First National Workshop on Measuring Illicit Financial Flows Associated with Drug Trafficking in Nepal

21 March 2022 – Radisson Hotel Kathmandu

Group Exercise 2 – Understanding the methodology to measure illicit drug market value and related IFFs (income generation)

Objective of this exercise: Understand the methodology to estimate illicit drugs flows and its corresponding IFFs. The focus of the exercise is on income generation IFFs emerging from cross-border transactions of purchase and sale of heroin. This exercise aims to apply a basic methodology to estimate supply and demand of heroin and other illicit drugs in a given country, using simulated information (such as on prices, quantities, actors and routes) on Nepal and countries where drugs trafficked in Nepal have their origin/destination.

Please read the scenario below and follow the guidelines at the end of the scenario to estimate the selected aggregates, the total value generated by the heroin market (in terms of revenues and profits), as well as related IFFs.

Please round the results to 2 decimal places. You can use a calculator for this exercise.

You will be guided by UNODC to conduct this exercise.

Scenario

- *Trafficking routes*

From the analysis of Nepal seizures data in a given year, it emerges that **100% of the heroin trafficked in Nepal originates from India**. It is known that all the heroin coming from India is sourced from this country (heroin produced from local opium poppy cultivations) and that there is **no production of heroin in Nepal**. It is also known that **the heroin from Nepal is exported to Hong Kong only**.

- *Domestic consumption and seizures*

Some of the heroin flowing into Nepal is **consumed domestically**. A study reveals that **0.5% of the adult population** consumed the substance at least once in the past year. The size of Nepal adult population (15-64 years old) is 19,044,441 inhabitants. The average annual amount consumed per capita in Nepal is **10.8 grams**.

It is also known that **323 kg of heroin are seized** in Nepal, in the same year.

- *Exports*

The rest of the heroin is re-exported to Hong Kong, location of final consumption (where no heroin is further exported to other countries). There are also no other countries where heroin is exported. From an analysis of Hong Kong data, it has been detected that **40% of Hong Kong´s heroin seizures come from Nepal**. The 15-64 years old **population of Hong Kong is** 5,268,321 inhabitants and **0.19% of the adult population** consumed heroin at least once in the past year. The average annual quantity consumed per capita is 20 grams. **Hong Kong seized 500 kg** of heroin.

- *Prices*

Nepal import price of heroin is **20,000 USD** per kg. Nepal **domestic wholesale price is 29,000 USD** per kg. The **export price** is **35,000 USD** per kg. The **retail price** is **77 USD per gram**.

- *Actors*

For the purpose of this exercise, it is assumed that **65%** of the persons who were arrested while **importing heroin** into Nepal are **based (residents) in Nepal** and that **60% of the persons** arrested while **exporting** from Nepal are **based (residents)** in this country. The proportion of the **retail market** controlled by resident actors is 100%.

- *Intermediate costs*

Regarding intermediate costs, it is known that **every stored kg of heroin destinated for the domestic market in Nepal costs traffickers 20 USD**.

The table below summarizes the economic activities of the 3 countries involved in the heroin supply chain described above.

Country	Position in the supply chain	Activities
India	Country of departure	Production Wholesale and retail trade Export
Nepal	Country of transit and destination	Import Wholesale and retail trade Export
Hong Kong	Country of destination	Import Wholesale and retail trade

Overview of the steps to resolve the exercise
Step 1: Review of known data (data collection)
Step 2: Estimate quantities and value
2.1. Quantity of heroin consumed in Nepal
2.2. Quantity of heroin exported from Nepal
2.3. Quantity of heroin imported in Nepal
Step 3: Estimate IFFs (the financial transactions corresponding to imports and exports)
3.1. Outward IFFs
3.2. Inward IFFs
Step 4. Estimate illicit gross output and illicit net income
4.1. Value of heroin domestic market
4.2. Value of heroin export market
4.3. Value of illicit gross output
4.4. Value of illicit net income

Step 1: Review of known data (data collection)

Consumption

Variable	Data
Nepal annual prevalence of heroin (15-64 years-old)	0.5%
Nepal population size (15-64 years-old)	19,044,441 inhabitants
Average annual quantity consumed per capita in Nepal	10.8 grams

