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Tackling the Lack of Education in Slums by Using Nudging to Establish the Existence of Sheepskin Effects

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Abstract

India is a country with the second largest population in the world and a very high illiteracy rate. Therefore, this paper tries to understand the various reasons and dynamics behind the problem of lack of education in urban slums and hence, tries to solve the same by recommending a policy that would use Thaler and Sunstein's theory of Nudge to establish the existence of sheepskin effects in the minds of the parents dwelling in the slums. The policy of Padho aur Badho is recommended, which entails a cash transfer to the households in slums, on the condition that their children are sent to school. The feasibility of the policy is tested using a cost-benefit analysis and it is concluded that the program would lead to net benefits amounting to more than a million rupees from each student enrolled under the program.

1.0 Introduction

1.1 The Problem of Lack of Education

India is a country with a vast population. According to the Census of India 2011, 68.84% of the population comes under the rural areas. Even though the proportion of the rural population has decreased from 72.19% (2001) to 68.84% (2011), the problem of poverty still remains one of the most significant issues in the country.

According to the Census of India 2011, slums have been defined as residential areas where dwellings are unfit for human habitation by reasons of overcrowding, lack of sanitation facilities, ventilation, etc. Most of these families have been living in poverty since generations. This becomes one of the main reasons why these families prioritise earning money by all the members in the family rather than spending their income on the education of their children.

Schooling typically raises future earnings, yet one finds relatively low enrollments amongst currently poor families. A common explanation is that schooling competes with labour-intensive jobs for children (wage labour, employment in family enterprises, or collection activities). By this view, the low current incomes of their families keep poor children out of school and thus perpetuates their poverty into the next generation. (Ravallion & Wodon, 2000)

Education comes with numerous social benefits that the children get which helps in their personality development and provides other private benefits to not only the children but also the parents. However, parents fail to understand these social benefits. This leads to them valuing the returns they get from child labour way above than the indirect returns that they could have got from education. In some cases, parents might not even be aware of these social benefits. Hence, parents view education more as a costly investment rather than a gift for them and their children.

1.2 What is the Sheepskin Effect?

There are various studies that prove that higher levels of education generally lead to better jobs with high salaries. However, the existing literature debates on the reasons and factors responsible for this relationship. The existence of sheepskin effects matters in the context of lack of education in urban slums because the parents of these unfortunate children consider education as a burden. It is important for policymakers to make these parents realize that there are better opportunities and chances if education is gifted to their children because it is not just the amount of goods produced that matters but the degree that acts as evidence for knowledge that gets one hired.

1.3 What is Nudging?

Accredited mainly to the recent American Nobel laureates, Richard H Thaler and Cass R Sunstein, the nudge theory is built on the understanding and management of heuristics that primarily influences human behaviour. A key aspect of human behaviour is to make good choices from the plenty of options available and hence, the nudge theory is concerned with the designing of choices on the basis of how individuals actually think and decide.

A nudge, therefore, is any aspect of choice architecture that has the potential to alter people's behaviour in a predictable way without forbidding any option or significantly changing their economic incentives. To be counted as a nudge, the intervention must be cheap and easy to avoid and should not be a mandate. (Thaler and Sunstein, 2008).

Humans generally prefer the status quo and would want to go with the existing default, i.e., if a child belongs to a poor family of rag pickers, his parents might not want to send him to school, knowing that the same could help them break the vicious cycle. Instead, they would accept it as their fate and continue the status-quo, depriving him or her of education.

Therefore, this irrationality in the presence of choices (sending to school or not) is what compels the implementation of simple behavior influencing policies using nudging.

Therefore, having understood the existing problem, a feature of the labour market that can be capitalized to tackle it and the method to do so, we are now equipped to understand the objective of the paper. This paper tries to understand the various reasons and dynamics behind the problem of lack of education in urban slums and hence, tries to solve the same by recommending a policy that would use Thaler and Sunstein's theory of Nudge to establish the existence of sheepskin effects in the minds of the parents dwelling in the slums.

2.0 Lack of Education: A Major Problem

The literacy rate is a key feature in the socio-economic development of India. For a country with a population of 1.2 billion people growing at the rate of 1% annually, the literacy rate is 74.04%. Low growth in the literacy rate, for a country with a majority in the youth population, is unjustified.

A literate person, in India, is someone who is above the age of seven and can read and write with understanding in any language. The literacy rate is the total number of literate persons in a given age group and is expressed as the percentage of the total population.

