Assessing the Impact of Work from Home on the Employees of CIRDAP

Centre on Integrated Rural Development for Asia and the pacific (CIRDAP)

Assessing the Impact of Work from Home on the Employees of CIRDAP

Centre on Integrated Rural Development for Asia and the pacific (CIRDAP)

1. Introduction

Physical distancing has become one of the inevitable measures to tackle the prevailing COVID-19 pandemic situation worldwide. Initiatives have been taken to maintain social distancing for the health safety of the employees in public and private entities as well as to continue their ongoing operations (Delventhal et al., 2020). Taking that into cognizance, many countries in the world declared nationwide lockdown. In a number of countries where there was no shutdown by the government, private entities and corporations decided to keep their working hours limited at office premises and they also adapted to working from home (hereafter referred to as "WfH") as an alternative to holding office hours at office premises. Likewise, the government of Bangladesh declared nationwide lockdown since March 2020 for a couple of months. In response to this measure, local and global institutions/organizations have taken alternative routes to carry on their businesses. They resort to work from home modality for running their business operations.

The Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) is no exception to that. As an alternative working modality, CIRDAP has limited its work hours in the office yard and encouraged its employees to work from home. Although the government lifted the nationwide lock down after a certain period, CIRDAP continued to maintain the modality of work from home till February 2021.

Even though this modality of WfH has been adapted to contain the sudden shock of COVID-19 pandemic and address the consequent health safety issues, CIRDAP considers choosing WfH permanently if it is beneficial for the institution and its employees. Therefore, conducting the assessment of the impact of WfH modality on the CIRDAP activities and employees is warranted. The purpose of this study is to estimate the impact of WfH on the CIRDAP employees as well as on its institutional performance.

2. Literature Review

There is a growing literature on the impact of WfH on employees and entities in the arena of corporate world. The pandemic forced workers and firms to experiment with WFH giving them a chance to learn how well it actually works. One study by Bloom, Liang, Roberts & Ying (2015) has emphasized on the effects of WfH based on pre-pandemic conditions. Their survey reveals that the experience has been positive and better than expected for the majority of firms and workers. According to the study, almost 10% workers at United States work from home and there has been a 13% increase in performance proxied by several attributes such as taking fewer breaks, availing quite working environment at home and so on. An increase in work satisfaction has also

been reported in the study. Considering the benefits identified in the pilot study, the organization applied the WfH policy to the entire operation. As a result, the employees of the concerned entity who choose to work from home have become 22% more productive than others.

The Grossman Group conducted a survey where it finds out that almost half of the United States employees mentioned that work from home has positive impact on the organization and they would like to continue WfH even after the Covid-19 situation ended (Whiting, 2020). According to PricewaterhouseCoopers (PwC's) Remote Work Survey (June, 2020), financial facilities corporations of United States will be shifting sixty-nine percent of workforce to work from home once a week even in the covid-19 free situation. Similarly, Google, Salesforce, Facebook and PayPal are also encompassing WfH to at least next summer, whereas Fujitsu, Japanese tech firm is halving its work premises and providing its 80 thousand workers in the state, the first-time flexibility.

As per Gallagher's annual survey, evidences suggest that WfH is adaptable for most companies and many will remain to continue this strategy after the pandemic situation. For that reason, 86% of officialdoms specifying WfH will remain open after the COVID-19 episode. Additionally, Gallagher's annual survey, which collected information from 3,921 companies from December 2019 to May 2020, suggests that almost all employers mentioned that they would adapt work from in the future. Therefore, considering the recent studies and finding from other organizations in corporate arena on the impact of WfH in terms of productivity, efficiency and other benefits, CIRDAP would like to evaluate its current operation policy to find out whether work from home strategy can be adopted as a work policy in the future after post pandemic situation.

