

Impactful Advocacy Strategies for Tobacco Consumption in Rural Bangladesh: The Socio-Cultural Context

ORINGINAL RESEARCH

Authors

Masnoon Khair

Lecturer
Economics & Social Sciences Department
Brac University
66 Mohakhali, Dhaka 1212, Bangladesh
Email: masnoon.khair@bracu.ac.bd

Aftab Alam

Lecturer
Economics & Social Sciences Department
Brac University
66 Mohakhali, Dhaka 1212, Bangladesh
Email: aftab.alam@bracu.ac.bd

Adnan M. S. Fakir

PhD Candidate
Economics Department, Business School
University of Western Australia
35 Stirling Hwy, Crawley, WA 6009, Australia
Email: adnan.fakir@uwa.edu.au

ABSTRACT

Introduction: Tobacco consumption is an integral part of the daily lives of many men as well as women in rural regions of Bangladesh. The paper looks at specific *chars* (riverine islands) in Northern Bangladesh, where significant use of tobacco consumption is observed, which lead to serious health implications and intergenerational poverty. Despite anti-tobacco campaigns and interventions, tobacco consumption has relatively increased in these rural regions. The paper analyses the qualitative aspect of tobacco consumption, especially the role of socio-cultural norms in shaping smoking consumption and what measures could be taken for tobacco consumption prevention using the socio-cultural context.

Methods: A total of 35 men aged between 15-70, and a total of 30 females aged 19-70, were interviewed throughout the course of the fieldwork – mostly about their tobacco use as well as their social lives. Focus-group, semi-structured discussions were held with 30 individuals who were inhabitants of their respective *chars* (14 females and 16 males), with most of the semi-structured interviews taken as the participants were already in their daily setting (shops, homes, etc). Five key-person interviews were also taken – including two local school-teachers, an NGO worker, and two boatmen from the locality, including aspects of education, transportation of goods and products and NGO interventions. While the focus of this paper remains the qualitative assessment, we also provide some contextual basic statistics, from an accompanying quantitative survey of 985 char households, in the supplementary content of this paper as supporting evidence.

Results: Several highly inter-related themes were found that had a direct influence on smoking patterns. These include tobacco company incentives (rewards or coupons for buying tobacco), socializing (observing peers and parents smoke and also as a rite of passage), social exchange (offering tobacco as hospitality and in exchange for labor), geographic stresses (resettlement due to river erosion and crop destruction due to seasonal floods), and perspectives on health (beliefs about how tobacco helps increase labor productivity). All these variables combined represent the embeddedness of tobacco practices in socio-economic and cultural practices. The general anti-tobacco campaigns and advocacy strategies misunderstand tobacco as the root of the problem. Rather, this research found that tobacco use is more like a symptom of larger socio-economic problems. The prevalence of tobacco use is found to be greater among those struck by the poverty and instability of life in the region; the same people who are susceptible to health inequality by way of lack of access and finances, thus carrying a heavier disease burden.

Conclusion: Traditions of tobacco use is intimately intertwined with the social norms, culture, and health beliefs of people. The combined lack of education and access to health facilities has led to an acute lack of risk perception of the harms of tobacco use, and therefore disinterest in intent to quit. Tobacco in some areas is also economically important in the region as a source of livelihood. Anti-tobacco strategies must consider the socio-economic context around tobacco and center changing social norms and family values around tobacco

consumption, rather than advertisement or simple education on the ills of tobacco. As such, anti-tobacco efforts should involve the community, committed local leaders, and stakeholders, in order to be effective.

Keywords: rural tobacco consumption, intergenerational poverty, tobacco company incentives, environmental stress, anti-tobacco strategies, social smoking, perspectives on health

MAIN PAPER

Introduction

This paper is based on a broader project titled ‘Bangladesh Chars Tobacco Assessment Project (CTAP) 2018.’^[1] Essentially, the project looks at how effective tobacco advocacy campaigns are in curbing tobacco consumption. This specific paper looks at the qualitative aspect in the ground level, especially the role of social norms in shaping smoking consumption and what measures could be taken for tobacco consumption prevention using the socio-cultural context.

Tobacco consumption is an integral part of the daily lives of many men as well as women in both urban and rural regions of Bangladesh. The tobacco industry of Bangladesh generates a revenue of over 2,400 crore BDT every year. Prevalence of tobacco consumption is higher in men (47.1% to 24.9% women) with higher rates of smokeless tobacco consumption among women. It should also be noted that higher prevalence of tobacco use was found among poor and rural populations.^[2] This shows the intensity with which the population is engaged with tobacco use, as well as the corresponding heavier disease burden.

The paper deals with specific *chars* or riverine islands (*area of land surrounded by the waters of an ocean, sea, lake, or stream*), in the Northern region of Bangladesh, where a significant use of tobacco consumption is observed, with 82% among primary adult farmers in farm households.^[3] A higher use of tobacco has serious health implications and intergenerational poverty. Nationally, more than 5,000 core BDT (double the revenue of what the tobacco industry generates) is spent on treatments for fatal diseases caused by tobacco consumption.^[4] Health indicators such as average life expectancy is severely impacted by tobacco use. Only 58% of smokers reach 70, and only 26% smokers reached the age of 80.^[5] In retrospect to this data, several legal institutions have imposed infographic warnings on tobacco packaging, while the Bangladeshi Ministry of Health and Family Welfare has attempted to curb smoking in public places such as restaurants, hotels, etc.^[6]

Despite these interventions, tobacco consumption is still seen as an epidemic in many regions of Bangladesh. Consumption, rather than decreasing, has relatively increased for many factors in the last decade, amounting to around 19% of all deaths.^[7] In char regions, tobacco undoubtedly has become a central part of people living in these regions. Therefore, a detailed understanding of beliefs, values, attitudes and behaviors in relation to smoking is necessary.

These understandings will push for further development of newer strategies of smoking cessation which are culturally appropriate for these *chars*.

Background

Gaibandha

The research is based in the Northern region of Bangladesh, specifically Gaibandha. Gaibandha district is situated on the bank of Brahmaputra River, the flow of which causes the formation of many *chars*, or islands. The economy of Gaibandha is predominantly agricultural. Out of total 581,289 holdings of the district, 56.21% holdings are farms that produce varieties of crops, namely local and HYV paddy, sugarcane, wheat, vegetables, spices, jute, pulses, and other minor cereals.[8] The region of Rangpur is also known for persistent tobacco cultivation, due to the profitability of the crop; it is the lead cash crop of the district. The profitability is affected largely by shortage of capital and lack of access to marketing facility; despite this, the crop is cultivated for steady demand. Tobacco-farmers carry the burden of illness through escalating smoking and chewing practices as well as through cultivation and drying of tobacco. [9]

Char

A Char, or riverine island, is a strip of land or a bar which has emerged from the river-bed following deposition and accretion of silt and alluvium. Chars can be of two types: attached and island chars. An island char is defined as that land which even in the dry season, can only be reached from the mainland crossing the main river channel. Attached chars are accessible from the mainland without crossing a channel during the dry season. [10]

Gaibandha has numerous chars on the bank of the Brahmaputra river. There are mainly two big mainland points (Balashi Ghat and Fulchori Ghat) from where people connect with these chars by boat. Usually, public boats are available on the mainland that complete three to five round-trips to the chars. These mainland boating points are known as ghats, and they generate a significant amount of government revenue every year through mandatory payments. Each of the ghats connects to multiple chars so these ghats remain busy all day. Apart from public boats, there are many private boats available at a premium price. Boat transportation usually closes at 8 pm so after 8 these chars get disconnected from the mainland, however in case of emergency people take private boats to reach the mainland.

