

অসম চৰকাৰ



Government of Assam

REPORT ON ECONOMY OF ASSAM

IN THE BACKDROP OF COVID 19 PANDEMIC

STATE INNOVATION AND
TRANSFORMATION AAYOG (SITA)
GOVERNMENT OF ASSAM

IN COLLABORATION WITH
OKD INSTITUTE OF SOCIAL CHANGE
AND DEVELOPMENT: GUWAHATI
(AN AUTONOMOUS INSTITUTE OF
GOVERNMENT OF ASSAM AND ICSSR,
NEW DELHI)

MAY 2020



Sarbananda Sonowal



**Chief Minister, Assam
Guwahati**



MESSAGE

The novel coronavirus pandemic has put serious challenges to our society and economy. The Government didn't have any other alternative but to enforce lockdown on most of the social and economic sectors to prevent spread of this pandemic.

In past two months, the departments of the State Government though have been trying to bring back the affected sectors of economy to normalcy with resumption of activities, many sectors during the lockdown period have suffered enormous loss. The State Government has genuine concern to mitigate the sufferings of the people with certain rapid action plans. Towards this we have constituted an economic advisory committee to seek measures for revival of the economy of the state at the earliest possible.

I am pleased that the State Innovation and Transformation Aayog (SITA) has taken responsibility to assess and understand the severity of the pandemic on economy of the state and requested OKD Institute of Social Change and Development, Guwahati to come out with an assessment on economic impacts of Covid -19 with appropriate policy measures to drive the action plans.

I sincerely appreciate efforts of all members of SITA and faculty of OKD Institute of Social Change and Development for the quick but exhaustive impact assessment report on the State's economy. I believe that this report to a great extent will help to guide the policies and interventions of the state.

(SARBANANDA SONOWAL)





MESSAGE

The challenges posed by Covid-19 pandemic have made us duty-bound to assess our existing resources, infrastructure and capabilities to face challenges put by such eventuality. I believe that we will overcome the challenges soon.

Since March 2020, we have seen overwhelming supports from cross-sections of people to combat the pandemic. In addition to the direct services provided by the core groups of workers to ensure basic services including of health care, enormous support from the civil society is received on relief measures and care provided to the elderly.

Despite all the efforts made our concerns remain on the catastrophe caused to the economic sectors of the state and workers who have lost their livelihood. Our concern is also for the suffering of the migrant workers who have forced to return from other states of the country or will be returning soon. It is now our responsibility to restore all the affected economic sectors and create additional opportunities for decent livelihood. Towards this we need comprehensive plans and effective actions.

I sincerely appreciate the initiative made by the Hon'ble Vice Chairman and the entire team of SITA for the work on economy of the state amidst the Covid-19 pandemic. My appreciation goes to OKD Institute of Social Change and Development for preparing this valuable policy document. I believe that the policy measures presented in this report will contribute to overcome the crisis faced by the state.

(HIMANTA BISWA SARMA)



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MESSAGE

Covid-19 Pandemic has brought in unprecedented economic and social disasters across the world, and the state of Assam has not escaped from the sufferings. Projected economic slowdown, deceleration of GDP and severe magnitude of unemployment now looms large.

The developments necessitated an assessment and planning for immediate actions to overcome the predicaments to possible extent. It requires a quick but in-depth assessment on overall impact on the economy in general and all major economic sectors of the state in particular.

I am happy that OKD Institute of Social Change and Development responded promptly to State Innovation & Transformation Aayog's request and has come out with a thorough assessment on economic impact of Covid-19 for the state with policy recommendations. It is likely that with the effort made by the state till date some of the sectors of the economy will recover soon; but most of the economic sectors now need careful intervention and handholding support for some time.

It is important that we work proactively and convert the challenges to opportunities with resource provisioning and appropriate regulatory supports. I hope that this report shall act as directive for policy intervention and action to revive the economy of the state.

(Dipok Kr. Barthakur)



Kumar Sanjay Krishna, IAS
Chief Secretary



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MESSAGE

In the backdrop of Covid-19 Pandemic, our state, like the rest of the country and the world, has experienced unprecedented economic and social upheaval and suffering. Shadow of projected economic slowdown, deceleration of GDP and large-scale unemployment now looms large.

This development has thrown up a new challenge before us to adopt policies and strategies to support and augment our economic activities to mitigate the crises brought about by the unforeseen events. This brings us to the challenge of modifying our policies following identification and assessment of the overall impact on our economic scenario.

The move of the State Innovation & Transformation Aayog to pro-actively undertake a study of the economic impact of COVID 19 and recommend policy changes is a much needed and timely approach to the problem. The idea to involve stakeholders and experts on the field is, therefore, a welcome move.

It is heartening to note that OKD Institute of Social Change and Development responded promptly to the need of the hour and have developed a thorough assessment of economic impact of the pandemic in the state and have also made policy recommendations. It is hoped that with the right interventions, we can help some of the sectors of the economy to recover very fast and some may require additional support for a longer period of time.

I am sure all of us will spare no effort to convert the challenges and threats to opportunities by judicious reallocation of resources backed by necessary regulatory support. I hope that this report will be the first of the positive inputs for policy intervention and suitable action for revival of the economy of the state and enable us to achieve greater heights on the economic front.

(Kumar Sanjay Krishna)
Chief Secretary, Assam



FOREWORD

Novel Corona Virus (COVID-19) has created an unprecedented situation worldwide. India and Assam are also no exceptions. The disease has challenged the countries on two major fronts – one is the front of public health and the other is the economic front. Following the outbreak of COVID-19 unimaginable catastrophic impact has already been felt in the global and national economies. It is therefore, necessary that impact of the pandemic is objectively assessed so that adequate preparedness is built up at the state and local levels to battle against it and overcome the present crisis.

This study makes an attempt at assessing the impact of COVID-19 in the economy of Assam. The study has been carried out at the request of the State Innovation and Transformation Aayog (SITA), Government of Assam. The Institute wishes to sincerely thank Sri Dipok Kumar Barthakur, the Hon'ble Vice Chairman of SITA for initiating the idea of having a study of this kind and Sri Nitin Khade, IAS, CEO SITA and Commissioner and Secretary, Transformation and Development Department, Government of Assam for the confidence shown to the Institute for carrying out the task. Sri Manijyoti Baruah, OSD, SITA has been warmly encouraging and the Institute would like to thank him for his support. The Directorate of Economics and Statistics, particularly Ms Nirupama Talukdar, Joint Director, DES has been kind enough to provide the required data support in preparation of the report. The Institute offers thanks to the Directorate. We have also been benefited by the inputs provided by several people from the ground during this time of crisis. We thank them all. We would also like to thank the members of the advisory committee, SITA, Government of Assam for their insightful comments on the draft report which have been valuable in finalisation of the Report.

The report has to be prepared rather quickly in just 10 days due to the gravity and urgency of the situation. Therefore, many shortcomings must have remained. Nonetheless, the report contains critical insight and estimate related to the possible impact of COVID-19 on the economy of the state, and is expected to provide policy directions to the government. We hope that policy makers as well as general public will find the report useful.

