Researcher

**1. Title of the study:** Does graphic health warning label on smokeless tobacco products cares by consumers? A study in Sylhet.

**Name of the applicant:**

**Organization:**

**Contact details:**

**Submitted to:**

BCCP Tobacco Control Grant Program

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**2. Proposal abstract:**

The area of tobacco cultivation remains significantly high in Bangladesh, which is the 12th largest tobacco producer in the world. The study finds that tobacco cultivation turns into a losing concern when the opportunity costs of unpaid family labour and other owned resources and the health effects of tobacco cultivation are included. Tobacco cultivation poses a significantly high environmental cost that causes a net loss to society. Nevertheless, the availability of unpaid family labour and the options of advanced credit as well as a buy back guarantee from the tobacco companies attract farmers to engage in and continue tobacco cultivation.

Household survey data of tobacco farmers, based on a two-stage cluster sampling design with a random sampling of households, this study will estimate the financial and economic profitability per hectare of land used for tobacco cultivation. The air quality of tobacco cultivation area will be estimated using air quality device which is setup in tobacco cultivating areas. In order to provide evidence on health and economic impact of the tobacco on cultivators of tobacco cultivated area in Bangladesh, this study aims to examine the relationship between four crops (rice, wheat, jute and tobacco) cultivation and self-reported illness in the study population, as well as to compare profitability between tobacco production and three major crops (rice, wheat and jute). Therefore, the findings of this study may be of use for evidence-based policy making against tobacco cultivation in Bangladesh.

**3. Coverage of geographical/study area**

Tobacco is grown throughout the country; with the largest tobacco growing areas are Bandarban, Kustia, Lalmonirhat, and Manikgonj. The four districts cover an area of about 871800 hectares, mainly Bandarban is hill tracts and other three are level land (https://www.ncbi.nlm.nih.gov/books/NBK304388/).

**4. Background and problem statement:**

The use of unburned tobacco is implied by the phrase "smokeless tobacco (SLT)". For oral or nasal usage, a range of smokeless tobacco products are available (1–4). 350 million individuals worldwide, in 133 nations, take SLTs, which have nicotine and are quite addictive. According to a recent survey, SLT usage causes over 0.65 million fatalities yearly, making it a global public health concern. The consumption of these goods has reportedly been linked to numerous illnesses, including malignancies of the head and neck, neurological conditions, and dental and cardiovascular ailments. This is caused by the existence of dangerous substances in addition to 28 known carcinogens, including tobacco-specific nitrosamines (TSNA), arsenic, beryllium, cadmium, nickel, chromium, nitrite, and nitrate, at various concentrations depending on the product (5,6). Its usage during pregnancy has been linked to stillbirths and low birth weight, and there has been an elevated risk of cardiovascular mortality recorded (7).

Southeast Asia uses SLT a lot. There are more than 300 million SLT consumers globally, but most ST users live in India (199.4 million) followed by Bangladesh (22 million) (7) and Myanmar (11.1 million) (8). This situation is further complicated by the presence of high amounts of tobacco-specific nitrosamines, the main cancer-causing agents in tobacco, in the products available in South Asia, compared with the rest of the world (9).

In Bangladesh, SLT is the most common type of tobacco consumed. SLT makes a significant contribution to Bangladesh's overall tobacco consumption (10). The recent Global Adult Tobacco Survey (2017, Bangladesh) reported that 35.3% of people used tobacco in Bangladesh, with 20.6% being current users of SLT. Among current users, a higher percentage of women (24.8%) used SLT compared to men (16.2%) (11). In Bangladesh, available SLT products are betel quid with tobacco, zarda, gul, sada pata and Khoinee, most of which are also available in the neighboring countries India and Myanmar (12). In 2010, SLT use caused 13329 deaths and 320000 disability adjusted life years lost from mouth, pharynx and oesophagus cancer, and ischemic heart disease in Bangladesh (10). Most of the SLT products available in World Health Organization (WHO) South-East Asia Regional Office countries are found to be carcinogenic, cardiotoxic, mutagenic and to contain heavy metals (13). Despite high prevalence (20.6%) compared to the prevalence of smoking tobacco (18.0%) and negative health consequences, SLT is less of a public health priority in Bangladesh due to perceived less harmful effects and social and cultural acceptance (14).