Research Methods

Initial participants were mostly recruited for discussions through MOMODa Foundation, which is a development research organization based in Bangladesh, working with poverty and inequality, having several bases in the char regions. After preliminary discussions, the initial participants put us in touch with other contacts, most of which includes their friends, family and colleagues.

There was a total of 35 men aged between 15-70, and a total of 30 females aged 19-70, interviewed throughout the course of the fieldwork, using various methods. Preliminary fieldwork was done in five different chars, visited over a period of seven days.

Focus-group discussions were held with 30 individuals who were inhabitants of their respective *chars* (14 females and 16 males). These discussions included topics on smoking habits, consumption patterns, health issues, daily life in the chars (inclusive of environment, trade, religious values, family upbringing, etc.) and other general topics related to tobacco consumption. General topics about everyday practices were included to give an understanding of how tobacco is integrated into the daily life of individuals.

Men and women were interviewed separately to collect gender-specific information, as many women might not feel comfortable sharing certain details about their lives in the presence of men.

Semi-structured, in-depth interviews were also held with 30 participants (19 male/11 female). Rather than fixed questions, we initiated discussions, where the participants were asked general questions about their everyday life, which also included tobacco consumption patterns and exchanges.

Since the paper explores qualitative aspects of socializing, social norms, direct participant observation was necessary. At the same time, a close association with the community would also ensure that several personal or deeply embedded beliefs and values will be taken into consideration. It also allows for certain modes of rapport building with the community, which is beneficial in understanding culturally sensitive information. Thus, most of the semi-structured interviews were taken as the participants were already in their daily setting. Most of the participants were either working in the field, or spending their leisure time at shops, or taking a break at home.

Lastly, five key-person interviews were also taken – including two local school-teachers, an NGO worker, and two boatmen. Perspectives of these individuals were taken in order to frame how the local communities function – including aspects of education, transportation of goods and products and how NGO interventions impact tobacco use.

While the focus of this paper remains the qualitative assessment, we also provide some contextual basic statistics, from an accompanying quantitative survey of 985 char households, in the supplementary content of this paper as supporting evidence. The quantitative data collected and accompanying questionnaires are publicly available at Harvard Dataverse.^[11]

Ethics Approval

Ethics approval was obtained from the Institutional Review Board of the James P. Grant School of Public Health at BRAC University (IRB reference no: 2018-028-ER).

Results

Several highly inter-related themes were found that had a direct influence on smoking patterns. These include **tobacco company incentives** (rewards or coupons for buying tobacco), **socializing** (observing peers and parents smoke and also as a rite of passage), **social exchange** (offering tobacco as hospitality and in exchange for labor), **geographic stresses** (resettlement due to river erosion and crop destruction due to seasonal floods), and perspectives **on health** (beliefs about how tobacco helps increase labor productivity). All these variables combined represent the embeddedness of tobacco practices in socio-economic and cultural practices.

i. Tobacco Company Incentives

For a region most affected by socio-economic crisis, tobacco companies have marketed their products by focusing on affordability and availability. At the same time, these companies also often give offers and gifts for certain purchases.

In some chars, such as Kundirpara, the shopkeepers receive shipments of certain tobacco products from the mainland, such as *Merise* cigarettes. Some shopkeepers go to the mainland themselves and bring the tobacco products, usually once or twice or week depending on demand.

In the chars, the convenience shops are small and sell daily snacks and necessities, such as water, biscuits, chocolates, etc. However, the major income of these shops come from selling commercially produced *bidis* (from brands such as *Aziz*, *Ashik* and *Akij*), as well as local, cheap cigarettes (such as *Merise*, *Navy*, *Sheikh* etc.). Smokeless tobacco products such as *Shobha Jorda*, *Hakimpuri Jorda* and *Fancy Gool* are also commonly sold. Completely raw tobacco leaves called '*tanku pata*' are also available.

Even though most of the char residents buy their daily groceries from the mainland, they buy their tobacco products from the local char shops, since the prices are the same. This is because demand for tobacco is extremely high in the char, so the shopkeepers must always keep their inventories well stocked. Most buyers also take tobacco products on loan, paying back the shopkeepers at a later date. The shopkeepers generally have a ledger where they keep records of whose payment is due and who has paid.

As already mentioned, the bulk of the shopkeepers' profit comes from tobacco sales. For example, for each carton of bidi (25 packs), a shopkeeper can make up to BDT 30 in profits. On average, throughout the year, 4-5 cartons are sold a day, allowing them to make around BDT 150-200 a day in profits from bidi sales alone.

To illustrate what sort of products are sold in the chars, a price breakdown of each of the products are given in Table 01 below –

Table 01: Price breakdown of tobacco products in the chars of Gaibandha

Product (per packet)	Cost
Ashik (bidi)	7 taka (20 rolls)
Akij (bidi)	8 taka (20 rolls)
Aziz (bidi)	15 taka (20 rolls)
Merise (cigarette)	40 taka (10 rolls)
Navy (cigarette)	50 taka (10 rolls)
Shobha jorda	4 taka (per packet)
Fancy Gool	5 taka (small container)

Other brands popular in Bangladesh, such as *John Player's Gold Leaf* and *Benson & Hedges*, are generally too expensive (priced at 9-10 taka per individual cigarette, at time of survey) for anyone to purchase in the region.

Ashik and *Akij* bidis are sold the most, because of their attractive price ranges, and also because of their effective marketing strategies targeting both shopkeepers and customers. *Ashik* bidi, for example, gave out free tokens for each carton (25 pack) bought earlier this year. Each token could be returned in exchange for a certain amount of cashback, which created an incentive for shopkeepers to stock as many cartons as possible.

Merise also gave out tokens for each purchase of their cigarette packs. A certain amount of these tokens could be exchanged for daily necessities and more cigarettes. For example, 20 tokens could be exchanged for a free melamine plate, while 3 tokens could get someone another free *Merise* cigarette out of the pack. Other products and offers were also available on return of such tokens. These made these products more attractive for both sellers and buyers (see Supplementary Graph 01), leading to higher purchases and consumption. To illustrate how popular these offers are: Faruk, a shopkeeper in his 30s, stocked almost an entire month's worth of *Ashik* tokens to get some cashback, only to despair when he realized that the offer was no longer valid.