The average family size is 5.1 persons per household and the average per capita monthly income is Rs.1707.8. Results show that on a whole, only 5.7% of the population earn a monthly income of more than Rs. 9000. 41.0% of migrants' monthly income was found to be between Rs.3000 to 6000. 75.6% were not earning money from overtime in any form. (Yadav, 2015)

The average income of a family is clearly not enough to feed the entire household and this creates the need to earn more money for the family. This is where the children come into the picture. The parents decide to send their children for small jobs such as domestic work, food joints, agriculture, etc. This deprives the children of basic education as parents feel the need to send them to work to earn some extra income instead of sending them to schools which will have long term benefits.

From the point of view of the parents, education comes with a plethora of costs. These include the cost of travelling, stationery, miscellaneous expenses (clothing, laundry, etc.), the

tuition fee in some cases, and many more. All of these costs seem like a lot to the parents. On the other hand, if their children are working at any job whatsoever, they don't have to incur any costs. Instead, they are getting a few extra pennies to manage the household. Hence, education becomes the road not taken. For the parents, the cost of sending their children to school is much more than the benefit they are getting.

Another factor that comes in the picture is the social responsibilities that have been implanted by society in the minds of the adults of the house. The social duties and responsibilities like marriage, job, and bearing children are much more important than anything else. For the parents of a girl child, getting her married so that their name is not ruined in society is much more essential than getting an education. In the case of a boy child, the responsibility of being the 'man of the house' comes into play.

Education comes with a variety of benefits, the most important being the social benefits earned by both children and parents. Social benefits refer to the positive outcomes that accrue to an individual other than the person or family making the decision about how much schooling to acquire. Some of these benefits are:

1. Health: Empirical evidence shows that education has an indirect impact on the health of an educated person by imparting knowledge on the importance of living a healthy life (healthy diet, sanitation etc.).
2. Criminal Activity: Education will ensure that they get good-paying jobs and hence reduces the chance of them getting into criminal activities, which is an easy way to earn money.
3. Civic Participation: Education increases participation in society like voting participation, following current affairs, developing interest in extracurricular activities, and working on community issues.
4. Economic Growth and Knowledge Creation: Education ensures a high paying job for children. Studies have shown that even a primary education earns the child a respectable job in the private or the public sector. It also improves the living standards of the families of the children. (Riddell, n.d.)
5. Raising Awareness: Education, overall, increases awareness regarding a variety of topics in the children like sexual harassment (good touch and bad touch), the importance of education, the importance of personality development, etc.

The harsh truth is that the parents fail to see these benefits. They are completely unaware of these social returns which could help their child develop in ways they could never think of. Since the decision-makers are ultimately the parents, they decide to neglect or not know about them, ignoring these indirect benefits of education.

All the above-mentioned factors force the people in the slums to form a mindset where the direct benefit of child labour in terms of earning, supersedes the indirect benefit of getting an education. Therefore, the vicious cycle of no education continues to the next generation as well and becomes a never-ending situation that the families are stuck in. This generates a need to nudge the behavior of the parents to transfer their focus from the direct benefits of jobs for their children to the indirect benefits of education and also consider the long-term negative impacts that child labor has on their children.

3.0 Existence of the Sheepskin Effects

The relationship between educational attainment and employment is fairly easy to understand. During normal economic conditions, workers with low education levels are suited for jobs that require low task complexity or manual labor while highly educated workers are employed in specialized jobs with more complex tasks. Moreover, even during the period of economic slowdowns, the educated workers remain at an advantage at times of declining labor demand because of their presumed higher productivity. This is due to the fact that the skill set of highly educated workers is diverse and generic and hence, can outcompete the low educated workers for even the low skilled jobs. Further, it is also easier for firms to impart company-specific knowledge to the more educated workers as it serves to enhance the productivity and skills of workers, thereby making them more valuable.

Therefore, two popular theories used to explain this positive relationship between education and earnings are **the human capital theory and the sorting model**. These theories explain the specific mechanism through which education impacts earnings. According to the former, education augments the innate capacity and relevant skills of the workers, thereby increasing their productivity and hence, income. This relationship was first established by Mincer, showing that earnings change linearly with the years of schooling and quadratically with work experience (Mincer & Polachel, 1974). Further, apart from the aforementioned

mechanism, it is also postulated that education acts as a signal of productivity. Employers who believe that education is correlated with productivity, screen workers for their education level and pay more wages to those possessing higher levels of education. The sorting model, on the other hand, is an extension of the human capital theory and reveals that education's primary function is to give an indication to the employers in the labour market. Hence, the sheepskin effect model argues that the workers are rewarded for obtaining the certificate that comes with completing a particular level of schooling and not for the productive enhancing contribution of schooling. Thus, the wages are expected to rise faster with extra years of schooling when the same also conveys a certificate.