Kalyan Das

Professor and Director in Charge

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CHAPTER 1

Approach, Perspective and Analytical Framework

- 1.1** The outbreak of novel corona virus (COVID-19) has created an unimaginable and unparalleled situation worldwide. The catastrophic effect of the present pandemic has been such that no country has ever experienced anything like this. In the past the world had experienced pandemics like the 'Spanish Flue' in 1918 and witnessed economic crisis during the 'Great Depression' between 1929 and 1934. However, the present crisis is unique in the sense that it is for the first time that both public health and economy are simultaneously getting terribly affected.
- 1.2** The spread, scale and severity of the present pandemic are also extraordinary. Almost all countries of the world have been affected by this pandemic, though with varying degrees. The disease COVID-19 first got detected in the Wuhan Province of China during the month of December, 2019. Within months, the disease has spread exponentially across the world. Globally over 33 lakh people have been affected by the disease together with a death toll of over 2.34 lakh so far and this is still continuing. Evidently, the economically advanced countries like the United States of America and those of Europe have been worst affected by the pandemic. Similarly, countries of Asia are also being affected enormously including economically significant countries like China and Iran. In India, already the number of COVID-19 cases has already crossed 30 thousand with the number of deaths nearing 1000; and the numbers are increasing continuously at a worrisome rate.
- 1.3** Clearly, the pandemic has unleashed series of disruptions and brought in abrupt changes on an array of dimensions affecting the day to day life of people as well as the usual functioning of economy, the governments and various other organisations including firms and industries. The sheer speed and the scale of spread of the pandemic have completely overwhelmed the countries' public health care systems bringing it to the verge of a collapse. The most obvious, direct and immediate impact of the pandemic, therefore, can be seen on the public health care system of the countries and the states and costs both direct and indirect of dealing with the situation. While the assessment of the impact of COVID-19 on public health is necessary and worthwhile for effective policy intervention, such assessment is not attempted in this report. This report focuses only on the impacts on the economy resulting from the COVID-19 outbreak, that too with reference to the economy of Assam. As such, some of the important dimensions such as mental health, behavioural change, impact on education, social and political ramifications etc., have also been kept outside the scope of the present report.
- 1.4** Alongside the obvious stress on the public health, the pandemic has already caused a colossal damage to the economy with its imminent impact for the days ahead. Modern economy relies on a web of extremely complicated *circuits of circulation*¹ including those of people, goods, services, taxes and finances which are not only intricately interconnected but also extend well beyond the limits of geographical territories of the countries and the states. The strength and wellbeing of the economy, in essence, depend on the ease and speed at which the web of circulation constituting the economy operates. Quite understandably the outbreak of COVID-19 has adversely affected this web of circulation in many ways. The assessment of economic impact of the present pandemic, therefore, mandates clear and comprehensive understanding as well as mapping of the circulatory networks of the economy. The overarching framework the assessment presented in this

¹Pierre-Olivier Gourinchas, 'Flattening the Pandemic and Recession Curves', in *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes* (London UK: CEPR Press, 2020), p. 33.

report is based on such an approach.

- 1.5** The assessment of the impact of the COVID-19 on the economy, however, is faced with several challenges. This is more so for an economy of a state. Essence of impact assessment lies in the extent of attribution. Nonetheless, the realised impact of COVID-19 is, by nature, cumulative or aggregative. Moreover, the process of cumulation occurs at different levels. For instance the realised impact of COVID-19 results from both the disease and the response to the disease. Since the world is still waiting for an effective drug to treat the disease, and since there is still no vaccine to prevent it, measures such as personal hygiene, social distancing have been adopted along with complete or partial lockdown to contain the spread of the disease and reduce the number of cases ((i.e. to 'flatten the pandemic curve') in order to keep the pressure on the health care system manageable. While widespread infection among population has obvious fallout in terms of loss of workdays of those infected, measures like lockdown whether complete or partial have far more widespread and severe consequences among the population in general even though rate of infection is rather low. The impact, therefore, combines the impact of the disease as well as that of the responses to it. Similarly, the overall impact is also a combination of what is happening globally, nationally and locally i.e. cumulation across spaces. For instance, even if locally the situation is well under control and lockdown is relaxed, the local economy is still going to be affected by what is happening elsewhere if the local economy depends substantially on outside economies for finished and produced goods, raw materials and intermediate goods, labour and employment etc. Besides, the realised impact will also contain spill over effects of the previous trends which can be termed as temporal cumulation. For instance if economy was already on a downslide prior to the outbreak of the pandemic then impact will have a reinforcing negative effect. Moreover, there will be sectoral overlaps of the impact - e.g. even if full relaxation is provided to one sector, the sector may not grow as expected due to the fact that other sectors on which it is dependent are not provided with required relaxation. Under such circumstances, a proper assessment of the economic impact (i.e. attribution of impact) of COVID-19 necessitates high frequency disaggregated data for a host of variables and well-defined models incorporating the dependencies over time, sector and space, which are difficult to obtain specially for a local economy.
- 1.6** Faced with the above challenges, and also given the paucity of time and many other limitations including that of availability of required data, the present study intends to highlight the cumulative impact on the economy in the state consequent on the pandemic. It may also be noted that the primary purpose of the present study is not to provide any estimates to be validated statistically, rather to gauge and highlight the scale and multidimensional nature of the impact that can be best anticipated. The study therefore is exploratory and diagnostic in nature and the estimates generated based on available data are, therefore, can be best viewed as indicative and directional.
- 1.7** Further, it is also to be noted that there are a host of uncertainties involved at the moment. At this moment no one really knows how severely the state is going to be affected by the pandemic and for how long, how many people will be affected in the state or in the country, how long it will take to reach the apex point of infection in the country and the state, whether there will be a requirement of another lockdown and if yes then for how many days, how lockdown will be implemented, whether lockdown will be relaxed in all states simultaneously or phase-wise, how lockdown will be relaxed sector and activity wise, whether there will be a second or successive waves of infection, how quickly drug or vaccine will be discovered and so on. In fact we know very little compared to what we actually don't know.

- 1.8** Given the uncertainties involved, attempts at arriving at robust estimation will be of little relevance and practical use. Arguably, more relevant and useful will be to anticipate different possible scenarios and then attempting at figuring out the consequences for each of the scenarios. Understandably, possible scenarios have to be constructed with a given set of assumptions – many of which can be quite restrictive. The consequences have to be derived based on simple models – at times intuitive ones. This allows flexibility to create other possible scenarios and the consequences accordingly. The present study adopts this flexible approach in order to accommodate the uncertainties. The parameters are, also, limited to only those which permit some policy interventions at the state level to make the study focused and policy relevant. Therefore, the findings of the study emphasise on what can be expected as fallout of the COVID-19 in the economy of the state given the various possible scenarios.
- 1.9** Based on the analyses, the report particularly highlights the areas where government of Assam can play a critical role to mitigate and/or to minimise the damaging impact of COVID-19 in the economy of the state. Given the shadow of myriad uncertainties, state government is desired to offer a sense of assurance. This is extremely critical at this point of time. Assam is still in the initial stage of COVID-19 spread. Already the government of Assam has taken significant pre-emptive steps to deal with the probable public health situation should the infection accelerates. Therefore, the report argues that this is perhaps the most opportune moment for the government of Assam to exhibit the urgency and resolution and to generate a sense of confidence among the different sections of people to counter the environment of negativity and uncertainty which is disastrous for an economy. Keeping this in view, the report intends to offer broad policy options in order to assist the government of Assam in this direction.
- 1.10** The report, accordingly, is divided into five sections. The first section outlines the approach, perspective and framework of the study. The second section offers the major macro-economic impact of COVID-19 on the state's economy. The third section highlights some specific impact of COVID-19 on selected sectors and areas of the economy. The fourth section discusses a few overarching impact following the pandemic. The fifth section concludes the report and presents broad policy options for meaningful interventions.