Similar level of marketing, brand promotion and coupons are also given by companies such as *Marlboro* and *Camel* in countries such as the United States.^[12] Essentially, tobacco companies are ensuring that there is prime placement of advertising in retail stores, as well giving tobacco incentive programs that ensures that consumers buy more. The reward system as well as branding indirectly translates into a pro-smoking message which pushes consumers to buy more as well, a strategy which is seen by larger tobacco companies globally as well.^[13]

In a broader context, tobacco companies such as British American Tobacco stress continuing commitment to ‘corporate social responsibility’ to negotiate tobacco control laws.[14] Transnational tobacco companies such as BAT gain access and dominance to Southeast Asian markets by positioning themselves as good corporate citizens, allies to the developing country’s economic growth. Marketing tactics varied across SEA countries, exploiting gaps in regulatory legislation to employ direct and indirect advertising strategies (e.g. trademark diversification via tobacco brands on non-tobacco products, sponsorship in media sectors).[15] In Bangladesh, BAT aligns itself with “sustainable agriculture” and helping tobacco farmers, providing programs that teach skills and ‘environmentally friendly sustainable practices’; oftentimes working with governmental departments. The Smoking and Tobacco Products Usage (Control) Act, 2005, as amended by the Smoking and Tobacco Products Usage (Control) (Amendment) Act, 2013, is the principal law governing tobacco control in Bangladesh.[16] If anti-smoking strategies need to be developed, it also must target these retail market strategies that heavily influence tobacco consumption.

ii. Socializing

Bush. et al (2003) on studying Bangladeshi males and smoking patterns highlights the importance of observing family members and their habits. Most boys see their grandfathers and fathers smoke and equate it to being a man – or rather a ritual to manhood. Similarly, most households in chars have had a male household member that smoke or have in the past smoked in front of their children. Similar to ethics, beliefs, traditions - practices such as smoking happen too because of direct transmission of traditions and values that come from observing household mannerisms. [17]

Ali, a man in his 30s with two children aged 8 and 12 state “I smoke in the house now and then. Sometimes my wife makes a fuss, and I move to the backyard. But my other family members do it and it’s really normal to do so, so why shouldn’t I?” Majority of char-dwellers smoke at home and other public places (see Supplementary Graph 02). When asked about health issues, Ali simply responded by saying that smoking has become such a norm, issues of health don’t concern him as much. This is generally the approach to smoking among char-dwellers despite majority acknowledging the associated negative health effects (see Supplementary Graph 03).

Boys were found to start smoking at an average age of 14, with some starting as young as 8 or 9 (see Supplementary Graph 04). There is a code of respect, according to which smoking in front of elders is considered rude and impolite. Because of this, younger boys, once a little older (around 17 and above) group together in their own circles to experiment with all forms of tobacco, both because of curiosity as well as an expectation that this is the norm throughout the char. Indeed, sharing tobacco while in a group is a way to build and maintain social capital, in that someone offering tobacco ‘keeps the group together’ and strengthens bonds. This was specifically observed in Kundirpara char, where the younger boys would sit together playing cards far away from the eyes of elders.

Most parents and elders acknowledge that younger generations are well invested in smoking. Some often scold their children if found out, but others do not directly intervene. However, there is no harsh punishment, as smoking is generally accepted as 'the norm,' and as Hossain, a shopkeeper in his 40s says "If they don't do it now, they will start doing it at some point in their lives."

It must be mentioned that this acceptance only applies to male youth; the assumption of inevitability of growing a smoking habit is assigned to men. Masculine social circles, especially among farmers, encourage tobacco use through "social smoking". There is no strong anti-tobacco sentiment to dissuade young boys into imitating their fathers, brothers, and elders.

On the other hand, smoking cigarettes is frowned upon in female users. Women and young girls are discouraged from smoking, as the activity is associated with immorality and masculinity. While obviously this does not prevent tobacco use among women, the prevalence of smoking tobacco is less among females than males.

Therefore, the peer groups as well as the family can be seen as an important medium through which social norms and values associated with smoking are shaped. Observation and norms have powerful effects in the shaping habits, whether in tobacco adoption or cessation.

iii. Social Exchange

Both smoked and smokeless tobacco play significant roles in the exchange of social capital. Social gatherings and meetings, political debates, daily discussions, guests over at the house – all such occasions require some form of tobacco as means of 'de-stressing' or entertainment. Sharing a roll of bidi or a cigarette with other male companions is common practice in char areas. Men are often seen playing cards or carom in front of the local shop over bidi and cigarettes. Local shops offer cards and carom boards to locals as they help maintain the social glue for men. During the floods, when there is a lack of work, the men are found spending all day in front of these local shops.

Women, on the other hand, socialize in the private domain with their neighbors and kin. While smoking is taboo for females in the chars, chewable tobacco consumption is very common and acceptable. Accordingly, smokeless tobacco use is much higher among female users. *Jorda* (finely shredded tobacco leaves) is often taken with betel-leaves; one packet of *jorda* costs less than cigarettes and can last up to three days. Betel leaf and *jorda* are available ready-made in all the local shops, but women in almost all households keep a separate container for *jorda* and betel leaves. Sometimes these containers are passed on from one generation to another as heirlooms.

Offering betel-leaf plays an essential and traditional role in hospitality. Many people in the char regions are living below the poverty line, but hospitality remains a matter of pride in the community, and hospitality is incomplete without offering betel-leaf with *jorda*. Betel-leaf and *jorda* also serve as a dessert and palate-cleanser at the end of a meal.

In addition, tobacco also serves as a means of exchanging labor. During farming season labor demand becomes higher than usual, and day-laborers can make BDT 200 to 400 per day. In addition to money, landowners also provide up to 3 packs of bidi to the laborers per day. Both landowners and laborers believe that bidi consumption increases productivity, and so it is an important part of informal labor exchange.

Younger generations observe the importance of everyday tobacco consumption, and similarly use tobacco to get acquainted with more people and get into tighter social groups. While tobacco might initially serve a secondary purpose in these interactions, it can become a necessity over time (for example, a private and personal conversation between friends is perceived to require a few puffs of cigarettes).

Fatima Bibi, the headmistress of a local school in her 40s, states that “during dry season boys and girls play all day on the riverbank areas, but during floods and river erosion they do not get any open space for sports, so they spend more time gossiping in groups which leads them to tobacco like elders of this area.”

iv. Geographic stresses

Living in the chars gives a sense of uncertainty and risk. The everyday life of people living in chars are based on the inevitability of river erosion, *chars* sinking, or rising, constant need to mobilize resources and to deal with several other environmental factors. The psychological distress associated with poverty is exacerbated by uncertainty of the *chars*. This ‘stress’ is the emotional and psychological strain attributed to the inability to control certain factors of one’s life – such as employment and property. Vogli & Santinello (2005) discuss how factors such as unemployment can increase nicotine intake as a coping mechanism to up to 2.78 times compared to those employed.^[18]

Almost 60% of Bangladesh’s landmass is less than six meters above mean sea level. Because of the country’s low laying nature, between 30 and 70% of the land is flooded in most years.^[19] Floods, while instrumental to the formation of chars, also are detrimental to them. Chars that have recently formed generally have lower elevation, causing them to flood more. People must then build their homes on the highest available land and must throughout the course of the year be prepared for such floods.

Land erosion is another major hazard for communities dwelling in chars. Chars which are especially not connected to the mainland are especially vulnerable to eroding, further alleviated from the harsh river flow from the Brahmaputra River, in the context of the chars in Northern Bangladesh.

Floods and river bank erosion (see Supplementary Graph 05) were cited as major reasons behind poverty in the general settlers in general chars around the country^[20] – as it causes loss of agricultural productivity, hampering livestock, scarcity of water, decreased

employment opportunity, uncertain land rights, lower literacy rates & inadequate health facilities.[21]

v. **Grappling with instability**

One of the more common sights in the chars surrounding Gaibandha were people carrying tin roofsheds & bamboo to different chars on boats, in case they had to resettle. The boats generally charge around a 1,000 taka per trip from one char to the other, excluding other costs. “We’re always worried about when we need to move, and we are always uncertain if we have to. It’s on our mind all the time,” said Fatimah, a woman aged 60 living in the Kundirpara char.

Abdul Motin, a man in his 30s stated “Most people have moved around at least 10 times in their lifetime, I know some elders who have moved at least about 50 times” (see **Supplementary Graph 06**). Thus, reinforcing the idea that not only is there constant anxiety and stress about resettling, but the total cost of moving is also a significant burden.