A study used Malaysia's Household Income Survey data for the years 2002-2012 in order to distinguish between the returns that education yields from just years to schooling as a reflection of a worker's productivity-enhancing contribution and the returns to education from mere certificates of qualification. The result of this analysis concluded that the degree certificates act as better signals of productivity as compared to the years of schooling, thereby lending proof for the sheepskin effects. The study also found that the sheepskin effects resulted in some substantial earnings than years of schooling. One additional year of schooling led to gross yearly earnings to rise by 12.5% in 2002. However, when degrees were taken into account, the effect of just the years of schooling decreased by more than 50% and a university degree increased earnings by as much as 85%, while just a diploma increased the same by 55%. (Yunus, 2017)

Additionally, in the United States of America, the existence of sheepskin effects had been confirmed for prime-age white males. However, evidence for the existence of higher returns due to degree certificates among women and black males has been proven to exist. Using the 1978 Current Population Survey for the US, the results showed that possessing degree certificates gave the individual an earnings premium ranging from 2% for white women to 20% for minority black males. (Belman & Heywood, 1991)
Using data from the National Sample Survey Organisation (NSSO) for the years 2004-05, estimates show that the returns to education lie somewhere around 6% when a person first enrols into school. After declining to 5% in the next couple of years, the returns rise back to 6% after finishing primary education. This rate further increases to 8% till middle school,

11% after finishing secondary school and 14% after completing high school. Further, it varies around 14-15% during college and higher studies. (Kharbanda, 2014)

Further, using the NSSO data it is estimated that the probability of being employed increases with increasing levels of education. The probability of having a regular job is 25.6% higher for a literate worker as compared to a non-literate one. It is evident that the level of education attainment plays an important role in securing regular employment. For instance, the probability of attaining regular employment is 6.32% for a non-literate worker, which increases to 40.18% for a worker with graduate and above qualifications. (Sharma, 2016)

Therefore, the existing literature clearly establishes the existence of sheepskin effects. However, the challenge that we face currently is the people dwelling in slums are unaware of such facts and therefore, underestimate the returns to education by huge numbers. Since, they consider a child's education as an investment, it is imperative that they are made aware of such labour market phenomena that can clear their obscured belief that the vicious cycle of remaining poor cannot be broken. Hence, the use of nudging can be an effective tool in establishing the same and achieving maximum returns.

4.0 Application of Nudging in Education

Nudges can be helpful when households are unaware of the benefits of what is being proposed to them. This makes such policies a very good candidate to give that "push-factor" to the parents to send their children to school. This is primarily because the benefits are in the future and it is difficult to estimate what they are in the present. For example, in Kenya when bed nets were distributed to families for free, it led to a 15% increase in income for a child in future. The 15% income gain increased the probability of the particular child to buy another bed net by only 5%. However, alongside the income effect, there were other factors at play here. The particular family may realize that their use of a bed net leads to decrease in the frequency of their child's sickness. Moreover, they even realize that it is easier to buy bed nets and is more comfortable to sleep under the nets than their earlier perception. In one experiment, Pascaline Dupas tested this hypothesis by making a second attempt to sell bed nets to the families that were previously offered very cheap or free nets, as well as to the families that were offered nets at full price and mostly did not buy one. She found that families that were offered a free or sharply reduced net were *more* likely to buy a second net

(even though they had one already) than the families that were asked to pay full price for the first one. (Banerjee & Duflo, 2011)

Therefore, we see how easily nudging can be used to overcome the various obstacles and in creating a positive feedback loop. There are a number of ways nudging has been used in the education sector to tackle the various types of behavioural barriers that have yielded positive results pertaining to low grades, dropouts, homework completion, early school leaving and inequality.

4.1 Commitment Devices: Deadlines

Many students have the problem of procrastination when it comes to completing homework, preparing for examination and submitting the assignments. In such cases, interim deadlines may serve as devices to help commit the students to study sooner rather than later. The effect on student performance in an educational field setting was tested using deadline. Ninety-nine executive students at MIT who had to write three term papers as part of a course were assigned to one of two deadline treatments. In the first treatment, participants were given evenly spread deadlines, and in the second, students set their own deadlines which may be in the last week of the course. In both treatments, there was a 1% grade penalty for each day of delay beyond the deadline. It was found that students exposed to evenly spread deadlines achieve better grades than students who do not set intermediate deadlines. In addition, when given the choice, more than two-thirds of the students do set intermediate deadlines.

4.2 Social Nudges

Social Nudges have emerged from the idea that most of the time people like to behave in ways that improve their social images and makes them acceptable to a particular social group. This implies that positive social norms can be harnessed to influence behaviour in certain ways, with a potential drawback pertaining to the difficulty of identifying such norms.