CHAPTER 2

Macro-Economic Impact

2.1 Overall macro-economic impact of the COVID-19 on the country and the state needs to be examined both in terms of aggregate supply and aggregate demand. It needs to be recognised that even before the COVID-19 pandemic has hit India, the economy of the country was already experiencing visible slowdown indicated by declining growth rates. Since beginning of the year 2018-19 (i.e. the first quarter) the growth of the GDP in the country has been continuously declining for successive quarters (Economic Survey of India, 2019-20, p.5). Consequently, the growth rate for 2019-20 in India has been estimated to be 5 percent, which is the lowest in the last 11 years marking about 27 percent fall over the previous year's (i.e. 2018-19) rate of 6.8 percent (CSO, Government of India). Evidently, economy of the country was already experiencing a contraction. Consequently, overall employment in the country got adversely affected. The Periodic Labour Force Survey (PLFS) of 2017-18 (NSSO, Government of India) reveals that not only has there been an unprecedented increase in the unemployment rate (i.e. 6.1 percent, the highest in last four decades) but that it has been accompanied by a fall in the absolute number of workers compared to the previous survey in 2011-12. It has also been estimated that some 62 lakh employment has been lost during *2011-12 and 2017-18*². Worsening employment scenario in the country, naturally, resulted in reduction in levels of income of people. Therefore, prior to the outbreak of COVID-19, economy of the country in general was going through a phase of economic contraction and falling aggregate demand.

2.2 It may also be noted that the overall economic situation of Assam, prior to the spread of COVID-19, was also quite similar to that of the country. Since 2017-18 the rate of growth of the state's GDP has been declining. For the year 2019-20, the rate of growth of the Gross State Domestic Product has been estimated at 5.8 percent which is 16 percent lower than the previous year (Directorate of Economics and Statistics, Government of Assam). Likewise, the PLFS 2017-18 estimates the state's unemployment rate at 7.9 percent, which was just 2.9 percent in 2013-14 (EUS, NSSO; Government of India). So the overall economy of the state was also experiencing slow down and the pressure of increasing unemployment.

2.3 Clearly, the outbreak of COVID-19 in the country and subsequent response to it in the form of lockdown has put further strains on the economy, and therefore, the economic impact of the pandemic anticipated being far more severe than what could have been otherwise. It has further aggravated the aggregated supply situation by halting productive activities and by disrupting the supply and value chains in the economy; and increased contraction in the aggregate demand by adversely affecting the income of the people. The combined effect of these has only accelerated the pace and process of economic slow-down already existent both in the country and the state.

Impact on Growth and Gross State Domestic Product (GSDP)

2.4 Economic growth is one of most important macro-economic aspects of an economy both in the intrinsic sense as well as in the instrumental sense. Economic growth implies increase in the productive and income generating activities, which is intrinsically

2 K P Kannan and G Raveendran, 'From Jobless to Job Loss Growth', *Economic and Political Weekly*, LIV.44 (2019), 38-44.

important for improvement in quality of life people enjoy, at least in the long run. However, the intrinsic importance of economic growth depends on the nature of the process of the growth. Instrumentally, economic growth is important to reduce unemployment and poverty, and enhancing revenue to the government. Therefore, any decline in the rate of economic growth is likely to impact the lives of people besides worsening the conditions of unemployment and poverty, and reducing the fiscal space and stability of the government.

2.5 Following the COVID-19 pandemic, globally there has been a consensus that the rate of economic growth will decline worldwide, including all major economies. The Economic Survey of India (2019-20) projected around 6.5 percent rate of growth for the Indian economy during the year 2020-21 (Vol. II, p.29). Several other agencies also projected growth rate of around 6 percent for the Indian economy during the year 2020-21. Due to the impact of COVID-19, various agencies have already lowered their growth projections for the Indian economy for the current year. As per the most recent releases the IMF has put India's growth rate at 1.9 percent while the World Bank and the ADB have put the rates at 2.8 and 4 percent respectively. Similarly, Moodys has projected 2.5 percent, Fitch at 1.8 percent, S & P at 3.5 percent, and India Ratings and Research has put the rate at 3.6 percent. The worst has been forecasted by Barclays at 0 percent. It is, therefore, possible to create at least three scenarios with 0 percent, 2 percent and 4 percent rates of economic growth giving the worst, moderate and the best scenarios for the Indian economy against the expected growth rate of 6.5 percent for the current fiscal. This implies that the Indian economy is going to witness a reduction in the anticipated growth rate by 6.5 percent in the worst possible scenario and by 2 percent in the best possible scenario.

2.6 The first Advance Estimate of National Income (CSO, Government of India; 7 Jan 2020) estimates GDP of India for the year 2019-20 at Rs. 147,78,879 crore at 2011-12 prices and Rs. 204,42,233 at current prices. Therefore, given the above best and worst scenarios, COVID-19 is expected to cause a reduction in the GDP of the country worth Rs 2.96 lakh crore to Rs 9.61 lakh crore (at 2011-12 prices). At the current prices this is equivalent to the worth of Rs.4.1 lakh crore to Rs. 13.26 lakh crore respectively.

2.7 The country's GDP is composed of the GSDPs of the state plus central government's income. It has been observed that Assam's GSDP, on an average, constitutes 1.65 percent of the *country's GDP*³. There, the rates of growth the state's economy for the year 2020-21 have been obtained as (-) 1.5 percent, 0.4 percent and 2.4 percent respectively for the worst, moderate and the best scenarios as defined earlier.

2.8 Unlike the country, there is no officially projected growth rate for the state's economy. However, given the general downward tendency over the last three years, the *projected growth rate*⁴ of the economy of Assam is obtained as 3.7 percent. Arguably, this would have been the rate of growth in the state had there been no COVID-19. Now any extra reduction in growth rate below 3.7 would indicate the impact of COVID-19 on the overall growth rate in the state for the year 2020-21. Therefore, as an impact of COVID-19 Assam's growth is found to be lowered by 1.3 to 5.2 percent. Accordingly, cumulative loss in GSDP for the year 2020-21 due to COVID-19 can be estimated as Rs 3219 crore to Rs 12877 crore at 2011-12 prices. The loss is equivalent to Rs. 4442 crore to Rs 17770 crore at the current prices. This is, however, contingent on the condition of the country's overall growth and any further worsening will only have a greater impact.

³ Calculated for the period 2011-12 to 2019-20 from the National Income Accounts as released by the CSO (new series, 2011-12 prices); standard deviation being 0.05 percent.

⁴ Linear Trend Projection of three years

Table 1: Assessed Impact of COVID-19 on Assam's Growth Rate

Scenarios/ Parameters	Worst Case (Indian Economy grows at 0 percent)	Moderate Case (Indian Economy grows at 2 percent)	Best Case (Indian Economy grows at 4 percent)
Projected Growth Rate of Assam 2020-21, (without COVID-19, based on three years linear trend)	3.7 percent	3.7 percent	3.7 percent
Estimated Growth Rate of Assam, 2020-21	(-) 1.5 percent	0.4 percent	2.4 percent
Impact of COVID-19 on Assam's Growth	(-) 5.2 percent	(-) 3.3 percent	(-) 1.3 percent
Value of Loss in GDP at 2011-12 prices	Rs 12877 crore	Rs 8172 crore	Rs 3219 crore
Value of Loss in GDP at current prices	Rs 17770 crore	Rs 11277 crore	Rs 4442 crore

2.9 The above estimates are indicative of the aggregate or cumulative impact of the COVID-19 on growth and loss in GSDP of Assam for the full year of 2020-21. The estimates therefore, also accommodate possible recoveries at the latter stage which off-set the initial losses incurred due to the outbreak of the disease and subsequent lockdown. However, lockdown in the country has been enforced since March 24, 2020, first phase of which ended on April 14, 2020 (21 days). The lockdown then extended till May 3, 2020 (19 days) with several relaxations to selected sectors. Hence, the period of lockdown overlaps two fiscal years i.e. 2019-20 and 2020-21. Nonetheless, assessment of impact of the lockdown can be useful for understanding the differential outcomes across sectors, and how inter-sectoral dependencies impact overall economy.