Some have even opted to move to the mainland, after constantly having to deal with environmental pressures. Kamal Hossain, a man in his 60s, while smoking a brand of Merise cigarette said “I was so tired of moving, that I completely left my ancestral land, and bought some land in the mainland of Gaibandha.” Hossain’s resettlement is generally not an option for other settlers, as they would choose to live on nearby chars, capitalizing on ancestral land, community and family living nearby.

How does tobacco consumption then relate to the miseries and unfortunate events that the residents of these chars have to go through almost every year? Sakib, a man in his 30s, currently working as a day laborer in Fulchori char mentions “I am very unsure of my future. I am not sure where my children will get their education, and how I am going to make money in case I need to move, or where I can move. Going to Dhaka is not an option to me. I usually keep smoking to take the edge off and to take my mind off these things.”

This reiterates other studies that have noted that smoking is often used as a stress relief tool to cope with anxiety; most smokers engage in tobacco use to reduce their stress and induce relaxation.[22] Labor-intensive occupation (day laborers and farmers) is associated with a higher prevalence of smoking and tobacco use; most male rural smokers tend to be in these types of occupation. These occupations tend to involve daily stress regarding finances and future income: in the chars, this is exacerbated by the various geographical stresses.

Irrespective of gender, labor-intensive occupation is associated with a higher prevalence of smoking. On the other hand, stress is often correlated to higher tobacco consumption among females.[23] The heavy responsibilities of running a household while child-bearing and managing family are increased by the scarcity and poverty in the chars; this doubles for any working women. The increase in dopamine from nicotine is often used as a coping mechanism to many forms of environmental and social stresses.[24] However, ‘taking the edge off’ on the

other hand is only seen as temporary, as the effect is only short-term and causes withdrawal issues which can make an individual more prone to stress and therefore carry on the cycle of tobacco use.^[25]

What is important to note is how the respondents feel when they consume tobacco. Almost all of the respondents in the chars felt that they used smoking as a coping mechanism for their daily stresses, and see tobacco as a vital element in their everyday lives. In the long run, tobacco consumption becomes a means of coping, and as such a 'survival strategy' in adapting to harsh geographic conditions; in a sense, it seemingly contributes to improving their quality of life, by being a method to de-stress and socialize.

vi. Views on health

Tobacco consumption increases during the farming season, because farm-workers spend more time on the fields. In chars, inhabitants cultivate rice, jute, peanuts, corn, chili etc. Jute cultivation involves immersing bundles of the plant in water for several days before harvesting. Working in water for longer hours reduces body temperature, and laborers smoke cigarettes at regular intervals as a result, as it is believed that smoking increases body temperature and therefore productivity. In addition, they believe that smoking helps fight the boredom and monotony of their tedious jobs. Since laborers have to spend more than 8 hours on the fields every day, they use smoking to take breaks from their work.

Women, on the other hand, believe that jorda and betel-leaf have medicinal properties that cure gum pain. People in the chars have very little access to doctors and dentists; any health facility is way out of reach and would involve expenses. The elderly, who have been consuming jorda and betel-leaf for a long time, can no longer do without it, as constantly chewing betel-leaf and jorda gives them temporary relief from gum pain. Forida Begum, a woman in her 60s, told us, "I always keep betel-leaf and jorda with me as I cannot bear the gum pain without chewing it."

Like Forida Begum, others continue to justify tobacco consumption based on their own life experiences and by providing examples of healthy tobacco users. Such comparisons make them apathetic about tobacco consumption. Abdullah, a 50-year-old man, states in front of his friends, "I have been smoking cigarettes for most of my life. In my younger days I would need more than one pack of cigarettes. But look at me, I have never been to any doctor, and I am still going strong."

Lower-health risk perception is persistent when it comes to cigarettes; in the case of smokeless tobacco, there is no risk considered at all. Lack of information regarding the harms of tobacco, as well as lack of education, means risk perception is lower and based on users' own life experiences and the social norms around tobacco consumption. Risks such as not vaccinating, for example, is visible and has generally no positive outcomes. Smoking on the other hand, while having negative outcomes has also perceived positive ones. While some health precautionary measures are easier to perform, quitting smoking in favor of a healthier

lifestyle has been recorded to be significantly difficult. This is often attributed to nicotine addiction, irritability with nicotine withdrawal [26] and other psycho-social factors. With the possible additions in this paper, it is observed that individuals would focus on goals of socializing and stress relief as positive outcomes and downplay health factors in the long run.

Discussion

From the evidence presented thus far, we can come to the conclusion that tobacco consumption is a part of the daily lives of char inhabitants. The factors that have been discussed earlier (geographic stresses, tobacco company incentives, socializing and the social exchange of tobacco, views on health etc.) have molded their social behavior in a way that general anti-tobacco campaigns may not be as effective. See for example, Fakir et al. (2020)a, who, using a randomized controlled trial, find that while anti-tobacco visual nudges did reduce smoking tobacco expenditure in the study area, the results were statistically insignificant [27], primarily because of the strong cultural attachment of tobacco among the char inhabitants.

The general anti-tobacco campaigns and advocacy strategies misunderstand tobacco as the root of the problem. Rather, this research found that tobacco use is more like a symptom of larger socio-economic problems. In the context of char inhabitants, therefore, anti-tobacco campaigns and advocacy strategies must take into account the socio-economic dimensions of smoking to be more effective.

The prevalence of tobacco use is found to be greater among those struck by the poverty and instability of life in the region; the same people who are susceptible to health inequality by way of lack of access and finances, thus carrying a heavier disease burden. This carries forward a cycle of poverty and tobacco: increasing expenses due to the habit, greater costs to health and quality of life, intergenerational inheritance of the habit through socialization and normalizing culture. An example of an anti-tobacco campaign that uses an intervention based on the identified underlying socio-economic problems is Fakir et al. (2020)b. The authors, in a randomized controlled trial, design a daily expense reminder behind smoking which lead to a statistically significant reduction in smoking tobacco consumption in the study area.[28]

Additionally, perceptions of health are molded by social behaviors and socio-economic aspects, such that these same tobacco users are less likely to seek out medical care (which would be hard to access due to lack of health facility) and so are more likely to internalize the pain and their justifications, and continue use, especially among smokeless tobacco users.

Barriers to quitting or cessation of tobacco use in the chars is due to this lack of risk perception, as well as the normalizing culture and social norms surrounding use. Anti-tobacco advertising does little to counteract these factors because of the lack of education in these parts. Additionally, anti-smoking campaigns in Bangladesh tend to focus on prevention of tobacco use, generally only targeting cigarette use via media or packaging. Some regions also

produce tobacco as cash crops and therefore have a stake in continuing consumption of tobacco among the population. In conversations about reducing tobacco consumption in these parts, it must be acknowledged that there will be an economic loss and therefore impact on livelihoods with anti-tobacco work. This is not to disregard the need for it, but to acknowledge that tobacco users have multiple stakes and entanglements with tobacco and that public healthcare is not necessarily in line with their personal concerns about surviving in a naturally hostile land. Anti-tobacco work must engage the personal stakes, worries and social norms of tobacco users to be effective.