4.2.1 Peer Group Interaction

Interaction with one's friends and families can help develop a sense of belongingness, thereby enforcing or creating social norms. Studies of peer effects among room- or dormitory mates have found mixed effects on academic performance. If peer effects arise, they may arise either because of social norms of effort provision or through study partnerships. A US

intervention assigned half of the freshmen at the United States Air Force Academy to peer groups with the intention of helping the lowest ability students. Low ability students were placed with high ability students in an attempt to create positive spill-overs of norms and skills. Medium performing students were placed together in more homogenous groups. Students in the control group were randomly allocated. The study found negative and significant effects on the grades of the low ability students, which the intervention intended to help.

4.2.2 Informational Nudges to Group Identity

Some studies have even used simple informational nudges to create a sense of belonging. Creating a sense of competition by informing students of the performance of their peers creates a positive effect on their grades and persistence. Similar effects on grades can be obtained by giving new university students fictional descriptions of other students' difficulties in fitting in during the first year of university and asking them to describe their own difficulties to other students.

4.3 Information provision: Reminders

Whenever there is a risk to forget things due to lack of attention, reminders can be used to nudge people to take action. They also help in bringing attention to the benefits and value of meeting deadlines and completing tasks, by laying importance on the deadlines and activities to be implemented. This, in turn, also helps in mitigating self-control problems.

It is a well-known fact that parental involvement improves children's skills. However, even the parents are affected by the behavioural barriers that might obscure their decision-making abilities. An intervention reminding parents to read to their child with goal setting, information provision, and extrinsic information was tested. Every week, parents in the treatment group were asked to set goals for the amount of time they would spend reading to their child in the coming week. They were then reminded via text messages to read to achieve the goal and if they reached their goal, they would get a congratulatory text message as a non-monetary reward. In addition, parents in the treatment group were provided with information about the importance and benefits of parental involvement. Goal setting was included to induce psychological costs of not reaching the target and hence make parents more likely to read. Furthermore, the non-monetary reward was intended to increase

incentives to reach the goal. In combination, the treatment components resulted in more than a doubling of parental reading time.

4.4 Information Provision: Easy access to information

Due to limited attention spans, students might not acquire relevant information while making decisions. Therefore, when important information is provided in an easy and accessible manner, it might help in solving the aforementioned problem. Further, while selecting which information to provide, the choice architects should keep in mind that some information can be more salient than others. For example, if there is a concern that students and parents focus too little on future benefits of obtaining education and too much on immediate costs, then it might be effective to simply make the benefits more salient by mentioning them in information material. As a result, information provision may target both attention limitations and other behavioural barriers, e.g. self-control problems. In addition, information provision may help boost decision-making skills of students and parents.

Information may also be provided in an attempt to de-bias beliefs about the returns to schooling and different educational paths. Studies show that information campaigns informing secondary school students about study costs and earnings potentials can influence beliefs about the net returns to education.

5.0 Existing Educational Policies in India

5.1 Right to Education Act (RTA)

In India, the education system has been condemned since time immemorial for not being socially inclusive. The Right to Education was deemed as a fundamental right under Article 21 of India's constitution under the "capitation fee" case, whereby no citizen can be denied this right by the charge of high fees known as the capital fee. Following the 86th Constitutional amendment in 2002, Article 21-A was introduced making education free and compulsory for children aged between 6-14 years. Further, Article 45 was replaced and early childhood care education for everyone up to 6 years was added instead. Moreover, under Article 51-A, a fundamental duty was added to implement the duty on the parents to ensure opportunities for education to all children between the 6-14 years age bracket. Therefore, in order to bring the aforementioned changes into effect, the Right of Children to free and Compulsory Education or the Right to Education Act was passed.

5.1.1 SWOT Analysis

INTERNAL FACTORS	
Strengths (4)	*Weaknesses (4)*
- 25% of the admissions reserved for the disadvantaged, weaker and especially abled students in schools that come under the ambit of the act - Duty of the government and local authorities to implement the act in their respective areas, and hence ensures a decentralized system. - Financial obligations shared by the central and the state governments - No capitation fees or screening tests for the beneficiaries	- Excludes children below 6 years which are the crucial years for the development of the child - Large proportions of children are taught a curriculum that is alien to them, hence rendering the process redundant - *No Detention Rule* will not allow the quality education promised under the act - Act lacks an effective auditing mechanism

EXTERNAL FACTORS	
Opportunities (2)	*Threats (4)*
- Spreading information among parents, teachers and students can lead to higher enrolment rates - Providing proper incentives to the parents and students who are following their duties under Article 51 of the Constitution will also increase the enrolment rates	- Number of private schools is increasing, and they are preferred by the parents due to the quality of education, which is not up to the mark in government schools - There still remains a significant shortage fund necessary for the purpose of implementation - The private tuition and referrals act as a barrier towards effective deployment of education by the public schools