2.10 The assessment can be carried out on the basis of sector-wise average GSDP contributed per day together with the assumptions regarding the degree of economic activities affected by the lockdown considering various relaxations. For instance, some sectors have been completely shut-down while some sectors have been partially allowed. Also, economic activities, by nature, involve various time lags for full restoration. Considering all these one can construct different scenarios with the following model of simulation:

$$gsdp_i \times n \times \beta$$

Where, $gsdp_i$ is the contribution to GSDP by i th sector per day, n is the number of days of lockdown and β is assumed degree of loss of economic activities due to lockdown

Table 2: Estimated Loss due to Lockdown in terms of contribution to GSDP

SI No	Sector	Contribution to GSDP per day (in Rs crore) Current Prices	Assumed loss of activities in the first phase of lockdown (β)	Assumed loss of activities in the second phase of lockdown (β)	Total loss (In Rs crore) Current Prices
1	Agriculture, Forestry and Fishing	143	0.8	0.5	3875
1.1	<i>Crops</i>	104	0.8	0.4	2621
1.2	<i>Livestock</i>	11	0.8	0.5	298
1.3	<i>Forestry & Logging</i>	8	0.9	0.5	234
1.4	<i>Fishing and aquaculture</i>	21	0.7	0.4	483
2	Mining & Quarrying	103	0.9	0.6	3214
A	Primary (1+2)	246	0.8	0.5	6667
3	Manufacturing	115	0.9	0.9	4244
4	Electricity, Gas, Water Supply and other utility services	24	0.3	0.3	332
5	Construction	69	0.9	0.7	2284
B	Secondary (3 to 5)	211	0.7	0.6	5655
6	Trade, Repair, Hotels & Restaurants	134	0.9	0.9	4945
7	Transport, Storage, Communication and services related to broadcasting	46	0.9	0.7	1523
8	Financial Services	29	0.7	0.6	777
9	Real Estate, Ownership of dwelling & Professional Services	51	0.9	0.9	1882
10	Public Administration	78	0.5	0.3	1303
11	Other Services	101	0.8	0.6	2929
C	Tertiary (6 to 11)	438	0.8	0.7	13534
D	<i>Total GSVA at Basic Prices (A+B+C)</i>	<i>895</i>	<i>0.8</i>	<i>0.6</i>	<i>25955</i>
E	<i>Taxes (less Subsidies)</i>	<i>53</i>	<i>0.8</i>	<i>0.6</i>	<i>1537</i>
F	Gross State Domestic Product (D+E)	947	0.8	0.6	27463

- 2.11** Based on the sector-wise advanced estimates of Gross State Domestic Product (GSDP) at current prices (i.e. 2019-20 prices) (Directorate Economics and Statistics, Govt. of Assam) the model specified above produces scenarios as given in Table 2.⁶
- 2.12** Table 2 reveals that during the lockdown i.e. from March 24 to May 3, 2020 the state has lost approximately Rs 27463 crore worth of possible contribution to the Gross State Domestic Product (GSDP) which is about 8 percent of the GSDP⁷. Agriculture and allied sector in the state alone is estimated to face a loss about Rs 3875 crore. Manufacturing and Construction sector lost Rs 4244 crore and Rs 2284 crore respectively. Among the services the Trade and Hospitality sector has been a major loser with a loss of Rs 4945 crore. The Real Estate and Transport are two other sectors incurring substantial losses estimated as Rs 1882 crore and Rs 1523 crore respectively.
- 2.13** Most importantly, two things are to be particularly noted while looking at the estimated loss to GSDP consequent on the lockdown. First, the loss includes an estimated amount of Rs 6061 crore for the period March 24 to 31, 2020. This amount doesn't belong to the current fiscal 2020-21 for which overall loss to potential GSDP was estimated earlier. Therefore, loss during April 1 to May 3, 2020 comes to Rs. 21,402 crore. It is, therefore, can be expected that loss to GSDP resulting from the lockdown will be compensated to some extent as the economy gradually recovers provided the recovery sets in quickly. This simply implies that the delay in recovery will further the loss making it particularly challenging to recover and eventually irreparable.
- 2.14** The estimates provided in Table 2 consider lockdown till May 3, 2020. In the event of any extension of the lockdown, the loss will only increase and the additional loss can be estimated by using the same model. Clearly, any extension will increase the amount of loss and make the damage irreversible. The additional loss resulting from extension of lockdown can be estimated by the same method provided the degree of loss of economic activities (i.e. value of β) can be reasonably assumed. The estimates presented are also amenable to calibrations based on the choice of the parameter β . Notwithstanding, the estimates presented – both in Table 1 and Table 2 – clearly indicates the scale and severity of the economic impact of the lockdown on the GSDP of the state. The estimated loss, thus, represents the 'minimum loss' already occurred.
- 2.15** Further, any severe measure like lockdown typically has a "lingering effect", i.e. it takes quite a long time to normalise the situation and recover the economic activities completely. The recovery curve, therefore, is known to be 'U-shaped' curve rather than a "V-shaped" one⁸. This simply implies that after the lockdown is lifted the sectors will still continue to function sub-optimally in varying degrees due to combined effect of fear and uncertainty, inter-sectoral dependencies, loss of employment and income during the earlier period so on and so forth. One may also workout losses resulting from such phenomenon by extending the model to incorporate such 'after effects'. It is clear that longer is the period of 'after effect' larger will be the loss. This underlines the urgency of state-intervention for minimising the period of 'after effect'.

Impact on Employment and Income

- 2.16** One of the most obvious fallout of economic contraction in general and reduced

⁶ These scenarios are indicative, one can obtain different scenarios by changing the parameters of the model

⁷ The rate of growth of GSDP in Assam during 2019-20 has been estimated at 5.8 percent as per the advanced estimate. Taking this as the 'benchmark' instead of trend value 3.7 the decline in rate of growth for the current fiscal 2020-21 due to COVID-19 as worked out will be in the range of 3.4 to 7.3 percent. Given the fact that lockdown includes two financial years last week of 2019-20 and the beginning of 2020-21, the estimated loss of 8 percent of the GDP during the period of lockdown appears consistent.

⁸ Lekha Chakraborty, 'Covid-19 and Macroeconomic Uncertainty', *Economic and Political Weekly*, Vol. 55, Issue No. 15 (2020).

growth in particular is the increasing phenomenon of job-loss and rising unemployment. Notwithstanding, as mentioned before, an employment crisis has been brewing within Indian economy as well as in Assam even before the spread of COVID-19 in the country. Studies conducted based on NSSO data suggest that there has been a decline in the rate of growth in employment in the country since 2004-05 i.e. from 2 percent per annum to 0.4 percent per annum in 2011-12. Post 2011-12, the rate has become negative (-0.4 percent, during 2013-14 to 2015-16)⁹, i.e. instead of new jobs being created, there has been decline in the number of existing jobs. Similar negative trend of employment growth has also been indicated in the Periodic Labour Force Survey (NSSO, 2017-18)¹⁰.

2.17 Quite naturally, the declining employment growth (relative to the growth of labour force) increases the rate of unemployment. During 2013-14 and 2017-18 the unemployment rate in India has increased from 3.4 percent to 6.1 percent (NSSO). Likewise, increase in unemployment rate could also be seen in Assam during the period as the rate has increased from 2.9 percent to 7.9 percent. Therefore, it is evident that prior to COVID-19, the unemployment rate in the state was rising.

2.18 COVID-19 together with lockdown is, therefore, expected to further worsen the employment-unemployment scenario in the state. The magnitude and the processes of worsening, however, depend on several features of the labour market. According to the PLFS (2017-18), the worker population ratio in Assam is 43.7 percent which gives roughly 1 crore workers in the state in total¹¹. The PLFS data also reveal that 56.5 percent of the total workers are engaged as “self-employed”, while 25.1 percent are regular salary/wage earners and 18.5 percent are casual workers. In the rural areas these proportions are 57.5, 22.9 and 19.6 percent respectively. In urban areas 47.8, 43.4 and 8.8 percent are engaged as self-employed, regular wage earner and casual labour respectively.