Prices

Variable	Data
Domestic wholesale price	29,000 USD per kg
Domestic retail price	77 USD per gram
Import price	20,000 USD per kg
Export price	35,000 USD per kg

Exports/Imports

Variable	Data
Hong Kong population size (15-64 years-old)	5,268,321 inhabitants
Annual prevalence of Hong Kong (15-64 years-old)	0.19%
Average annual quantity consumed per capita in Hong Kong	20 grams
Proportion of the drugs seized in Hong Kong coming from Nepal	40%
Proportion of heroin exported from Nepal	100% destined to Hong Kong
Proportion of heroin imported into Nepal	100% originating in India
Proportion of retail market controlled by Nepal residents	100%

Seizures

Variable	Data
Quantity of heroin seized in Nepal	323 kg
Quantity of heroin seized in Hong Kong	500 kg

Proportion of resident international traffickers

Variable	Data
Proportion of resident drug importers in Nepal	65%
Proportion of resident drug exporters in Nepal	60%

Intermediate costs

Variable	Data
Drug storage cost per kg in Nepal	20 USD per kg

Step 2: Estimate quantities

2.1. Quantities of heroin consumed in Nepal

- **Number of heroin users in Nepal:**

= Nepal population x Annual prevalence rate in Nepal

= 19,044,441 x 0.005

= 95,222 users

- **Consumed quantity in Nepal:**

= Number of users x quantity consumed per capita

= 95,222 x 10.8 grams

= 1,028,397.6 grams

= 1,028.3976 kg

= 1,028.4 kg

2.2. Quantity of heroin exported from Nepal

Recalling that Hong Kong is the only region where heroin crossing Nepal is exported, it follows that:

o **Number of heroin users in Hong Kong:**

= Hong Kong population x annual prevalence rate in Hong Kong

= 5,268,321 x 0.0019

= 10,009.80

= 10,010 users

o **Quantity of heroin consumed in Hong Kong**

= Number of users x quantity per capita

= 10,010 x 20 g

= 200,200 grams

= 200.2 kg

o **Exports from Nepal to Hong Kong**

Bearing in mind that there are no other heroin exports from Hong Kong to other countries, Hong Kong imports from Nepal are given by:

(Hong Kong consumption + Hong Kong seizures) x Proportion coming from Nepal

= (200.2 kg + 500 kg) x 0.4

= 700.2 kg x 0.4

= 280.08 kg

2.3. Quantity of heroin imported into Nepal

Bearing in mind that there are no other heroin exports from Nepal to countries/regions other than Hong Kong, and that no heroin is produced in Nepal, the total imports of heroin in Nepal are calculated as:

Imports = Consumption + Seizures + Exports

= 1,028.40 kg + 323 kg + 280.08 kg

$\qquad$ = 1,631.48 kg

Step 3: Estimate IFFs

3.1. Outward IFFs

Outward IFFs = Imports x import price x proportion of resident importers

$\qquad$ = 1,631.48 kg x 20,000 USD x 0.65

$\qquad$ = 21,209,240 USD

3.2. Inward IFFs

Inward IFFs = Exports x export price x proportion of resident exporters

$\qquad$ = 280.08 x 35,000 USD x 0.6

$\qquad$ = 5,881,680 USD

Step 4. Estimate of illicit gross income and illicit net income

4.1. Value of domestic market

Value of the domestic market = Quantity consumed in Nepal x retail price

$\qquad$ = 1,028.40 kg x 77 USD

$\qquad$ = 79,186.8 USD

4.2. Value of export market

4.3. Value of exports market = Inward IFF = 5,881,680 USD

4.4. Value of illicit gross output

illicit gross output = Domestic market + export market

$\qquad$ = 79,186.8 USD + 5,881,680 USD

$\qquad$ = 5,960,866.8 USD

$\qquad$ = 5,960,867

4.5. Value of illicit net income

Intermediate costs = domestic consumption x storage per kg

$\qquad$ = 1,028.40 kg x 20 USD

$\qquad$ = 20,568 USD

Illicit net income = illicit gross output – intermediate costs

$\qquad$ = 5,960,834.9 USD - 20,568 USD

$\qquad$ = 5,940,266.9 USD