	- With the advent of online education, the meagre fees for the same, public schools may fall-back in terms of quality, technology and infrastructure

5.2 Sarva Shiksha Abhiyan (SSA)

Sarva Shiksha Abhiyan (SSA) is Government of India's flagship programme for achievement of Universalization of Elementary Education (UEE) in a time-bound manner, as mandated by 86th amendment to the Constitution of India making free and compulsory Education to the children of 6-14 years age group, a fundamental right. (Sarva Siksha Abhiyan (SSA) Manual for District- Level Functionaries, 2017). The programme aims at opening new schools in the remote areas and areas which do not have access to educational facilities. It focuses mainly on the children from the age of 6 through 14. It also aims at improving the infrastructure of the existing schools by adding additional classrooms, toilets, sanitation facilities, drinking water, and many more.

5.2.1 SWOT Analysis

INTERNAL FACTORS	
Strengths (3)	*Weaknesses (4)*
- Allows parents and students to understand the worth and importance of education - Most of the areas have an elementary school within 1 kilometre and a primary school within 3 kilometres of walking distance. - There are special schemes, especially for differently-abled children and girls.	- There is still a massive shortage of teachers in most of the schools under SSA - There are not specially trained teachers for the differently-abled children which creates a hindrance for the children - There is no proper maintenance of the facilities installed like toilets and water filters - 45% of children in the age group of 7-10 and 13% of children in the age group 11-14 could not read simple words. (Shah, 2007)

EXTERNAL FACTORS	
Opportunities (2)	*Threats (3)*
- The Government has the opportunity to bridge the digital divide by providing facilities like tablets for online classes, lectures available for download, etc. - Provide reports to parents about how the children are doing in school will help in the parents realising that the children are serious about education	- Private schools having provision for ST/SC dominate the education system and get favoured over government schools - Not being up to date with the teaching styles and facilities leads to students falling behind in their studies - Teachers who hit or torture the children lead to the children growing up to be violent in nature and hence increasing the crime rates

5.3 National Policy on Education

Former Prime Minister Indira Gandhi came up with the first National Policy on education in 1968. The main principles of the policy were to provide free and compulsory education to the children of ages up to 14 years, development of various languages, identification of young talent, etc. NPE not only focused on elementary education but also on primary and university education. It also focused on extracurricular activities such as sports and focused on science and mathematics particularly.

5.3.1 SWOT Analysis

INTERNAL FACTORS	
Strengths (4)	*Weaknesses (3)*
- Special attention is given to the equalisation of educational opportunity - Overcomes the barrier of language by introducing a three-language scheme in schools	- No mention of bridging the gaps between the quality of education in the private and the government schools - No provision for the concept of schools being in the localities of the children

- Free and compulsory education is given to the children of ages 6 through 14 - It emphasises on spreading literacy and adult education by teaching them basic skills	- Increasing level of burden on the existing staff (administrations, teachers, etc.) due to shortage of staff in schools

EXTERNAL FACTORS	
Opportunities (1)	*Threats (3)*
- The government schools can get all the students vaccinated for COVID-19 inside the school premises which can motivate the parents to send their children to school	- The schools won't be able to provide education to the government school children due to the lack of facilities necessary for online education - The parents, being out of jobs as a result of the pandemic, will force the children to work and earn for the family instead of going to school - The teachers will have more burden due to decreased strength of the student and hence will not provide quality education.

6.0 Policy Recommendation

6.1 PROGRESA

Under PROGRESA or Programa de Educación, Salud y Alimentación, cash transfers were made to the poor rural households on the condition that their children were sent to schools on at least 85% of the working days and the family underwent regular health check-ups, alongside attending workshops on health and nutrition.

Evaluations in 1998 and 1999 showed that PROGRESA raised school enrolment rates, with children from participating households receiving on average 0.64 years of schooling more than others. Overall, the welfare gain of spending one peso in PROGRESA was computed to

be as large as 7.4 pesos, thereby making the program a much better alternative than other strategies. (Wodon et al., 2003)

Conditional Cash Transfers (CCT) are cash transfers made to people, and the transfers come with certain conditions and criteria that should be met by the people in order to get the transfers. The payments, in the case of CCTs, are presented as "compensation" to the family for the wages lost when their child went to school instead of working. But in reality, the goal is to nudge the family, by making it costly for the family to fail to send their children to school, regardless of what the family thought of education. (Banarjee, 2011, p. 29)

When we talk about the education policies in India, they mostly focus on the supply side of the education sector. Policies like the SSA, RTE, NPE, etc. focus mainly on improving the quality of education and talk about benefiting the children who are already enrolled in the schools. This gives rise to the need for a policy that focuses on increasing the enrollment rates in the schools and motivating the parents to send their children to school. This will ensure that the existing policies have maximum impact on the children thereby increasing the literacy rate of the country.