2.19 The category of self-employed are overwhelmingly engaged in own account enterprises (in rural areas 51 percent and in urban areas 45 percent) which includes varieties of activities including agriculture, livestock and retail trade. From the PLFS data it can be estimated that there are near 56 people in the state who are engaged as self-employed. It is further estimated based on PLFS data that this category also includes close to 20 lakh people self-employed in agriculture. Therefore, total number of people self-employed in non-agricultural activities can be stated as 36 lakh. Evidently, impact of COVID-19 and subsequently lockdown is considerable among this section of people. Impact on those self-employed in agriculture is also significant but can be discussed separately.

2.20 The self-employed in non-agriculture is an umbrella category including small and medium entrepreneurs, petty and household producers, retailers, traders, manufacturers, transporters and other service providers. Out of 36 lakh of them about 80 percent are in the unorganised sector, operate on a small or medium scale and, therefore, lacks resilience to any kind of shocks. Therefore, it can be intuitively anticipated that due to the uncertainty generated by the spread of COVID-19 and disruption and shock induced by lockdown coupled with the lingering after effect this category of people will face increased vulnerability to losing livelihood. Faced with existing liabilities and fixed cost a section of them has to face closure or near closure. This will put tremendous additional burden on the existing condition of unemployment.

2.21 Clearly, the other most vulnerable group of people are the category of casual workers.

⁹ Vinoj Abraham, 'Stagnant Employment Growth', *Economic and Political Weekly*, LII.38 (2017), 14-17.

¹⁰ Kannan and Raveendran.

¹¹ The estimations are based on the age-wise projected population for Assam for 2021 as given by Report of the Technical Group on Population Projection for India and Indian States 2011-2036, Census of India, November 2019, considering population of 15 years and above

Based on PLFS, the estimated size of this category of people in the state will be about 19 lakh (18 lakh in rural areas and 1 lakh in urban areas). The PLFS also provides that the average earning of the casual worker in the state is Rs 261 per day. More than 90 percent of this category of people are engaged in the unorganised/informal sector on 'as and when basis' and mostly without any social security protection¹². Low earning, uncertainty of work, lack of social security provisions, and above all, unorganised nature of work have already pushed this category of people to vulnerable conditions.

2.22 Consequent to COVID-19 and lockdown, this category of people becomes further vulnerable on two counts - one, they can't go out seeking work and even if they go out they won't find any work either as nobody would take the risk of engaging them due to the fear of COVID-19 infection; and two, when the employers see drop in their revenue/earning in the face of lockdown and its after effect, they are likely to cut employment of those people. Since the lockdown 'after effect', fear and uncertainty are supposed to linger on, bulk of this category of people may become extremely vulnerable to losing their works.

Table 3: Probable Employment-Unemployment Scenario following COVID-19

Category of Employment	Present Estimate (in Lakh)	No of Workers considered highly vulnerable (in Lakh)	Probable Unemployment (in Lakh)		
			10 % Job-loss	20 % Job-loss	30 % Job-loss
Casual Employment	19	16	1.6	3.2	4.8
Self Employed in Non-agriculture	36	29	2.9	5.8	8.7
Self Employment in Agriculture	20	4	0.4	0.8	1.2
Regular Salaried	25	8	0.8	1.6	2.4
Return Migrant (fixed)	10	10	10	10	10
Total (1-5)	110	67	15.7	21.4	27.1
<i>Rate of Unemployment (percent)</i>	8		16	21	27

2.23 Though the category of regular salaried appears to be relatively better placed against any shock and disturbances, yet the category consists of sizable employments which are 'informal' in nature. The estimated number of regular salaried workers, as per PLFS, in the state is about 25 lakh. The PLFS data also reveal that about a third of them are 'informal engagement' without any formal contract, paid leave or any social security measures. Consequent on lockdown this section of employment become extremely vulnerable and eventually might face lay-off. It may, however, be noted that even formal ones may witness lay-off if situation turn worse.

2.24 Apart from all these, the COVID-19 has resulted in a huge return migration to the state. Though there is lack of reliable estimates, it is said that 6 to 10 lakh people, who have

¹² Survey on "Work and Well-being in Rural Assam", OKDISCD, Guwahati (survey conducted during December 2018 - April 2019, Sample Size 10181 households)

migrated out of the state in search of employment would return. They are unlikely to again go out at least in the near future. This group of people will also put pressure on the overall employment-unemployment situation in the state.

2.25 Table 3 tries to provide a synoptic view of the probable employment-unemployment scenario in the state arising out of COVID-19. It presents the estimated number of workers/employment across the most vulnerable employment categories. The Table then tries to see the impact of job-loss and/or employment contraction in three scenarios viz. 10, 20 and 30 percents. Accordingly, it is found that as a consequence of COVID-19 there is a probability that unemployment in the state will increase by additional 15.7 to 27.1 lakh people. As a result the unemployment rate in the state will increase up to the range of 16 to 27 percent from the present level of 8 percent. Therefore, consequent upon COVID-19 the rate of unemployment in the state will double or triple.

2.26 Increase in unemployment will have a negative impact on income both directly and indirectly. Those who will loss employment will have reduced income as a direct effect. But most importantly, increase in unemployment will put a downward pressure on the general wage level, especially in rural areas. As a result of these twin processes aggregate demand will further shrink, and recovery will become extremely difficult.

Impact on Poverty

2.27 While on one hand increase in unemployment and decline in income is expected to shrink in aggregate demand and make the recovery difficult, this on the other hand is going to increase the incidences of poverty with far reaching socio-political implications. This is more so since 53.7 percent of the households in Assam has single earner¹³.

2.28 As per the latest NSSO estimate (2011-12) poverty head count ratio in the state stands at 32 percent. In the rural Assam poverty rate is estimated as 33.9 percent and urban poverty at 20.5 percent. A decompositional analysis of poverty for the state indicates that in the rural areas incidence of poverty is particularly high among the agricultural casual labourers (68.2 percent) and also non-agricultural casual labourers (38 percent). Similarly, urban poverty too is found to be high among the casual labourers (45.7 percent), and also among the self-employed (29.7 percent)¹⁴. It is, therefore, found that the casual labourers – both in rural and urban areas and the category of people who are self-employed, especially in urban areas – are most vulnerable consequent on COVID-19 and lockdown, and as mentioned earlier are expected to suffer even more.

2.29 Using the NSSO unit level data¹⁵ it is possible to examine the sensitivity of the poverty rates to any fall in the levels of income (and consumption) in order to gauge the impact of COVID-19 on various section of population. Accordingly, three scenarios have been examined i.e. with 5 percent, 10 percent and 15 percent fall in income due to the probable impact of COVID-19 on economic growth and employment as discussed earlier.

2.30 Table 4 presents the sensitivity of poverty among different sections of people in the state. While a fall in income (and hence consumption) will, quite naturally, result in increase in poverty, the pattern of increase in poverty will vary across different categories of people. The results presented in Table 3 are highly instructive for public policy.

¹³ *Employment and Unemployment Survey (EUS), NSSO, 2013-14*

¹⁴ Joydeep Baruah, 'Poverty in North East India: An Overview', in *Social Sector Development in North East India* (New Delhi: Sage Publications, Forthcoming).