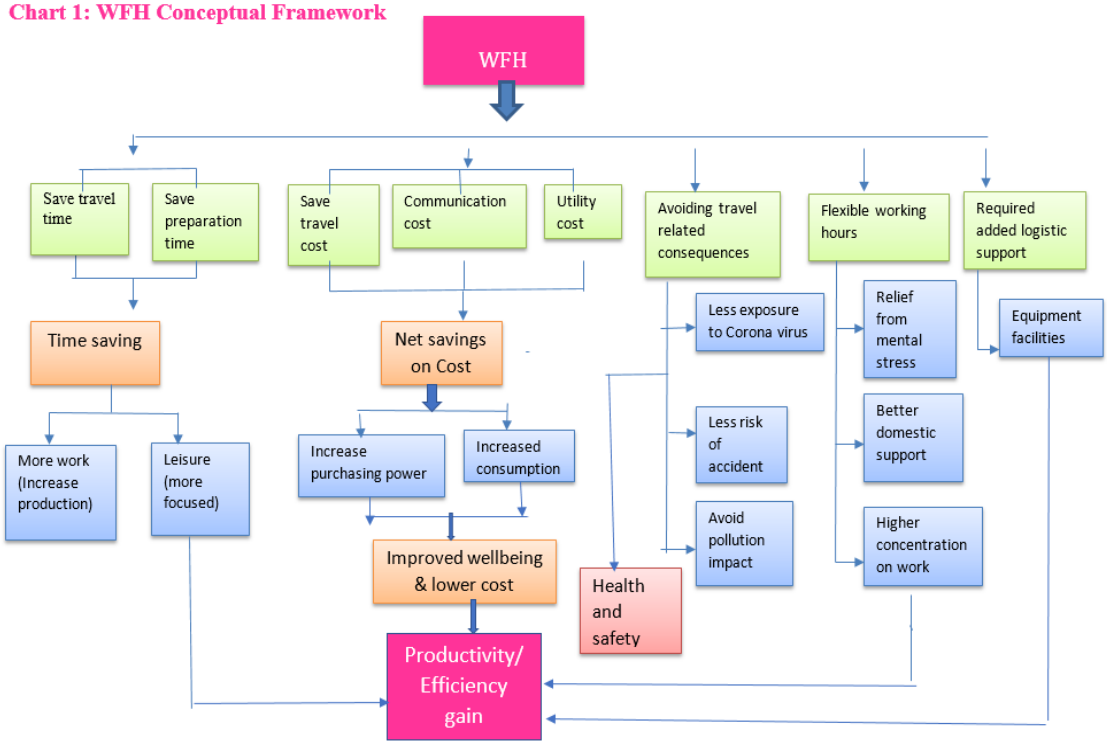
3. Methodology

To assess the impact of WfH on the employees of CIRDAP as well as on its performance, we need to outline the methodology of the study. At first, we set the conceptual framework to show how or through what channels WfH affects the satisfaction as well as efficiency/productivity of the employees. Then we explain the sampling design of the study which is followed by the estimation method. The designing of survey questionnaire deserves interpretation on the rationality of inclusion of different questions. Obviously, the conceptual framework will set the stage for choosing indicators for this evaluation.

3.1 Conceptual Framework

To set out the research methodology for the study we need to understand the ways how WFH modality affects the efficiency/productivity as well as happiness of the employees. Chart 1 depicts various transmission channels of how WFH brings changes in different dimension of efficiency gains. As shown in Chart 1, when an employee adapts to WFH he doesn't need to commute to office and thus he saves time in two ways. He saves commuting time as well as time required for preparing for office. Then he can spend more time on labor/work and leisure. More time on work means more production or a greater performance and thus a higher level of income or a greater job security. More time on leisure, on the other hand, may bring a greater tranquility and thus it may increase productivity/efficiency for being more focused on work. Therefore, more time on labor and leisure is likely to increase the quality of life of an employee. Increased production/performance is beneficial for the organization as well.

Chart 1: WFH Conceptual Framework



Not only an employee saves time due to WFH but also he saves on travel cost. He may incur more cost for instructional communication (i.e., mobile, internet bills). He may save on mid-day meals, but incur a greater utility bill due to WFH instead of office. He may have cost savings in some dimensions and higher cost in other dimensions. Still he may end up with net savings of cost in aggregate. This net savings on cost will increase his real income (i.e., purchasing power) and thus it will increase the consumption (i.e, wellbeing) of his household. A higher purchasing power can induce him to enjoy even more leisure enhancing the wellbeing even further.

With respect to ecological sustainability, WFH has the potential to reduce carbon emissions due to less commuting by the employees. WFH is also likely to relieve an employee from commuting hassles during heavy traffic hours. Most importantly, WFH is saving an employee from potential risks (i.e., lower exposure to Corona virus, accident risks, health hazard from pollutants, etc).

Bloom, Liang, Roberts & Ying (2015) stressed on the adoption of work-place and work-hour flexibility. Flexible working hours can stimulate productivity in terms of work and domestic support. Through flexibility of working hours employees may find domestic responsibilities easier during WFH. Spending quality time with family members may relieve mental stresses. Requiring better technical and logistic support may increase the productivity of an employee during WFH. Effective WFH requires technical support, especially strong guidelines on communication, flexibility in working hours, performance evaluation by outputs, and limits on time required by employer.