Successful anti-tobacco work in rural regions have indicated that “achieving tobacco-free status has to be a process owned and led by the community.” [29] Community-led models work in resource-scarce settings because it involves and is shaped by the stakeholders and their concerns (and understanding of the health issue). To be effective, any anti-tobacco program or efforts must engage local leaders with influence and commitment to the cause: but this generation of interest and community ownership is a demanding process. Sustainability of anti-tobacco efforts also require identifying, recruiting and motivating the right leaders, as well as providing support. Successful response also depends on the credibility of the health-workers involved, as well as their own commitment to the cause.[30]

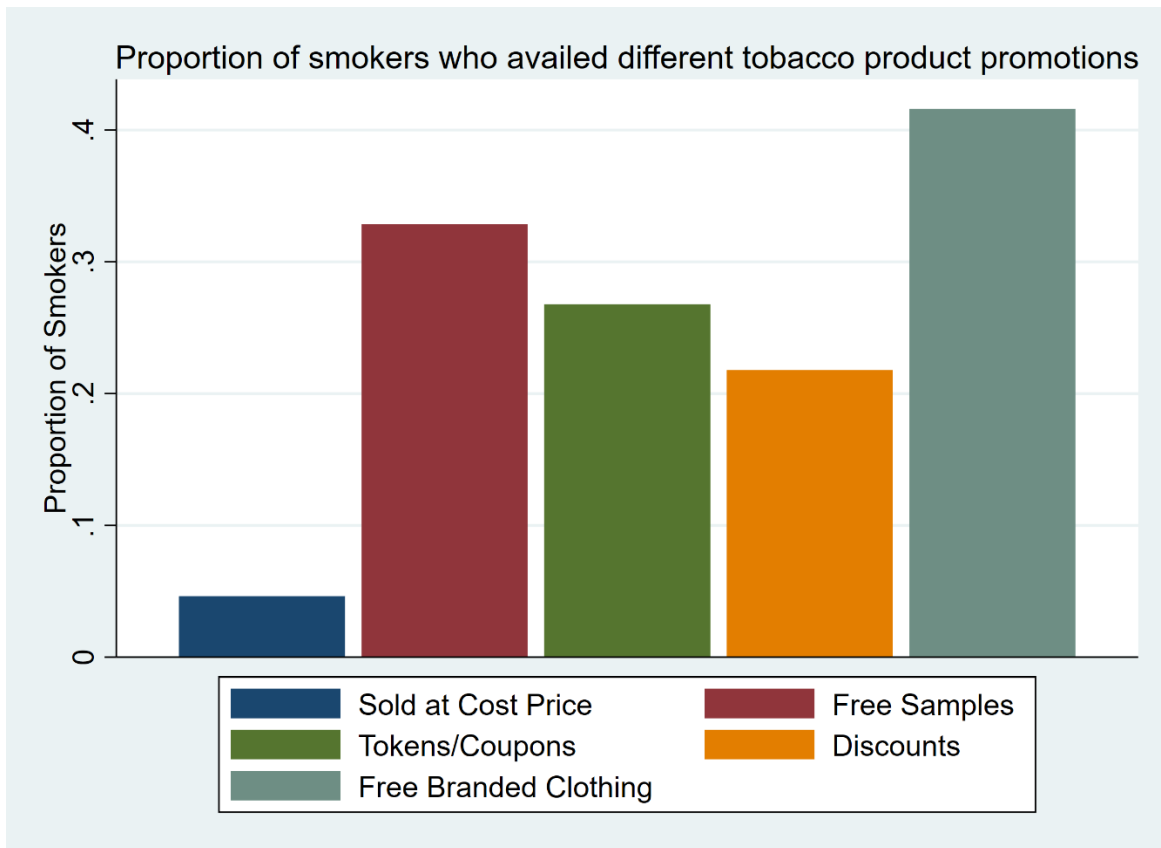
Conclusion

Traditions of tobacco use is intimately intertwined with the social norms, culture, and health beliefs of people. The combined lack of education and access to health facilities has led to an acute lack of risk perception of the harms of tobacco use, and therefore disinterest in intent to quit. Tobacco in some areas is also economically important in the region as a source of livelihood. Anti-tobacco strategies must consider the socio-economic context around tobacco and center changing social norms and family values around tobacco consumption, rather than advertisement or simple education on the ills of tobacco. As such, anti-tobacco efforts should involve the community, committed local leaders, and stakeholders, in order to be effective. ■

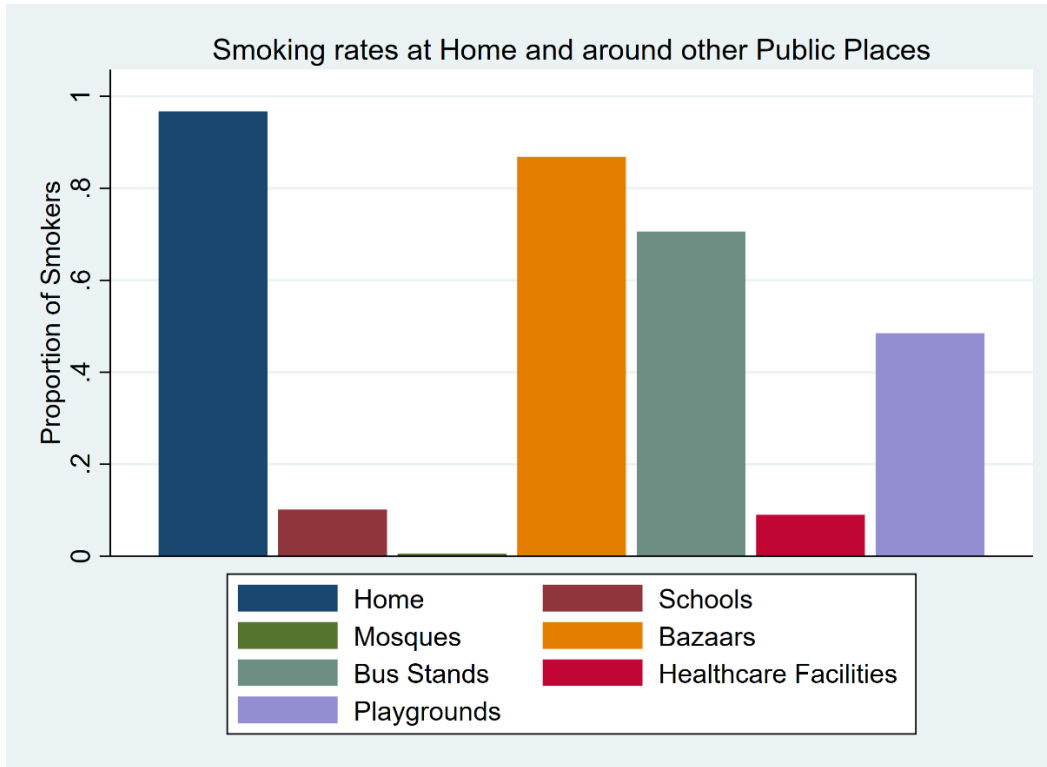
Supplementary Content:

The following graphs were constructed using responses from the Bangladesh CTAP 2018 dataset. [11] 985 household heads were enumerated from 24 chars using a two-stage clustered random sampling approach. 822 household heads were identified as smokers, all of whom are male adults. As such, the sample size for graphs 01 to 04 is 822, and for graphs 05 and 06 is 985.