¹⁵ *Consumer Expenditure Survey Data, NSSO, 68th Round, 2011-12 (using Tendulkar Poverty Lines)*

Table 4: Sensitivity of Poverty Ratios to fall in Levels of Income

Category	Poverty Ratio, 2011-12 (Percent)	Poverty Ratio with 5 percent fall in income	Poverty Ratio with 10 percent fall in income	Poverty Ratio with 15 percent fall in income
1. Assam - Total	32.0	37.7	43.8	50.8
2. Assam - Rural	33.9	39.7	46.4	54.0
2.1 Self-employed in agriculture	32.9	37.6	46.8	55.3
2.2 Self-employed in non-agriculture	29.3	35.9	41.2	48.4
2.3 Regular salaried	28.2	32.3	36.6	42.3
2.4 Casual labour in agriculture	68.2	81.3	83.9	88.0
2.5 Casual labour in non-agriculture	37.9	46.3	50.8	60.1
2.6 Others	11.1	13.9	16.0	19.7
3. Assam - Urban	20.5	23.9	25.6	28.4
3.1 Self-employed	29.7	32.9	34.2	36.4
3.2 Regular Salaried	7.3	8.3	9.8	11.5
3.3 Casual Labour	45.7	48.1	48.5	55.5
3.4 Others	12.8	25.5	31.4	37.4

First, rural poverty is more sensitive to fall in income compared to urban poverty. Second, in the rural areas even a small drop in income for casual labour in agriculture will result in substantial increase in poverty among them which typically implies that they are extremely vulnerable to adverse impact of COVID19 and lockdown. Third, those self-employed in rural areas (which include self-employed in agriculture) suggest resilience for small fall in income but are sensitive to major drop in their income. The policy options, accordingly, have to be different. If poverty rate is highly sensitive for small change in income then immediate cash support may be necessary. If however, poverty rate is found to be resilient for small changes but sensitive for major drop in income than other support system may be necessary. These are discussed in some detail in the concluding section.

Impact on the State's Public Finance

2.31 Apparently, condition of the state's public finance depends on the overall of economic outlook and growth prospects in the economy. For the year 2020-21, the government of Assam has budgeted for Rs. 1.05 lakh crore receipt (i.e. Rs 91.9 thousand crore revenue receipt and Rs.13.4 thousand crore capital receipt), and Rs 1.03 lakh crore expenditure (i.e. Rs. 82.7 thousand crore revenue expenditure and Rs. 20.9 thousand crore capital expenditure) thus having Rs. 1.5 thousand crore surplus.

2.32 It is seen from the budget 2020-21 that 56.33 percent i.e. Rs 59.29 thousand crore of

the total revenue receipt of the state comes from the central government which includes share of central taxes (25.44 percent), finance commission grant (10.50 percent) and central transfer on account of central sector schemes (20.39 percent).

2.33 It may be noted that the tax-GDP ratio in India for the year 2019-20 as well 2020-21 (budgeted) stood close to 10 percent. Given the present condition of the Indian economy it is unlikely that the tax GDP ratio will improve this fiscal; rather the ratio can dip further downward. Even if it remains 10 percent, since the GDP is projected downward, the gross tax revenue of the central government will be adversely affected. As per the 15th Finance Commission's recommendations (beginning from current fiscal 2020-21) the total share of the states is determined at 41 percent of the divisible pool. Out of this Assam's share is 3.131 percent. Therefore, it is possible to project the state's share of central taxes based on the three growth scenarios of 0 percent, 2 percent and 4 percent for the Indian economy. The three scenarios are presented in Table 5.

Table 5: Impact of COVID-19 and lockdown on State's Revenue (in Rs Crore)

Scenario/Revenues	India's Growth		
	Scenario I	Scenario II	Scenario III
	0 percent	2 percent	4 percent
Budgeted Share of Central Taxes, 2020-21	26776	26776	26776
Share of Central Taxes (estimated)	21115	21537	21959
<i>Shortfall in share of Central Taxes (A)</i>	<i>5661</i>	<i>5239</i>	<i>4817</i>
Budgeted receipt for CSS, 2020-21	21463	21463	21463
Estimated receipt for CSS	15024	17170	19317
<i>Shortfall in receipt for CSS (B)</i>	<i>6439</i>	<i>4293</i>	<i>2146</i>
Budgeted own tax revenue, 2020-21	23210	23210	23210
Expected own tax revenue	17074	17403	17750
<i>Shortfall in own tax revenue (C)</i>	<i>6136</i>	<i>5807</i>	<i>5460</i>
Total Revenue Shortfall (A+B+C)	18236	15339	12423

2.34 Similarly, faced with fiscal constraints the central government would have to cut down spending on CSS barring some critical one like MGNREGA and NHM. Assuming the declines in spending in CSS by 10 percent, 20 percent and 30 percent for best, moderate and worst case expected shortfall in central transfer on account of CSS can be obtained. Likewise, when the state's own gross domestic product witnesses slump, the state's own tax revenue would decline as well. Similarly, state's own tax usually comes to 7 percent of the GSDP. Based on this expected own taxes have been estimated.

2.35 Combining all three potential shortfalls in revenue i.e. in share of central taxes, CSS and own tax it is estimated that for the current fiscal 2020-21 Assam's revenue receipt may suffer a total loss of Rs. 12423 to Rs. 18236 crore.

CHAPTER 3

Impacts on Key Sector

3.1 The foregoing section broadly depicts the possible macro-economic situation in Assam arising out of COVID-19 and subsequent lockdown. The changes anticipated in the macro-economic front will have ramifications on various sectors i.e. primary, secondary and tertiary sectors of the economy. This section makes an attempt to highlight the major sectoral impacts of COVID-19 in the state. Focus has particularly been given on the plight of the people engaged in various key sectors and attention has been drawn thereby towards the possible trends as well as issues need to be addressed.

Impact on Agricultural Production

(a) Paddy Production

3.2 Data show that the summer paddy i.e. paddy transplanted during November-December and harvested during May-June accounts for 16.5 percent of total area under paddy in Assam accounting for 22.4 percent of the total paddy production. On the other hand, the autumn paddy i.e. paddy transplanted during March-April and harvested in June-July accounts for 6 percent of the area under paddy cultivation and 3.7 percent of production the state (Economic Survey 2018-19, Directorate of Economics and Statistics, Assam).

3.3 At present there is no information on reported loss caused to the summer paddy in the state due to Covid-19 and/or lockdown. According to a tentative estimate, in Assam for the year 2018-19, there has been a damage of summer paddy to the extent of about 11 percent caused by animal and birds, pest attack, abnormal weather, floods, disease and weed infections (DES, Government of Assam). It, therefore, appears that the maturing period of summer paddy has passed through the present phase of COVID-19 and lockdown and, hence, there is no impact on production and yield of summer paddy.

3.4 Data also indicates diminishing importance of autumn paddy in the state as most of the farmers have now opted for maize and vegetables cultivation. The farmers this season have got reasonable time for good production of autumn paddy, maize or a round of vegetables. However, the situation suddenly arising out of COVID-19 and subsequent lockdown has badly affected the harvesting and marketing causing visible wastages especially in vegetable production.

3.5 There are, however, some important concerns regarding probable impacts on the ensuing winter paddy cultivation in the state. One of the immediate and obvious concerns is the lack of operational capital to a large section of farmers who were unable to find market for their crops including vegetables during the last couple of months due to the lockdown. The lack of money for making the necessary investment in agriculture for the coming season will, however, be not limited to only this section of farmers.

Studies¹⁶ show that remittances made by out-migrant workers play a significant role in investment in agriculture sector in Assam.

3.6 Census 2011 put the figure of out-migrants for work from the state at 6.34 lakh out of which 72.8 percent are intra-district migrants, 19.7 percent are inter-district migrants, 4.6 percent are inter-state and the rests are international migrants. Various estimates

¹⁶ R Mahanta (2019) 'Out-migration, remittance and its socio-economic consequences in Assam', mimeo, OKD Institute of Social Change and Development, Guwahati; K Das (2020), 'Unemployment and outmigration for work from Northeast India: How does it ensure economic wellbeing', in *Social Sector Development in Northeast India*, Sage (forthcoming)

indicate that presently some 15 to 18 lakh people of the state are working outside the state. Government of Kerala (2013) estimates that in Kerala alone there are some 4.32 lakh workers from Assam whose average annual per capita remittance stands at Rs. 64,000 (i.e. a little over 5000 per month). It is, further, found that close to 16.5 percent of the remittance received are used for *agricultural investment and operations*¹⁷. Therefore, the total amount invested in the agricultural sector of Assam from the money remitted by the out-migrants could be Rs. 175 crore from the intra-state migrants alone (considering that they migrate seasonally for about four months during the year). Besides, depending on the estimated number of inter-state out-migrants the Assam's potential investment in agriculture from the remittance can be within the range of Rs 670 crore to Rs. 1900 crore annually. Moreover, remittances made by the migrant workers are also used to invest in small tea garden initiated by the family members. It is found that when plantations attain maturity, the migrants return to their villages¹⁸.