3.2 Indicators of Interest

The utmost interest of the survey is to capture different aspects of WFH modality that may affect the satisfaction, wellbeing and performance of the employees. Also to find out the challenges that they are facing with this modality and whether these are solvable or not. We have captured different types of cost relating to commuting to office, commuting time, preparation time for office, likely changes in productivity, improved focus/concentration on work, and perception about the likely changes in the exposure to COVID-19 infection, road accidents, and benefits of flexible working hours. We have also captured the home condition for work such as having a separate room with necessary facilities at home, amount of distractions, any relationship strain or domestic violence that affect the ability to work, having a fast internet connection and so on.

Obviously, we have captured the enjoy ability of WFH and the perceived changes in their satisfaction, work efficiency and so on. We also try to capture the suggestions of the employees on how to improve on the outputs of WFH and the challenges that they have faced.

3.3 Estimation Method

The standard practice is to apply the Difference-in-Difference (DID) method to estimate impact of any such intervention. That is, to track the changes in the indicators of satisfaction and performance of 2 similar groups of employees, one group with WFH and the other working from office. Then figuring out the changes in the indicators over time for both the groups. The differential changes in the indicators are attributed to changes in the modality of work. For example, if the performance of the group of employees increase by 30% over time whereas the corresponding change is 20% for the group working from office premises then we will attribute 10% (=30% -20%) increase in performance as the impact of WFH. To apply this standard estimation method we needed to divide the employees into two groups randomly before we start the WFH modality. But we could not follow the procedure because the pandemic forced us to shut down the office premises immediately.

What we have done here is that we have compared the perceived changes in performance and satisfaction of CIRDAP employees over time and tried to conclude about the likely impact of WFH modality on the employees and institution if CIRDAP wants to continue this new working modality even after the pandemic ends. Here we have applied different statistical measures to capture the overtime changes in the indicators of interest and present them graphically.

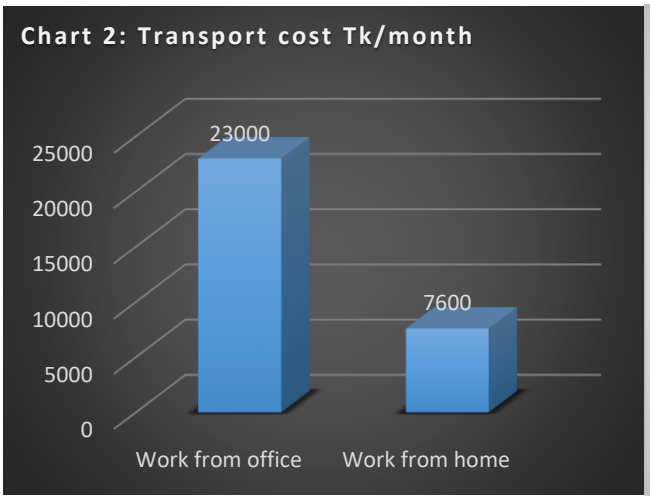
4. Analysis and Findings

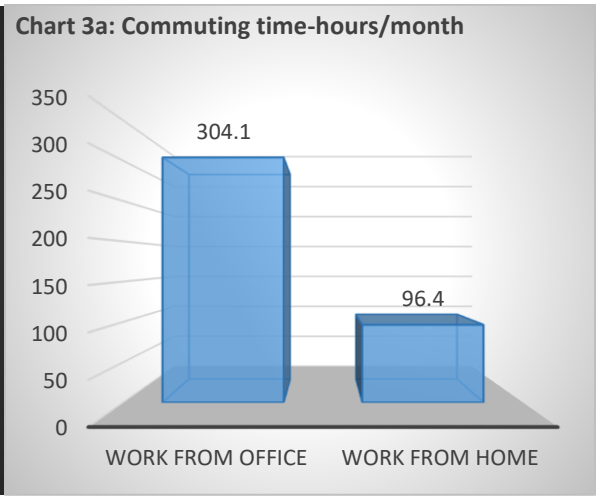
The analysis has been conducted based on the survey of CIRDAP employees who switched to work from home from work from office. The total number of employees captured in this survey is 9. The questionnaire was designed in line with the conceptual framework described in section 3.1 as well as keeping eye on the set of indicators mentioned in section 3.2. However, the size of sample is small and therefore the analysis are rudimentary in terms of quantitative sophistication even though the analytical rigor is there.