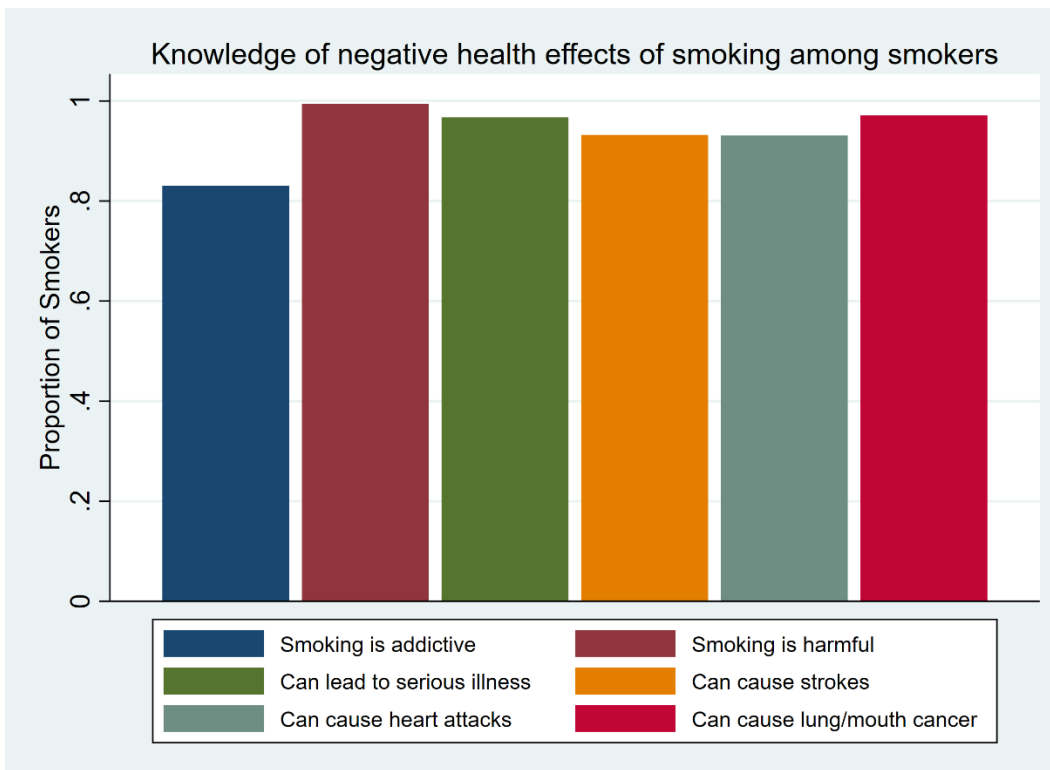
Supplementary Graph 01: Proportion of smokers who availed different tobacco product promotions



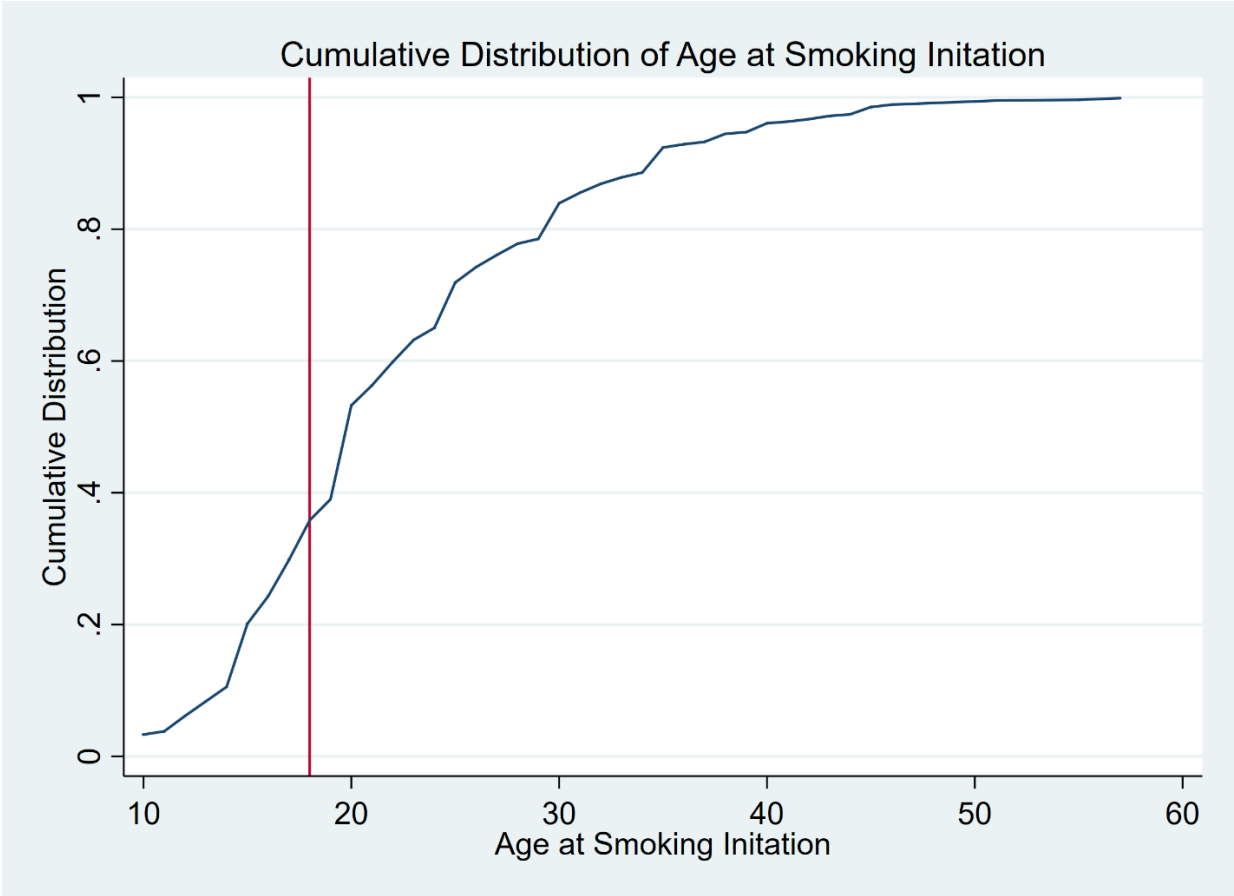
Supplementary Graph 02: Smoking rates at home and around other public places



Supplementary Graph 03: Knowledge of negative health effects of smoking among smokers