3.7 It has been estimated that average operational cost of paddy per hectare in Assam is Rs 41,819¹⁹. Therefore, required amount for operation of 18.8 lakh hectares of winter paddy in the state stands at Rs. 7862 crore (or Rs. 3467 crore if cost of family labours is not accounted). The investment out of remittance, thus, constitutes 11 to 25 percent of the total investment for winter paddy in the state. The large scale return migration due to COVID-19 and lockdown effect as discussed earlier, therefore, will not only put pressure on the employment scenario of the state, but will also have a suppressing impact on agricultural investment of the state to the extent of 10 to 20 percent. The return migration, thus, will have twin impact – direct impact in the form of increasing unemployment and indirect impact in the form of loss of capital investment in the state's economy.

3.8 Clearly, lack of investment in agriculture will bring reduced income to the farmers. And those with agricultural credit will immediately experience a distressful situation. Further, the anticipated drop in the agricultural investment in the state in the coming season will adversely impact the agricultural labourers forcing them to move out from farm sector. Limitations of the non-farm sector to absorb the additional labour coming out from the farm sector together with the large scale return migration will produce a surplus labour supply which in turn will have a dampening impact on the average wage rate. Consequently, there is a possibility that the general wage will tend to fall to the bare subsistence level.

3.9 Data on cost of cultivation (Ministry of Agriculture, Government of India) show use of 19.5 person days of casual workers in paddy cultivation per hectare in Assam and withdrawal of the casual workforce to entire extent would lead to loss of 284 to 366 lakh person days²⁰ of jobs in the winter paddy season. This figure is equivalent to creation of jobs for 3.66 lakh person with assurance of 100 days of work under MGNREGA, even though wage rate is not considered. Further, lack of investment in agriculture could force the farmers to reduce hiring of machineries for farm operation; which has an additional dimension to rural employment generation.

17 R Mahanta (2019)

18 C K Sharma and Prarthana Barua (2017) 'Small Tea Plantation and Its impact in Rural Landscape of Contemporary Assam', *International Journal of Rural Management*, Vol. 13 (2) Sage Publications

19 As per Cost of Cultivation Data, Ministry of Agriculture, Government of India. This amount includes costs of family labour and attached labour (44.1 percent), hired labour (13.4 percent), animal labour (24.0 percent) and machinery or power tiller (9.2 percent), fertiliser and manure (3.8 percent), seeds (2.7 percent), irrigation (1.1 percent) and interest on working capital (1.7 percent).

20 Survey on "Work and Well-being in Rural Assam", OKDISCD, Guwahati (survey conducted during December 2018 – April 2019) estimates agriculture labour at 2.5 percent of the total workforce in the state or 2.84 lakhs to as per Census 2011 while DES (2016 – 17) estimates agricultural labourer at 3.66 lakh.

3.10 Overall it is thus evident that the cumulative impact of COVID-19 and lockdown will be felt as cascading effect on paddy production not only directly but as a cumulative process of a series of direct and indirect effect.

(b) Maize Production

3.11 As reported the lockdown period did not affect operation and harvesting of maize in Assam. Maize at present is exhibiting growing importance in economy of Assam as farmers preferring maize over autumn paddy. Area under maize cultivation was 23,700 hectare in 2012-13 and produced 21.3 thousand tones with productivity level of 897kg/ha. The area under maize cultivation in the state has increased to 32,264 hectare i.e. increased by 38 percent in 2018-19 and produced 105 thousand tones with productivity of 3254kg per hectare (Directorate of Economics and Statistics, Assam).

3.12 The main significance of maize production in the economy of Assam lies in its demand as poultry feeds and fodder for livestock, in addition to direct human consumption. It appears that the crop has a well established supply chain to market, and many agencies are currently supplying the corn seeds and procuring the products thereby ensuring decent return to the farmers. The rapid expansion of area of maize in the state reflects significance and remunerative nature of this crop.

3.13 COVID-19 and lockdown has disturbed the supply chain of corn seeds and the marketing channels of maize in the state. This is anticipated to directly impact on the production and income of the farmers. Secondly, this will have cascading impact on the livestock sector as the quantity of feeds and fodder produced internally is expected to decline and with lockdown getting feeds from outside is difficult. Restoration of the supply chain, thus, is essential for growth of the crop and also for the livestock sector. Inter-sectoral linkage is essential for self-sufficiency in livestock sector.

(c) Pulses

3.14 The state produces just 1.13 lakh MT of pulses of all varieties in 1.5 lakh hectares of land with productivity level of 755 kg per hectare (DES 2018-19, Government of Assam). The area and production share pulses is rather insignificant in the state's economy. Moreover, it is reported that COVID-19 and/or lockdown did not have major impact on the sowing and harvesting season of this Rabi crop.

(d) Vegetables

3.15 The state produced 37.65 lakh tonnes of vegetables during the Rabi season of 2018-19 (DES, Government of Assam). The state's agriculture department has put the total loss of vegetables during the first month of lockdown (i.e. till April 18, 2020) at 10136 tonnes, which is very minimal compared to the total production of vegetables in the state. Notwithstanding, taking the average price of 15 commonly used vegetables (excluding however, relatively non-perishable potato, onion and pumpkin) at Barpeta district wholesale market the value of the total loss is estimated at Rs. 38.52 crore²¹.

3.16 Even though the loss estimated by the agricultural department appears as minimum, sudden loss triggers a sense of insecurity and uncertainty among the farmers. This prevents farmers from taking risks and going for cash crops in absence of required infrastructure and support. Therefore, as a long term impact, one can anticipate a marked shift from cash crop to traditional cultivations which would suppress income of a sizable section of farmers.

²¹ Data from <https://market.todaypricerates.com/Barpeta-vegetables-price-in-Assam>, as on 24th April, the average being Rs. 38 per kg

3.17 In the short run those facing losses may see shortage in working capital for the coming season's winter paddy. Therefore, the impacts on account of loss in vegetables production are more indirect and cascading than direct monetary loss.

(e) General Fruits Production

3.18 As per available data the state produces 21.46 lakh MT of fruits in 1.45 lakh hectares of land. Production season of important fruit crops such as pineapple, orange, guava, litchi and mango – accounting for 27.8 percent of the area and 33.5 percent of the production – has not come into conflict with the COVID-19 lockdown period. Besides, production of papaya, jackfruits, lemon and some miscellaneous fruit crops accounting for 29 percent of the acreages and 22 percent share of the total fruit production has not reported any loss during the lockdown period.

3.19 However, taking into account about one percent loss in the total fruit production in the state (as in the case of vegetables) and considering average market price of these varieties at Rs. 30 per kg, it is estimated that the general loss could be some Rs.15.25 crore during the period of lockdown. The loss cannot be considered as insignificant for rural economy, since otherwise there was an established supply chain with ready and assured market.

(f) Banana Cultivation

3.20 The state has an area of 51.11 thousand hectares of land under banana cultivation, and produced 9.18 lakh MT of banana in 2018-2019 (DES, Government of Assam). The hinterland of Darrangiri market in Goalpara district produces around 40 thousand MT of banana which accounts for 4 to 5 percent of the total banana production of the state. There have been reports of wastage and distress selling of banana in Goalpara due to *lockdown*²². It is reported that the banana farmers had to face losses as the prices have come down by 53 to 62 percent depending on varieties.