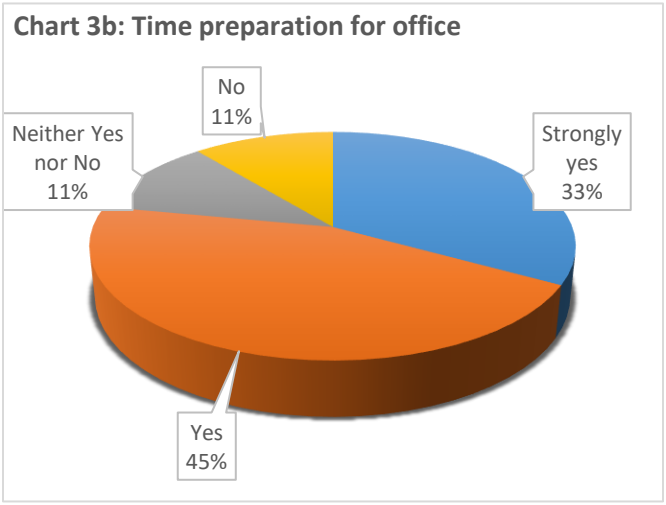
4.1 Savings on Travel Cost and Time

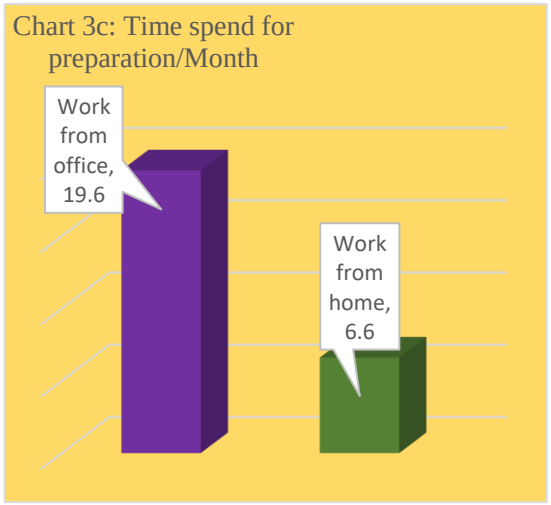
The most immediate snapshot of such a change in working modality is changes in travel cost and commuting time. Chart 2 shows that CIRDAP employees who were surveyed spend Tk 23000 per

month for commuting to office. This cost went down to Tk. 7600 per month during WfH. There is a 67% decrease in commuting cost due to WfH. We need to keep in mind that some of the employees had to come to office for 2 days in a week despite the fact that they were on WfH modality. Otherwise, this cost is expected to go down even further. In case of working from office, the travel cost is supposed to be even higher than this without the subsidy from CIRDAP for that purpose.





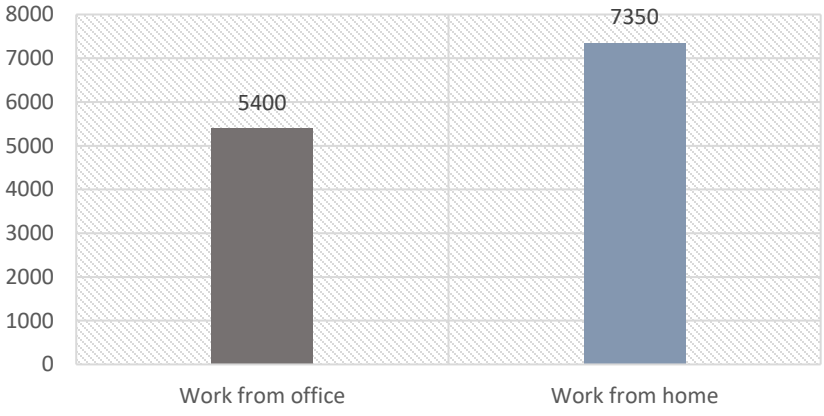




Another important gains from WfH is the savings on commuting time. As shown in Chart 3a, the total time required for commuting to office went down from 304.1 hours per month to 96.4 month per month. There is a 68% decrease in commuting time due to WfH modality. If we consider it for per employee then it went down to 10.7 hours/month from 33.9 hours/month. It is a significant reduction in terms of commuting time. Again, we need to keep in mind that some of the employees still had to come to office for 2 days in a week despite the fact that they were on WfH modality. Otherwise, the time saving on commuting is expected to go up even further.

When the respondents were asked if they would save time needed to prepare for office due to WFH, 33% agreed strongly and 45% agreed moderately that they would save time from not preparing for office (Chart 3b). The amount of time spent on the preparation for going to office is presented in Chart 3c. The respondents spent average 19.6 hours per month for preparation to office during work for office while it came down to 6.6 hours during WfH. This positive number of hours for WfH is due to fact that the respondents are required to go to office for 2 days during WfH work modality.