6.2 Policy Structure-Padho aur Badho

The Policy, Padho aur Badho, takes its inspiration from the Mexican Policy PROGRESA whereby conditional cash transfers were given to the poor households in order to nudge them to send their children to schools and have regular health check-ups. Under Padho aur Badho, a similar approach would be adopted, whereby the households in the urban slums would be given cash transfers on the condition that they send their children to schools, thereby nudging the parents by use of monetary benefits to increase enrolment rates in schools. The policy would have the following features and specifications:

1. The money would be transferred under the Digital India scheme's objective of a cashless economy, whereby the eligible families would be made to open bank accounts in a public sector bank within their locality.
2. The money would be disbursed on a monthly basis.
3. The amount to be transferred would depend on two factors, i.e., the poverty line for the given line that is generally determined as per the required minimum calorie intake and the going minimum wage rate in the labour market, whichever is higher.

4. Further, the parents would be required to send their schools starting 3 years of age or enrol them in a pre-school at the appropriate age. The cash transfers would continue until the child passes the 10th standard.
5. Further, the amount disbursed would increase every year once the child reaches 6 years of age owing to higher wages forgone which could have been earned due to higher productivity. This increase is suggested to be at 8% per annum, as per the returns to an additional year of schooling as used by the World Bank while analyzing the impact of PROGRESA. Additionally, the cash transfer would also be adjusted for inflation every year.
6. The cash transfer would be 10% more for girls as compared to the boys. This is because of two reasons. First, the parents have fewer incentives to send their daughters to school as compared to boys owing to the fact that the girls do not stay with them after marriage and therefore would nor bring the returns to the investment in her education. Second, the school enrolment rates for girls is lesser as compared to the boys, and hence, a higher monetary incentive may help in bridging this gap.
7. The costs for the implementation of the program would be borne equally by the state and central government. This would help in reducing the burden on anyone body, ensure sufficient fund allocation and establish a system of accountability.
8. The entire project would be implemented as per a three-stage mechanism (explained below) and the budget would be decided in accordance, with the same.
9. An independent audit committee would be set up that would monitor the effective implementation of the scheme, both financially and administratively. This would ensure that red-tapism is reduced to the minimum and the goals of the policy is achieved efficiently.
10. Lastly, a pilot project would be conducted to check for the efficacy of the project before being implemented nationwide.

6.2.1 Three- Stage Targeting Mechanism

The method has been adopted by PROGRESA. Under this mechanism, there are three stages involved in selecting the beneficiaries of the policy. The first stage is to segregate and select poor localities that will cover the beneficiaries. India being a vast country, the localities will be spread all over the country. Marginality Index will be calculated using the data from

the census of India 2001 and 2011 (for comparison purposes). There are seven variables to be considered for the localities to calculate the index. These include:

1. Share of illiterate adults
2. Share of dwellings without water
3. Share of dwellings without draining systems,
4. Share of dwellings without electricity
5. Average number of occupants per room
6. Share of dwellings with dirt floor
7. Share of population working in the primary sector.

The index will then be identified as 'high' or 'very high'. The criteria of having a primary school, a secondary school, a clinic, and a suitable size of population will also be considered in choosing the localities.

After the selection of the appropriate localities, we come to the 2nd stage. In the 2nd stage, the census data will be used to identify the households, situated in the identified localities, as poor and non-poor. This process is divided into two steps. The first step will involve the construction of a per capita income index which will be calculated by subtracting the income earned by the children from the summation of all individual incomes earned in a household. This will then be compared to the poverty line. In the second step of this mechanism, a statistical analysis called the discriminant analysis is used to identify the non-income variables that categorise households as poor or non-poor. Discriminant score (second index) is then calculated using these variables and is used in the final classification of poor (eligible to get the benefit under the policy) and non-poor (ineligible to get the benefit).

The third and the final stage involves community involvement. The local community members and the local authorities of the households identified in the second stage will be provided with the list of the participants and will be asked if they believe if any of the beneficiaries should be reclassified to non-poor or vice-versa. Community involvement is extremely important as the knowledge of the people comes into play and hence improves the accuracy of the mechanism.