Graphic health warnings labels (GHWLs) on product packaging have been recognized by the Framework Convention on Tobacco Control (FCTC) of the World Health Organization (WHO) as a cost-effective policy intervention to educate consumers about the dangers of tobacco use. The impact of graphic warnings can be felt by illiterate individuals (15). Insufficient public information about SLT use makes it difficult for program administrators and policymakers to create and implement efficient SLT control measures. Warnings on products and advertisements reduce the positive smoking cues, including craving (16).

Cigarette packaging also functions as a vital connection to other types of tobacco promotion (17). In Bangladesh, the requirements of the National Tobacco Control Act regarding health warnings on cigarette packets have been effectively enforced. The high frequency of smokeless tobacco use in the nation indicates a high degree of societal acceptance (18). Tobacco products must have health warnings because they are extremely addictive and kill about half of their long-term users (19). Text-only warnings are less successful than all visual forms, and graphic warnings get higher efficacy ratings than symbolic or testimonial warnings (20). Thus, the study has been undertaken to explore the relationship between the graphic warning and the use of tobacco.

To analyze their effects on a vulnerable population of Bangladesh, this study contrasted the attention given to GHWLs and text health warning labels embedded within SLT advertisements. Our main goal was to identify potential implementation difficulties and predict that SLT users exposed to GHWLs would show improved attention and retention as well as lessened SLT appetite when compared to SLT users exposed to text-only warnings.

**5. Rationale/justification of the research (maximum 300 words)**

There is a dearth of data on Bangladesh's low socioeconomic population's understanding, attitude, and use of graphic health warnings on tobacco packages. By employing visual warnings, this study aims to close a knowledge gap and offer fresh data on the impact of health warnings on smokers. The findings will add to the body of information on health warnings and provide compelling support for the effectiveness of nations' cigarette labeling laws, particularly for the nation's low socioeconomic population. The Framework Convention on Tobacco Control's suggestion that warnings have visual content is further supported by these findings. This study contributes to the evidence that GHWLs are an effective tobacco control strategy for all tobacco products and marketing, even if GHWLs for SLT products may also encounter legal objections from the tobacco industry. Thus, graphic health warnings help to reduce the country's tobacco usage, which in turn helps to reduce tobacco-related sickness and death over the long term, so improving Bangladesh's public health.

**6. Research question**

1. Do consumers care about the graphic health warning labels on smokeless tobacco products?
2. Do GHWLs receive more attention than text health warning labels that are incorporated into SLT advertisements?
3. Which GHWLs influence the status for a certain group of people?

**Overall objective**

To comprehend how a GHWLs affects the number of people who use smokeless tobacco.

**Specific Objectives**

1. To ascertain the socioeconomic status of users of smokeless tobacco.
2. To look at the effects of smokeless tobacco on related people's health.
3. To determine whether GHWLs or text health warning labels incorporated in SLT commercials receive more attention.
4. To comprehend consumers, take care the GHWLs on smokeless tobacco products.
5. To examine how GHWLs have affected current outcomes for a group of persons.
6. To suggest a course of action considering the results

**7. Methodology**

**7.1 Study design:** The proposed study will be mixed. Both qualitative and quantitative data collection techniques will be applied.

**7.2 Study type:** Cross sectional

**7.3 Study population**

The consumers of smokeless tobacco in Sylhet division are the study population.

**7.4 Study period:** March 2023 to November 2023

**7.5 Study area**

The study area of this study will be four district of Sylhet division (Habiganj, Moulvibazar, Sunamganj and Sylhet) in Bangladesh.