Chart 4: Mobile bill Tk/month



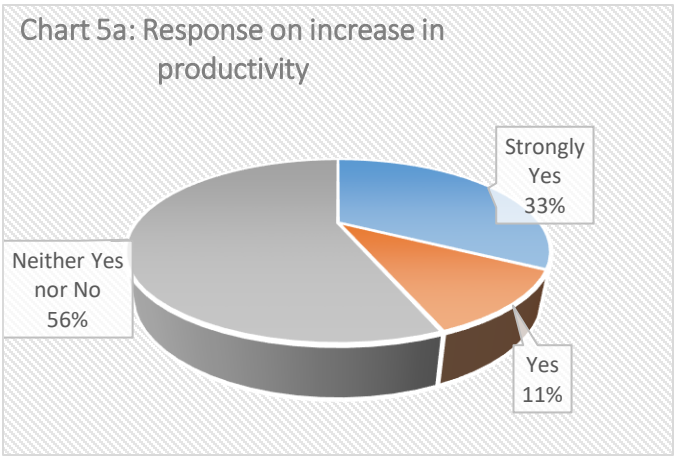
When we consider the modality of communication from home during WfH, the opposite picture is manifested in case of communication cost in terms mobile telephone bill to maintain communication with respective supervisors/colleagues. The communication cost went up from Tk5400/month to Tk 7350/month. There is a 36% increase in communication cost due to WfH modality. However, if we consider total change in cost then there is a 52% reduction in total cost (commuting plus communication cost) due to adapting WfH.

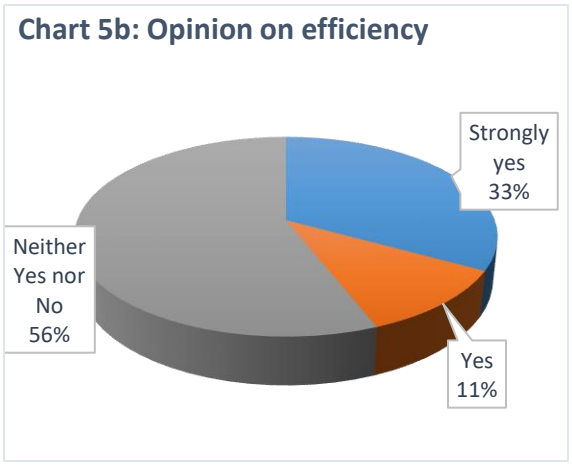
4.2 Perception on Other Indicators

(i) Impact on Productivity

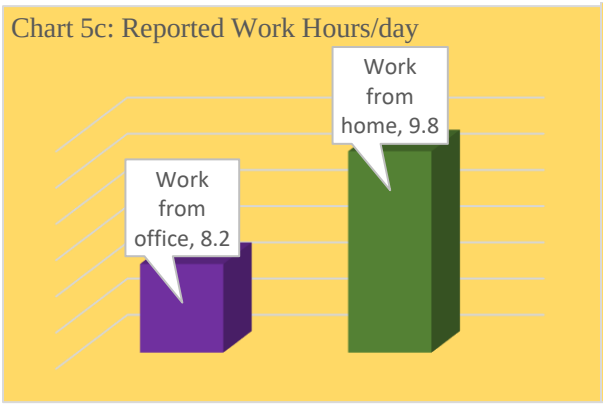
When the employees were asked about change in their productivity due to WfH, 33% of the respondents strongly agreed that their productivity had increased whereas 56% of the respondents neither agreed nor disagreed (Chart 5a). On the other hand, only 11% of the respondents agreed on the increase in productivity due to WfH. Therefore, we do not see a strong response in terms of an increase in employee productivity due to WfH. We need to consider the fact that the WfH was forced on the institution due to the extraordinary situation created by the pandemic COVID-19. In case of adapting WfH modality in a normal condition may show different results indeed. The

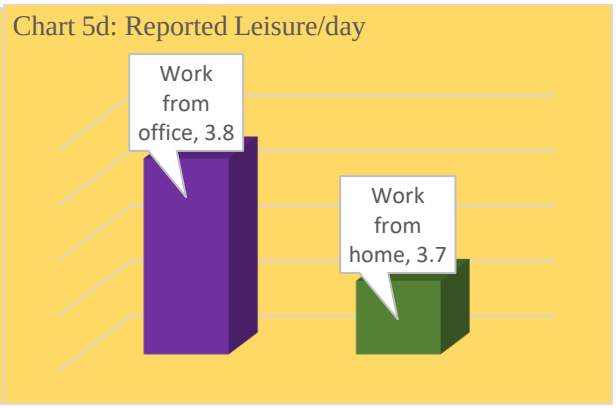
pandemic situation generally reduces the working spirit of any human being due to the prevailed fearful situation everywhere.





