Modelling & Analysis
- Provide → International comparisons in respect of Income & Living Standards → cost in determining eligibility for loans
- Data Provides → Guide to Make policies for Growth & Inflation

• GDP & WELFARE

→ GDP measures exclude the following which are critical for the overall wellbeing of citizens:

☞ Income Distribution + GDP Per Capita → Completely inadequate measure of welfare

☞ Productions hidden from Govt. authorities → either those engaged in it are evading taxes
 ↳ Bez it is illegal (Drugs, gambling etc.)

☞ Non Market Production & Non Economic Contributors to well-being
 ↳ For ex:- Health of a country's citizens, education levels etc.

☞ Disutility of loss of leisure time:
 ↳ Means ⇒ Total hours of work ↑ - GDP ↑
 Leisure time ↓ - Welfare ↓

☞ Economic 'Bads' For example → Crime, Pollution, Traffic congestion etc.

☞ Volunteer work & Services rendered without remuneration.

☞ Positive & Negative Externalities

* Limitations & Challenges of National Income Computation.

↓
Task is more complex in Underdeveloped & developing countries.

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→ There are many conceptual difficulties related to measurement which are difficult to resolve, such as:

- (a) Lack of an agreed definition of National Income.
- (b) Accurate distinction between final goods & Intermediate Goods.
- (c) Issue of Transfer Payments.
- (d) Services of durable goods.
- (e) difficulty of incorporating distribution of income.
- (f) Valuation of a new good at constant prices, and
- (g) Valuation of government services.

Other challenges relate to:

- (a) Inadequacy of data & lack of reliability of available data.
- (b) Presence of non-monetised sector.
- (c) Production for self-consumption.
- (d) absence of recording of incomes due to illiteracy and ignorance.
- (e) Lack of proper occupational classification.
- (f) Accurate estimation of consumption of Fixed capital.