**7.6 Sampling design**

In each selected commune, 120 consumers were sampled using two-stage cluster sampling technique. The sampling procedure is presented in Figure [1](https://link.springer.com/article/10.1186/1471-2458-9-24#Fig1). The consumers were interviewed on the GHWLs.

|  |  |  |
| --- | --- | --- |
| District | Category of Consumers | Total HHs |
| Habiganj | SLT consumers = 60 individuals  Others = 60 individuals | 120 |
| Moulvibazar | 120 |
| Sunamganj | 120 |
| Sylhet | 120 |
| Total | | 480 |

**7.7 Data collection techniques, instrument and measurements**

Semi structured questionnaire will be used for collecting quantitative data and an in-depth open-ended questionnaire will be used for qualitative data collection from the respondent.

**7.8 concrete analysis plan**

# Analytical Techniques

**Step-1:** Determine the socio-economic characteristics of the SLT consumers: By using tabulation, mean, percentage and applying chi-square and t-test to calculate the statistics.

**Step-2:** Investigate the impact of SLTs on health of related individuals: Information on self-reported illness during the last six months among the study populations was collected using questions about the occurrence of 9 health problems (Ischemic heart disease, Stroke, Buerger’s disease, Oral cancer, Lung cancer, Laryngeal cancer, Chronic obstructive pulmonary disease, Pulmonary tuberculosis).

Multivariate binary logistic regression model will be applied to determine relative risk. When the dependent variable is dichotomous, logistic regression model is widely used not only to identify risk factors but also to predict the probability of success. The simple linear logistic regression model[[1]](#footnote-1) can be expressed as 

Where, the quantity  represent the conditional probability that Y=1 given X and expressed as.

If one consider a collection of p independent variables denoted by the vector X/=(X1, X2, …,Xp) then the multiple logistic regression model is given by the equation as



**Step-3:** Estimate and compare the GHWLs or text health warning labels incorporated in SLT commercials receive more attention.

**Step-4:** Analysis and compare the consumers, take care the GHWLs on smokeless tobacco products

**7.9 Data analysis**

All collected data will be checked and verified thoroughly to reduce the inconsistency. The data will be coded, categorized, cleaned, and entered computer. Quality of data will always ensure. Collected data will then transfer to master table as per the specific objectives and key variables. Analysis of data will be done by SPSS, STATA, or R-programming in the computer. Descriptive statistics like frequency distribution, mean, median, mode, range, standard deviation etc. will be calculated first. For inferential statistics, different test and regression model will be applied. All the analysis, statistical significance will be considered at 5% level of significance and 95% confidence Interval.

**7.10.** **Ethical consideration**

Prior to doing data collection ethical clearance will be obtained from Shahjalal University of Science and Technology, Sylhet. Informed written consent will be taken from participants.

**8. Implications of the proposed research for tobacco control policy in Bangladesh**

In the tobacco cultivated area, most of the farmers are illiterate and living very miserable life without having modern facilities. So, their knowledge of social awareness, particularly on tobacco production may not be sufficient enough to prevent them from the adverse effect of this cultivation. By exploring the prevalence and adverse effect of tobacco cultivation, this study will increase the awareness of the tobacco growers against the negative impacts of tobacco cultivation and will encourage them to quit this practice. The result of the study will help the policymaker to take measures to prevent tobacco cultivation and to encourage them to stop this practice.

**9. Proposed personnel plan**

To conduct this study, other than the principal investigator the following personnel will be recruited

1. Field supervisor – 2 persons
2. Data collector – 10 persons
3. Data entry operator – 1 person
4. Data analyst – 1 person

**Principal Investigator:** Principal Investigator will regulate all the activities of the research. He will write the research proposal, will co-ordinate all official responsibilities, plan- conduct and monitor all research activities, will recruit all research-related personnel, will record all income and expenditures sources, will work with the mentor, and will ultimately submit the final research report.

**Field Supervisor:** Field supervisors must have at least graduation. They will guide and supervise the data collector, monitor the data collection process and quality of data, collect, preserve and submit the completed research questionnaire to the principal investigator.