6.2.2 Pilot Project

After the localities and the households have been identified, the pilot project of Padho aur Badho will be conducted. It will take place in two states, the state with the lowest literacy and the state with the highest disparity in education rate between the sexes, i.e., Bihar and Haryana, respectively. The state of Bihar has a literacy rate of 63.82% and Haryana has a literacy rate of 76.64%. (R. Shah, 2013)

The state of Bihar has been chosen for the pilot project because Bihar has been isolated by any national level education policy and consequently, the literacy rate has taken a great hit. A successful pilot phase in such a state would be a substantial proof of the impact of our policy and thereafter can be expanded pan-India. On the other hand, Haryana has been chosen to be a part of the pilot project because gender discrimination is prevalent in the state since a very long time. Child marriage also has been one of the major concerns of the state. The policy will be helpful in curbing the problem of gender discrimination by motivating the parents to send their girl child to schools and higher education.

6.3 Cost Benefit Analysis

6.3.1 Qualitative Analysis

Costs- (4)

1. Traveling costs even if the school is in the locality
2. Maintenance of the school supplies like school bags, bottles, lunch
3. Spending on laundry and other related activities
4. Spending on stationery every two months and buying a uniform every year

Benefits - (6)

1. The parents are being compensated for not sending their children to work. They are getting aid in return for sending their children to school. Moreover, they are also getting the long-term benefits of gaining education like having a good standard of living in the future, children getting respectable and well-paying jobs in the future thereby ending their cycle of poverty.
2. Criminal activities in the country will too go down by educating children and making them understand the importance of good behavior and making them aware of the repercussions of such activities.
3. The awareness among the students related to various social issues, such as sexual harassment, domestic violence, gender discrimination, education, health, etc.,

increases by a tremendous amount. This is very important as the children will be aware of the things that are happening around them and, in their houses, and hence will become stronger and more confident.

4. Education also teaches children to have a healthy lifestyle. This ensures the cleanliness and hygiene of the children as they learn the benefits of a healthy lifestyle that includes proper sanitation practices, healthy diet, importance of fitness, etc. This is beneficial for the entire community.
5. As mentioned before, education guarantees a well-paid job. It also ensures the creation of knowledge which helps in the development of the children in the early years.
6. Civic participation and the community development by the children are much appreciated by the local authorities. This will be improved by more educated people in the community. These children will also ensure that their parents and other adults around them understand the importance of civic participation and hence increases the voting turnout in the elections.

6.3.2 Quantitative Analysis

This scheme of conditional cash transfer, though, might be expensive, has the impact that it helps break the vicious cycle of poverty and bring long-term benefits. In this section, we analyse the cost and benefits that arise due to the same. In order to compute and estimate for the monetary gains that can be made by implementing this policy, we make the following assumptions:

1. The project is implemented in the year 2022.
2. According to the Tendulkar Committee (2009), the poverty line for urban and rural households was Rs. 578.80 and Rs. 446.68 per capita in the year 2004-05. (*Poverty Estimation in India*, 2019). Therefore, the same has been adjusted for inflation to estimate the cash transfer for the year 2022.
3. An average inflation of 7% for adjusting cash transfers starting 2023. This assumption has been based on the fact that the prices in India have risen by 7% on an average, in the past 10 years.
4. The administration cost is assumed to be at 10% of the cash transfer for one individual. This estimate is in accordance with IFPRI's analysis of PROGRESA. (Wodon et al., 2003)

5. The average return to one additional year of schooling is taken as 8%. This estimate is in accordance with IFPRI's analysis of PROGRESA. (Wodon et al., 2003)
6. The discounting rate is assumed to be 5%.
7. The probability of being employed after completing secondary school is assumed to be 0.4, in accordance with India's employment rate of 40% in February, 2020. (Sharma, 2020)
8. The retirement age is assumed to be 60 years.
9. The average wage that a secondary school graduate would earn is taken as Rs. 178 as per the estimates for 2020. (*India National Floor Level Minimum Wage | 1996-2020 Data | 2021-2022 Forecast*, n.d.)

6.3.3 The Estimation

Costs:

Poverty line adjusted for inflation as of 2019 stands at Rs. 1485.40 for the urban area. Therefore, using 7% average inflation, thereafter, the initial cash transfer in 2022 for boys in the urban slums would be Rs. 1819. 68 1820. Similarly, for the girls of the urban slums, it would be Rs. 1820 + 10% = Rs. 2002. Adding 10% administrative cost, gives the initial yearly cost of Rs. 24024 for boys and Rs. 26426.4 for the girls in urban slums.