When the respondents were asked whether their work efficiency was increased due to flexible working hours of WFH, 33% strongly opined in favor of work hour flexibility whereas another 11% agreed moderately and the rest showing no significant impact WfH on efficiency gains (Chart 5b).



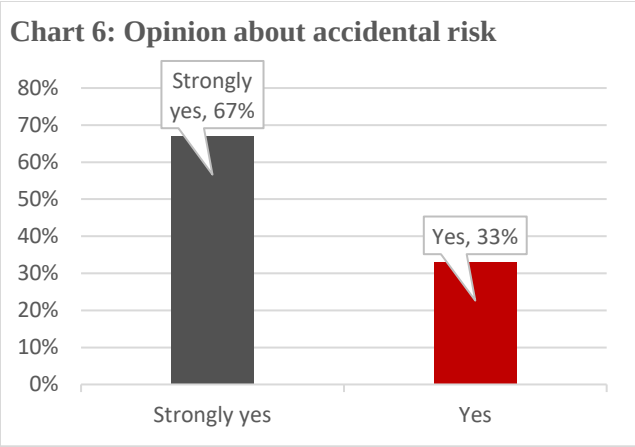


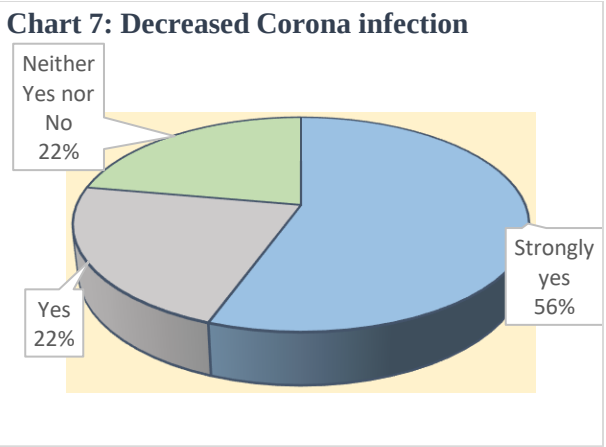
The respondents were asked to reveal the number of hours/day they worked during WfH and work from office to compare both the modalities. They reported an average work hour of 8.2 during work from office whereas the corresponding figure for WfH is 9.8, a 19% increase in the working hours per day (Chart 5c). This is a huge improvement on the work hours of employees. Obviously, we do not see any significant difference in terms of enjoyed leisure per day. They are 3.8 and 3.7 hours per day for work from office and WfH, respectively (Chart 5d).

(ii) Impact on the accident risks/Corona infection

When the employees were asked about whether there is a decreased risk of having an accident due to WFH, 67% strongly agreed that WfH had reduced risk of accident. The rest 33% also agreed to

such risk reduction in terms of road accidents but not as strongly as others. It is interesting to note that 100% of the respondents perceived WfH modality of work contributory in terms of accidental risks (Chart 6).