**Data collector:** Data enumerator will be experienced and work in relevant projects and atleast the university level students. All of the enumerators will visit the study area and will collect data from respondents through questionnaire by direct interview and also in FGD, KII. They will collect data under the supervision of the field supervisor.

**Data Entry Operator:** He/she will be appointed and responsible for the entry of the collected data and checking the consistency of the data

**Data Analyst:** He/she will responsible for the analysis of the data as per the objectives of this research.

**Staff Schedule:** The principal investigator will work under the supervision of a Mentor throughout the period. The field supervisor and data collector will be appointed for two months. Data collection activities will take place over two month’s period. Data entry operator will be appointed for a month for entering, checking and editing all research data in the computer system and a data analyst for one month for analysis the data according to the objectives.

**10. Work plan**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tasks | March | April | May | June | July | August | Septem  ber | Octo.  ber | Novem  ber |
| Protocol development, instrument development, Manpower recruitment |  |  |  |  |  |  |  |  |  |
| Field manual development |  |  |  |  |  |  |  |  |  |
| Training, pre-testing,  debriefing and finalization  of research instrument |  |  |  |  |  |  |  |  |  |
| Data collection |  |  |  |  |  |  |  |  |  |
| Data process cleaning and preparation of entry |  |  |  |  |  |  |  |  |  |
| Data entry |  |  |  |  |  |  |  |  |  |
| Data analysis |  |  |  |  |  |  |  |  |  |
| Report writing |  |  |  |  |  |  |  |  |  |
| Draft, dissemination,  workshop, feedback,  finalization, printing,  binding, submission |  |  |  |  |  |  |  |  |  |

**11. Budget**

**Bangladesh Center for Communication Programs (BCCP)**

**Financial estimate**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SL  NO | Particulars | Name of  Unit | Unit rate | No. of  unit | Total taka |
| **01** | **Personal cost** | | | | |
| Principal Investigator | Month | 20000 | 8 | 160000.00 |
| Data analyst | Month | 18500 | 2 | 37000.00 |
| Data entry operator | Month | 16500 | 4 | 66000.00 |
| Sub total |  |  |  | 263000.00 |
| **02** | **Field Activity Cost** | | | | |
| Allowance for Field supervisors | Month | 19000 | 4 | 76000.00 |
| Allowance for Data enumerator | Month | 12000 | 12 | 144000.00 |
| 3 days Orientation for data collectors (2 days for data collection + 1 day for data entry) | Day | 4000 | 3 | 12000.00 |
| Travel expenses related to data  collection + data entry | Day | 400 | 60 | 24000.00 |
| Other cost related to data collection (local data collection costs) |  |  |  | 17000.00 |
| Sub Total |  |  |  | 273000.00 |
| **03** | **Travel and transportation Cost** | | | | |
| Inter district transport cost | Trip | 5500 | 10 | 55000.00 |
| Local conveyance | Month | 2400 | 9 | 21600.00 |
| Sub-Total |  |  |  | 76600.00 |
| **04** | **Professional Service** | | | | |
| Honorarium for mentor |  |  |  | 50000.00 |
| Sub-Total |  |  |  | 50,000.00 |
| **05** | **General operating cost** | | | | |
| Stationeries | Month | 3200 | 9 | 28800.00 |
| Communication exp | Month | 1000 | 9 | 9000.00 |
| Printing & Photocopy expenses | Month | 3000 | 9 | 27000.00 |
| Courier & postage expenses | Month | 580 | 9 | 5220.00 |
| Purchase health sanitizers and other  protective equipment | Month | 1000 | 9 | 9000.00 |
| Sub-Total |  |  |  | 79020.00 |
| Total | |  |  |  | 741620.00 |
| VAT (15%) | |  |  |  | 111243.00 |
| Grand Total | | | | | 8,52,863.00 |

**(USD 10,000=BDT8, 59,957.90 at Dated: 24-02-2022)**

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