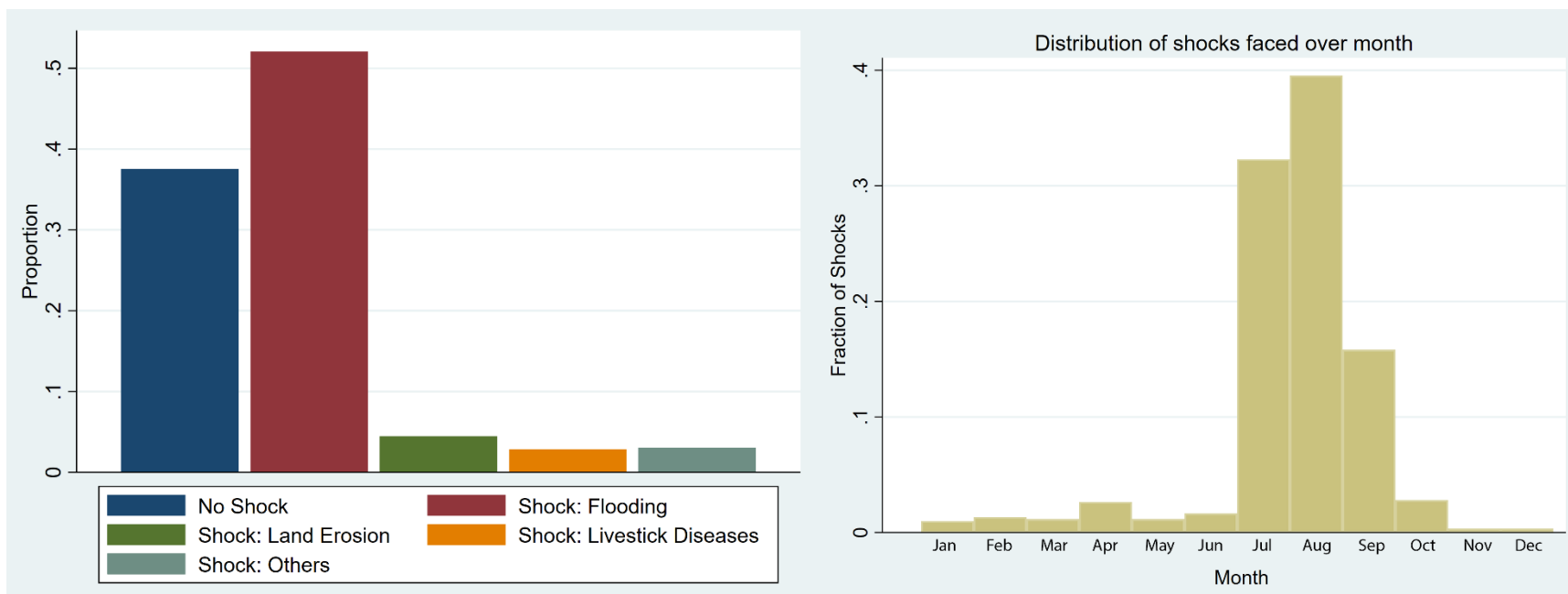


Supplementary Graph 04: Cumulative distribution of age at smoking initiation



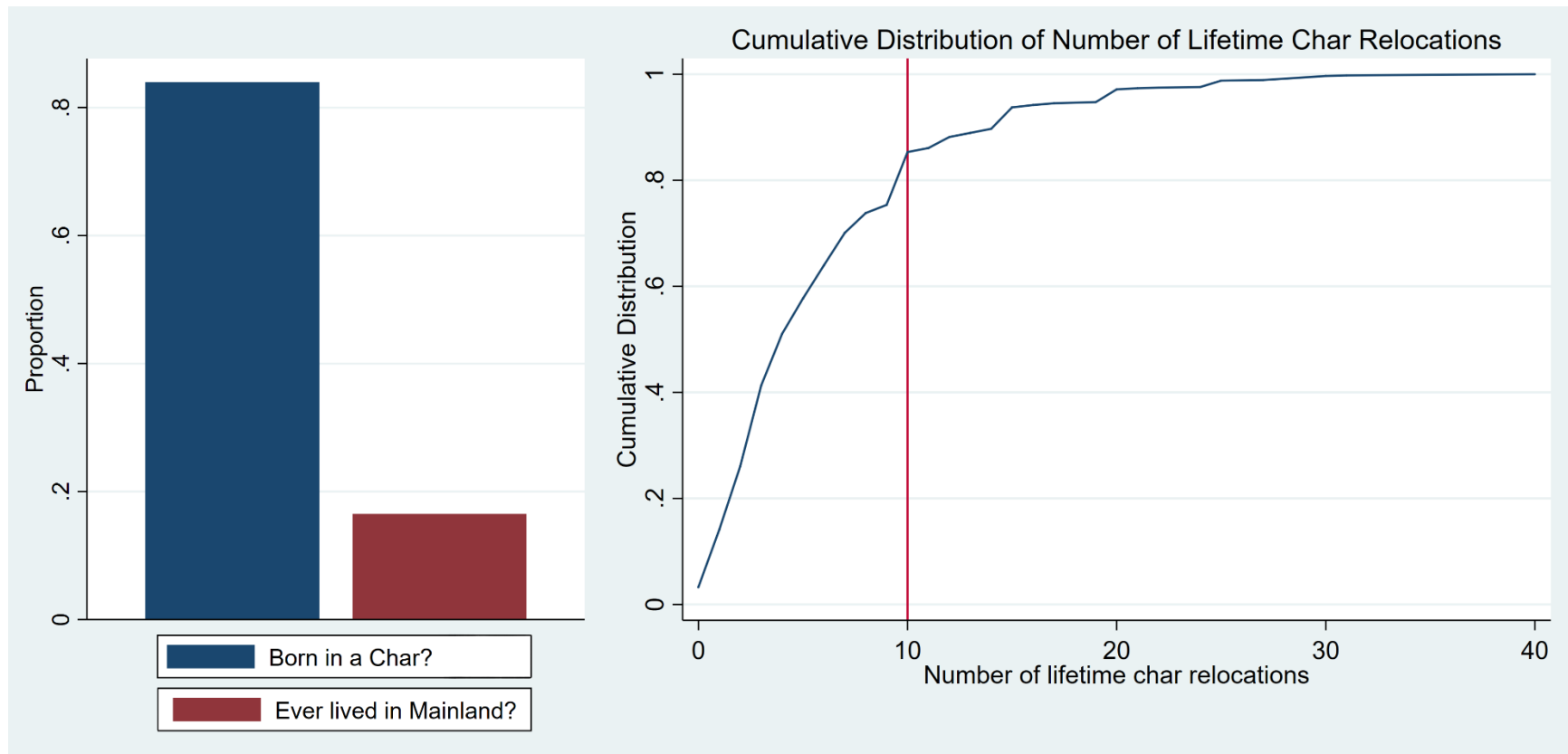
Note: The red y-line represents age=18; almost 40% of the 822 smokers (now adults) initiated smoking before they turned 18.

Supplementary Graph 05: Major shocks faced by char-dwellers in the past 12 months and its distribution over time



Note: July till August is the peak of the rainy season in Bangladesh, leading to the high fraction of shocks faced during these three months by the char-dwellers, almost all of which is attributed to flooding.

Supplementary Graph 06: Relocation dynamics of char-dwellers (to other chars) due to flooding or land erosion



Note: Over 80% of sample were born in chars, with less 20% ever living in the mainland. Further, over 80% of the sample have had to relocate (to other chars) up to 10 times in their lifetime (till date of survey) due to flooding or land erosion, with the remaining sample having relocated more than 10 times.

ACKNOWLEDGEMENTS

The authors acknowledge the participants as well as informants without whom the study would have not been possible. We would like to thank the students and teachers of Brac University Economics & Social Sciences Department, who gave us immense support each step of the way. We would like to especially thank Riedwan Habibur Rahman, who worked as research assistant for data collection, Syeda Sayka Tabassum & Moumita Islam for helping with transcription and translation, and finally Zahra Mayeesha and Shehzad M Arifeen for proofreading and editing.