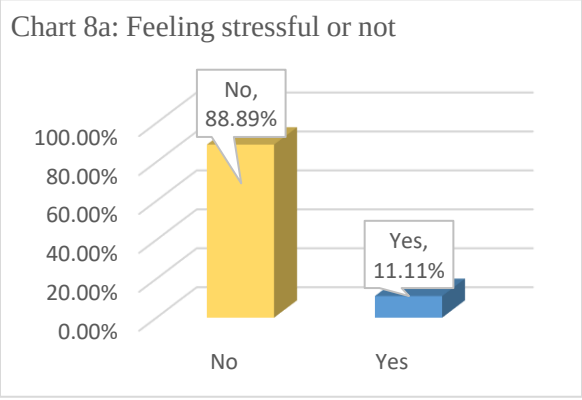


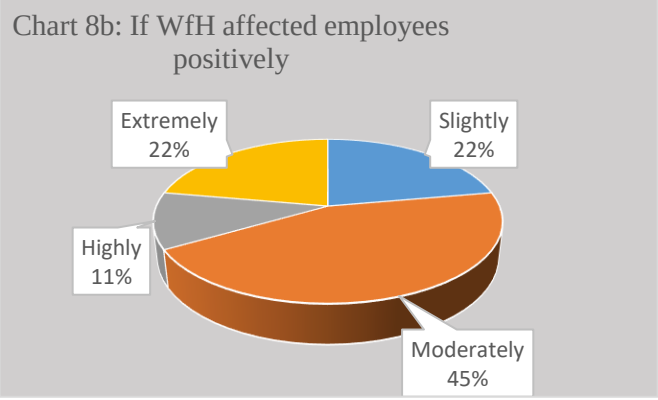


When they were asked about the likely impact of decreased Corona infection from WfH, 56% strongly agreed that this work modality would decrease risk of being infected by COVID-19 due to WFH. Of the respondents, 22% agreed about such decrease in Corona infection risk, but not as strongly as others just mentioned. However, 22% neither agreed nor disagreed on this count (Chart 7).

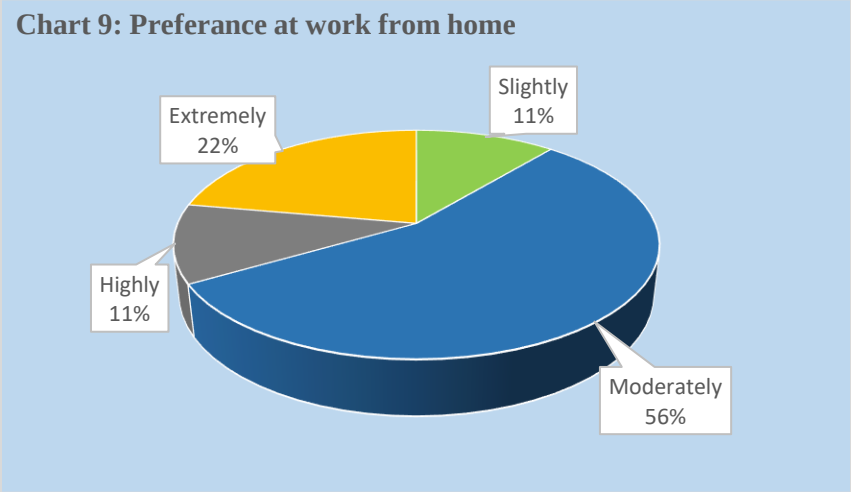
(iii) Perception about Satisfaction

When the employees were asked about whether WfH was stressful to them, 89% responded that this work modality was not stressful to them (Chart 8a). When they were asked if they thought WfH had affected them positively, 22% felt extremely that WfH had affected them positively, 11% felt highly and 45% felt moderately about the positive effect of WfH (Chart 8b).





When we asked the respondents about their preference work modality then 22% of them extremely preferred WfH to work from office, 11% expressed their high preference for WfH modality, 56% expressed their moderate preference of WfH over the other modality (Chart 9). None of the respondents preferred work from office to WfH which is very extreme in case of preference revelation. The question is whether their preference is time specific or not. Because of the prevailed pandemic situation the respondents expressed their preference toward WfH. In a normal condition they may not like WfH modality as strong as they expressed here.



5. Conclusion and Policy Recommendation

The most striking conclusion of this study is that there is a substantial savings on commuting cost and commuting time due to the adaptation of WfH work modality. There is a 67% decrease in commuting cost due to WfH. Another important gains from WfH is the savings on commuting time. There is a 68% decrease in commuting time due to WfH modality. It is a significant reduction in terms of commuting time. As a result, the respondents reported an average work hour of 8.2 during work from office whereas the corresponding figure for WfH is 9.8, a 19% increase in the working hours per day. This is a huge improvement on the work hours of employees.

Of the respondents, 67% strongly agreed that WfH had reduced risk of accident whereas 56% strongly agreed that this work modality would decrease risk of being infected by COVID-19. When the respondents were asked about their preference on work modality, 22% of them extremely preferred WfH to work from office, 11% expressed their high preference for WfH modality, 56% expressed their moderate preference of WfH over the other modality. None of the respondents preferred work from office to WfH which is very extreme in case of preference revelation. Another observation is that the respondents strongly opined about the positive aspects of WfH, but only

11% of the respondents agreed on the increase in productivity due to WfH. Therefore, we do not see a strong response in terms of an increase in employee productivity due to WfH.

The question is whether their preference toward WfH is time-specific or not. Because of the prevailed pandemic situation the respondents might have expressed their preference toward WfH. In a normal condition they may not like WfH modality as strong as they expressed here. We need to consider the fact that the WfH was forced on the institution due to the extraordinary situation created by the pandemic COVID-19. In case of adapting WfH modality in a normal condition they may show a strikingly different results indeed. The pandemic situation generally reduces the working spirit of any human being due to the prevailed fearful situation everywhere.