Now, in order to calculate the cost, the following points are taken into consideration:

1. For children aged between 3-6 years, there is zero opportunity cost for working and hence, yearly payments are not adjusted for the returns to additional years of schooling.
2. For children aged 7 years and above, the yearly payments increase by 8% (the returns to additional years of schooling) in order to compensate for higher earning foregone due to increased productivity.
3. Further, the yearly payments are adjusted for inflation.
4. The present value of costs is estimated as of the end of 2022.

Present Value of Costs for Boys in Urban Slums =

$$\left[24024 + 24024\times\frac{1.07}{1.05} + 24024\times\left(\frac{1.07}{1.05}\right)^2 + 24024\times\left(\frac{1.07}{1.05}\right)^3\right] + [\left\{24024\times\left(\frac{1.07}{1.05}\right)^4\times 1.08\right\} + \left\{24024\times\left(\frac{1.07}{1.05}\right.\right.$$

$$= 24024\times\frac{\left\{\left(\frac{1.07}{1.05}\right)^4-1\right\}}{\frac{1.07}{1.05}-1} + 24024\times\left(\frac{1.07}{1.05}\right)^4\times 1.08\times\frac{\left[\left\{\left(\frac{1.07}{1.08}\right)\times 1.08\right\}^{10}-1\right]}{\left\{\left(\frac{1.07}{1.05}\right)\times 1.08-1\right\}}$$

= **Rs. 367947.583**

Benefits:

1. To calculate the benefits, it is assumed that the child starts working right after completing 10th standard when he becomes 17 years old. Therefore, the benefits start accruing from 2036.
2. Currently, the minimum daily wage in urban India is Rs. 178. Hence, the same is adjusted for inflation of 7%:

   Wages to be earned in 2036 = $128 \times 365 \times 1.07^{16} = Rs.\ 137925.0903 \sim Rs.\ 137925$

   Expected Present Value of benefits for boys in Urban Slums at the end of 2022 =

$$= 0.4 \times \left[\frac{137925}{1.05^{14}} + \frac{137925}{1.05^{15}} \times 1.07 + \frac{137925}{1.05^{16}} \times 1.07^2 + \ldots + \frac{137925}{1.05^{57}} \times 1.07^{43} \right]$$

$$= 0.4 \times \left[\frac{137925}{1.05^{14}} \times \frac{\left\{ \left(\frac{1.07}{1.05} \right)^{44} - 1 \right\}}{\frac{1.07}{1.05} - 1} \right] = Rs.\ 1892700.6248$$

Net Present Value or profits accruing to the government from the CCT to one boy in urban slums =Present Value of Benefits – Present Value of Costs

=1892700.6248 – 367947.583

= Rs. 1524753.0418, or **Rs. 1524753**

Similarly, for a girl in urban slum: **Net Present Value or profits accruing to the government = Rs. 1337184.2452**

7.0 General Recommendations for RTE, NPE and SSA

1. Under the RTE, children below 6 years of age should also be included, so that primary years when the cognitive abilities develop, are not missed.
2. The teaching curriculum should be flexible in order to cater to a child's cognitive abilities so that the overall objectives of the policies are achieved.
3. One of the major issues with most of these policies is that they are all criticized on the grounds of poor quality of education. Primary examples include high absenteeism rates of teachers, lack of attention to the weaker students, etc. Therefore, to mitigate the same the teachers should be paid performance-based salaries so that they are incentivised to attend school regularly and impart education of high quality.

4. The teachers recruited under these acts for Public schools should be given proper induction training before they start teaching the students.
5. Further, to improve the performance of students, interim deadlines for tests and assignments should be given, whose efficacy has been proved by the existing research.
6. Mentoring sessions conducted by the students for the grades lower to them will help in judging the performance of the children. This will help the children in realizing that doing well in education changes the lives of the people.

8.0 Conclusion

The problem of lack of education is a prevalent issue in India and it is the most important issue that needs to be addressed as soon as possible. Education helps a nation develop in various segments. It reduces poverty in a country, provides access to better jobs for the citizens, increases the number of citizens with a high per capita income and thus helps in economic growth.

Hence, it is very important to work on the problem of education. This can be done through nudging which helps in overcoming various obstacles not just in the education sector but also in other segments of the economy.

The policy recommended, i.e., Padho aur Badho aims to solve the problem of lack of education through nudging the parents and hence creating a push factor for them to send their children to school rather than to work by providing them compensation for the income lost by not sending them to work. This will be done by conditional cash transfers to the parents on a monthly basis.

Padho aur Badho focuses on various aspects that help in increasing the number of school-going children and side by side decreasing the dropout rates and the rate of child labour in the country. It also establishes the importance of higher education for a better job and thereby establishing the sheepskin effect in the country. It is time that the country undertakes the paradigm shift in its education policies by employing new and innovative techniques in the education sector of India.

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