REFERENCES

- ¹ Fakir A, Aziz M, Mubde M, Karim A, Khan A, Raisa R et al. Bangladesh Chars Tobacco Assessment Project (CTAP) 2018: a data note. BMC Research Notes. Doi: /10.1186/s13104-018-4015-0
- ² Nargis N, Thompson M, Fong G, Driezen P, Hussain A, Ruthbah U et al. Prevalence and Patterns of Tobacco Use in Bangladesh from 2009 to 2012: Evidence from International Tobacco Control (ITC) Study. PLOS ONE. 2015;10(11):e0141135.
- ³ Haque, S., Abedin, N. & Fakir, A. M., 2020. "Effects "Of smoking on agricultural productivity," 2020 Australian Agricultural and Resource Economics Society (AARES) Conference (64th), Feb 12-14, Perth, Western Australia.
- ⁴ Flora M, Kabir I, Moni M. Quitting Attempts in Bangladeshi Male Rural Smokers and Social Correlates. Bangladesh Medical Research Council Bulletin. 2017;42(2):53-60. Doi: 10.3329/bmrcb.v42i2.31998
- ⁵ Batra A. Treatment of Tobacco Dependence. Deutsches Aerzteblatt Online. 2011; 10.3238/arztebl.2011.0555
- ⁶ ধূমপানমুক্ত পাবলিক প্লেস ও পাবলিক পরিবহন সংক্রান্ত তথ্যপত্র ও ইনফোগ্রাফিক্স (Smokefree Public Place and Public Transport related information & info-graphics) [Internet]. Mohfw.gov.bd. 2020 [cited 1 September 2019]. Available from: http://www.mohfw.gov.bd/index.php?option=com_content&view=article&id=446%3A-smokefree-public-place-and-public-transport-related-information-a-info-graphics&catid=49%3Adigital-guard-file&Itemid=&lang=en
- ⁷ Alam D, Jha P, Ramasundarahettige C, Streatfield P, Niessen L, Chowdhury M et al. Smoking-attributable mortality in Bangladesh: proportional mortality study. Bulletin of the World Health Organization. 2013;91(10):757-764. Doi: 10.2471/blt.13.120196
- ⁸ Gaibandha District Statistics [Internet]. 203.112.218.65. 2011 [cited 16 October 2019]. Available from: <http://203.112.218.65:8008/WebTestApplication/userfiles/Image/District%20Statistics/Gaibandha.pdf>
- ⁹ Masudul Hassan M. Farmer's Profitability of Tobacco Cultivation at Rangpur District in the Socio-Economic Context of Bangladesh: An Empirical Analysis. International Journal of Economics, Finance and Management Sciences. 2015;3(2):91. doi:10.11648/j.ijefm.20150302.13
- ¹⁰ M. N. I. Sarker, BM. A. Kashem & M. Z. Rahman. Poverty Alleviation of Rural People through Chars Livelihoods Programme. Journal of the Bangladesh Society for Agricultural Science and Technology. 2003. 4(3&4): 203-208.

-
- ¹¹ Fakir A. Bangladesh Chars Tobacco Assessment Project (CTAP) 2018 [Internet]. Harvard Dataverse. 2018 [cited 25 October 2020]. Available from: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YAAV4X>
- ¹² Feighery E. How tobacco companies ensure prime placement of their advertising and products in stores: interviews with retailers about tobacco company incentive programmes. *Tobacco Control*. 2003;12(2):184-188. doi:10.1136/tc.12.2.184
- ¹³ Feighery E. How tobacco companies ensure prime placement of their advertising and products in stores: interviews with retailers about tobacco company incentive programmes. *Tobacco Control*. 2003;12(2):184-188. doi:10.1136/tc.12.2.184
- ¹⁴ British American Tobacco Bangladesh - Regulation [Internet]. Batbangladesh.com. [cited 25 October 2019]. Available from: http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DO9
- ¹⁵ Amul G, Tan G, van der Eijk Y. A Systematic Review of Tobacco Industry Tactics in Southeast Asia: Lessons for Other Low- And Middle Income Regions. *International Journal of Health Policy and Management*. 2020;:6-10. Doi: 10.34172/ijhpm.2020.97
- ¹⁶ *Tobacco Control Laws, Bangladesh [Internet]. Tobaccocontrolaws.org. [cited 9 October 2019]. Available from: <https://www.tobaccocontrolaws.org/legislation/country/bangladesh/summary>*
- ¹⁷ Bush J. Understanding influences on smoking in Bangladeshi and Pakistani adults: community based, qualitative study. *BMJ*. 2003;326(7396):962. Doi: 10.1136/bmj.326.7396.962
- ¹⁸ De Vogli R. Unemployment and smoking: does psychosocial stress matter?. *Tobacco Control*. 2005;14(6):389-395. Doi: 10.1136/tc.2004.010611
- ¹⁹ Sarkar N. Causes and Possible Solutions of Poverty Perceived by Char Dwellers in Bangladesh. *International Journal of Natural and Social Sciences*. 2015; 2(1): 37-41.
- ²⁰ Sarkar N. Causes and Possible Solutions of Poverty Perceived by Char Dwellers in Bangladesh. *International Journal of Natural and Social Sciences*. 2015; 2(1): 37-41.
- ²¹ Shetu M, Islam M, Rahman K, Anisuzzaman M. Population displacement due to river erosion in Sirajganj district: Impact on food security and socio-economic status. *Journal of the Bangladesh Agricultural University*. 2017;14(2):191-199. doi:10.3329/jbau.v14i2.32694
- ²² Fidler J, West R. Self-perceived smoking motives and their correlates in a general population sample. *Nicotine & Tobacco Research*. 2009;11(10):1182-1188. Doi: <https://doi.org/10.1093/ntr/ntp120>
- ²³ Islam F, Walton A. Tobacco Smoking and Use of Smokeless Tobacco and Their Association with Psychological Distress and Other Factors in a Rural District in Bangladesh: A Cross-Sectional Study. *Journal of Environmental and Public Health*. 2019;2019:1-11. Doi: <https://doi.org/10.1155/2019/1424592>
- ²⁴ Choi D, Ota S, Watanuki S. Does cigarette smoking relieve stress? Evidence from the event-related potential (ERP). *International Journal of Psychophysiology*. 2015;98(3):470-476. doi:10.1016/j.ijpsycho.2015.10.005

-
- ²⁵ 11. Aronson K, Almeida D, Stawski R, Klein L, Kozlowski L. Smoking is Associated with Worse Mood on Stressful Days: Results from a National Diary Study. *Annals of Behavioral Medicine*. 2008;36(3):259-269. doi:10.1007/s12160-008-9068-1
- ²⁶ Weinstein N. What Does It Mean to Understand a Risk? Evaluating Risk Comprehension. *JNCI Monographs*. 1999;1999(25):15-20. doi: 10.1093/oxfordjournals.jncimonographs.a024192
- ²⁷ Fakir A, Karim A, Mubde M, Aziz M, Ahmad A. A single-blind clustered randomised controlled trial of daily record-keeping for reducing smoking tobacco expenditure among adult male household heads in rural Bangladesh. *Journal of Smoking Cessation*. 2020;15(2):76-83. Doi: 10.1017/jsc.2020.12
- ²⁸ Fakir A, Karim A, Mubde M, Aziz M, Ahmad A. A single-blind clustered randomised controlled trial of daily record-keeping for reducing smoking tobacco expenditure among adult male household heads in rural Bangladesh. *Journal of Smoking Cessation*. 2020;15(2):76-83. Doi: 10.1017/jsc.2020.12
- ²⁹ Chatterjee N, Patil D, Kadam R, Fernandes G. The Tobacco-Free Village Program: Helping Rural Areas Implement and Achieve Goals of Tobacco Control Policies in India. *Global Health: Science and Practice*. 2017;5(3):476-485. Doi: <https://doi.org/10.9745/ghsp-d-17-00064>
- ³⁰ Anantha N. Efficacy of an Anti-Tobacco Community Education Program in India. *Cancer Causes and Control*. 1995; 6(2). 119-129