Therefore, CIRDAP needs to explore more on this work modality issue before it considers choosing WfH permanently. CIRDAP needs to experiment the impact of WfH modality on its employees as well as on its performances in a normal working environment with a larger sample of employees.

Appendix:

Survey Questionnaire: Work from Home Study

1. Basic Information of the Respondent

Name of the Employee:
a) Present Address:
b) Permanent Address:
c) Age in years:
d) Gender: (Male-1, Female-2)
e) The highest education degree achieved? (PhD-1, Masters-2, Graduate-3, Undergraduate-4)
f) From where do you come to the office?
g) What is the distance from your home to office?
h) What is your mode of transport to come to office and go back? (Private car-1, CIRDAP provided vehicle-2, Public transport-3, Walking- 4)
i) How many people living in your house?
j) What is your marital status? (Married-1, Unmarried-2, Divorced-3, Separeted-4, Widow-5)
k) 1. If married, do you have any children? (Yes-1, No-0)
2. If so how many?
l) How many of these children live at your home?

2. Tick (√) in the appropriate box for travel related questions

Item	Work from Office	Work from Home
	1	2
a) How much money do you spend as transport cost to come & return from office? (Tk/month)		
b) How much of time you need to come and return to the work-station? (hours/month)		
c) How much money do you spend on mobile bill to communicate with your supervisors/colleagues? (Tk/month)		
d) How much time do you spend preparing to go to the workstation? (Hours/month)		
e) Work hours/day		
f) Leisure/day		
g) During work from home how many days you have to come to office?		

3. Tick (√) in the appropriate box for work related questions

Item	Strongly No (0)	No (1)	Neither Yes nor No (2)	Yes (3)	Strongly Yes (4)
a) Do you think your productivity increased due to WFH?					
b) Do you think your concentration increased while WFH?					
c) Do you think your quality of work increased due to WFH?					
d) Do you think risk of having an accident decreased due to WFH?					
e) Do you think risk of being infected by COVID-19 decreased due to WFH?					
f) Do you more disturbed while WFH?					
g) Do you save the time that is needed to prepare to go to office due to WFH?					
h) Do you think there is a flexibility in working hours due to WFH?					
i) Do you think your work efficiency have increased due to flexible working hours in WFH?					

4. Tick (√) in the appropriate box for working environment related questions

Item	Yes (1)	No (0)
a) Do you have an office/ a separate room to work at home?		
b) Do you have all necessary facilities to WFH?		
c) Do you share home workspaces with spouse, children, and pets while WFH?		
d) Have you faced improper use of equipment while WFH?		
e) Is your domestic environment conducive to WFH and carry out the tasks required at home?		

f)	Have you faced in-house distractions while on WFH?		
g)	Do you have any child or dependent care responsibilities while WFH?		
h)	Is there any relationship strain or domestic violence that affect your actual ability to work while WFH?		
i)	Is WFH stressful to you?		
j)	Do you think that you will be psychosocially affected by WFH?		
k)	Do you need further equipment to improve your productivity while WFH?		

Item	Unsatisfactory (0)	Poor (1)	Moderate (2)	High (3)	Excellent (4)
l) How is your working area at home?					
m) How fast is your internet connection?					
n) How is your electricity supply?					
o) Regarding WFH, how well is your connection with your team members?					

5. Tick (√) in the appropriate box for work satisfaction related questions

Item	Not at all (0)	Slightly (1)	Moderately (2)	Highly (3)	Extremely (4)	Not able to Judge (5)
a) Do you enjoy WFH?						
b) Are you satisfied with the working condition that you have at home?						
c) Does your work affected by frequent electricity failure while WFH?						
d) Do you think WFH has affected you positively?						
e) Do you prefer WFH?						

f) Do you recommend WFH to your friends?						
g) By how much you have increased your work on average per day?						
h) How happy are you with WFH?						
i) How much productive do you see yourself?						
j) How comfortably/openly do you express your concerns while WFH?						

6. How many hours do you work on average per day?
7. Do you need further equipment to improve your productivity while WFH? If yes, what are they? Working Table/Chair/ Bigger Monitor/ High speed Internet/ Table Lamp/ reliable power supply/Any other. (Yes- 1, No- 0)
8. How many of your family members are on WFH?
9. How do you cope up with household chaos while on WFH?

   .....
   .....
   .....
   .....
   .....
   .....

10. What do you expect from your employer to improve your physical and mental welfare while on WFH?

    None……
    ……
    ……
    ……