3.21 The Darrangiri market receives on an average 113 MT of banana per day. The estimated value of sale during the period of lockdown – without any wastage – comes close to Rs. 1.8 crore. With about 30 percent wastage, which is the most likely case – this figure becomes Rs 1.2 crore. Since the average monthly turnover of the market is roughly Rs. 4 crore, it suggests that due to lockdown the farmers incurred a loss of about Rs. 3 crore.

3.22 On the whole, the state produces banana worth of Rs. 90 crore in a month. Assuming that 50 percent production comes to the market and with an average price fall of 40 percent together with 30 percent of wastages the total loss in banana is estimated as Rs. 32 crore. The horticulture sector, given an assured market, has its importance toward raising income of the farm households. Besides the farmers, the sector provides livelihood to a large section of people engaged in trade and carriage of the products. The loss in the sector, thus, affects a large section of population well beyond the farmers.

(g) High value Horticulture Crops

3.23 During the last few years many entrepreneurs – particularly the educated and young ones have started cultivating various high value horticultural crops in different pockets of Assam. Starting with the establishment of the input supply chain and exploration of market to the learning by doing and experimenting and bringing innovations, these entrepreneurs have done everything on their own. This was a welcome development and demand for high value fruits and vegetables like strawberries, watermelon and capsicum emerged to cater to the growing demand of the upper-end market due to

sheer entrepreneurial efforts of the farmers. Initiation of strawberry cultivation is seen in the northern districts of Brahmaputra valley having markets at Guwahati, Kokrajhar, Bongaigaon, Barpeta and Kajolgaon and even in Bhutan.

3.24 However, there is no macro level data to assess the quantum of loss in these crops. Months of March and April are the peak harvesting season for strawberry. It is reported that the average yield of strawberries in the state stands at approximately 100 quintal per hectare and average wholesale price of strawberry is Rs. 350 per kg. Therefore, the farmers who have started cultivating strawberry in just one bigha can get a return of about Rs. 4.2 lakh in a season.

3.25 Notwithstanding, some of the farmers have reported that due to lockdown prices for their product fell up to the extent of 60 percent. This suggests a loss of about Rs. 2 to 2.5 lakh per bigha. Since the number of such cultivators is small, the overall loss may not be very significant. But impact of such loss may be seen as a dampening effect on the individual entrepreneurship recently developed in the state.

3.26 There have been similar entrepreneurial efforts in cultivation of watermelon in the state recently. The sandy soil in the river banks of tributaries of Brahmaputra and chars in the Brahmaputra offer opportunities for water melon cultivation in massive scale. Watermelon seeds are transplanted in the months of February and March, and fruits mature in about two and half with the season continuing till June. The price of watermelon is Rs. 25 per kg. However, during the lockdown its price went up to Rs. 80 kg because of breakage of the supply chain and shortages in the supply. On the other hand the disruption in the supply chain has resulted in huge wastages of the matured fruit. Due to non-availability of data loss can't be adequately measured. There are, however, reports that farmers have faced sizable losses due to lockdown.

(i) Tea Sector

3.27 Tea is a major contributing sector to the economy of the state. The lockdown has severely hit the sector. According to the North Eastern Tea Association, the sector has seen a loss of Rs.1218 crore during the period of lockdown²³. The estimate is based on the prospective loss of revenue in the sector during the period at an average price of Rs. 152.26 per kg of tea. Similarly, the All Assam Small Tea Growers' Association estimates the loss in the small tea-growing sector at Rs. 500 crore²⁴. The loss is primarily attributed to overgrowth of tea leaves as these could not be plucked in time due to lockdown.

3.28 The big estates are resilient and better equipped to face this kind of sudden shock. The smallholdings tea sector, however, has particularly become vulnerable amidst COVID-19 and lockdown. It may also be noted that erratic rainfall and un-remunerative price fetched last year had already aggravated the crisis in smallholding tea sector of the state pushing many farmers to mere subsistence income. The sector plays an important role by not only supporting the bought leaf tea factories (BLTF) but also by absorbing a huge workforce in services like packaging, transportation, supply of pesticides and fertilisers besides direct employment of labour in the garden. Although data on employment in small tea garden in the entire value chain are not readily available, even by conservative estimates of four persons per hectare of plantations the figure could be about 3 lakh – considering both production and distribution processes.

3.29 It may be mentioned that the relaxation provided to the sector and opening of tea auction since April 24, 2020 show improvement in auction price by 15 percent to the pre-lockdown level which could compensate the loss to an extent by the end of year.

²³ As reported in the Times of India, April 16, 2020

²⁴ As reported in The Economic Times, April 21, 2020

(j) Rubber

3.30 The state has 58 thousand hectare of rubber plantation with an annual production of 24.3 thousand tonnes²⁵. Typically, the tapping season gets over by February. Next tapping season was to resume from March end or early April. Therefore, the sector clearly suffered a month of tapping activity due to the lockdown. Study²⁶ indicates that decreasing the duration of tapping-rest from three months to zero does not induce any significant higher yield per tree over the six years of tapping. Therefore, one month of lockdown should not induce variations in the annual yield of latex.

3.31 The concern however arises on account of loss of income flow to the rubber tapers, smallholder planters and persons associated with preparation of Ribbed Smoked Sheets (RSS). Considering weekly yield of 0.150 kg latex from one rubber tree, estimated weekly collection of latex would be 18.75 kg which, in turn, would yield about 4.7 lakh kg of RSS sheets in a week to be sold at Rs. 140 per kg. Accordingly, loss of one week's work would result in an overall income loss of Rs. 6.5 crore (or about Rs. 26 crore in a month or about 1.66 lakh person days of work in a month) to the rubber tapers, smallholder planters and other persons associated the sector²⁷.

Impact on Livestock

(a) Poultry

3.32 The poultry sector (chicken in particular) of Assam has faced challenges on two fronts during the lockdown period. First, during the initial days of lockdown, the demand for poultry shrunk drastically owing to the rumour that consumption of chicken spreads COVID-19. Second, the farms experienced acute shortage of feeds supply leading to distress-sale of poultry.

3.33 There are about 80 thousand poultry farms in the state, and most of them run on sub-contract system. A few (estimated to be about 50) big companies give them the chicks to rear for about six weeks till the chicks get ready for meat. The companies also supply feeds and procure the mature chicken at an assured price. Average weekly supply of chicken to the markets of the state from internal production is about 25 lakh birds at an average weight of 1.5 kg costing about Rs. 135-150 at wholesale price, which fetches about Rs. 200 to 220 per kg of dressed meat in retail market. Usually, a chick is supplied to the farmers at Rs. 50 per chick (mostly sourced from outside the state) and it requires about 3.5 kg of feed during 6 weeks of rearing period which could amount to a minimum cost of Rs. 60 considering that different composition of feeds to be given for starter, growing and finishing stage. Moreover there are costs of electricity and maintenance. Leaving aside the fixed costs and costs of labour, a chick yields an average margin of Rs. 60 to 75 to the farmer in normal situation and rearing of 125 chicks would yield about Rs. 10,000/ for a farmer in a cycle of 45 days. It is observed that during the first three weeks of lockdown there was distress sale of whole chicken at an average price of Rs 50 to 60, which resulted in average loss of Rs. 90 per chicken. Therefore, estimated weekly loss in this sector could be about Rs. 23 crore or about Rs. 90 crore in one month.

²⁵ Lok Sabha unstarred question no 2798 dated 10.7.2019

²⁶ P Chantuma (2017) Effects of different tapping rest periods during winter and summer months on dry Rubber yield of *Hevea Brasiliensis* in Thailand, *Journal of Rubber Research*; 20-4, December

²⁷ This is a conservative estimate; but is well evident from low labour intensity of 0.6 per ha in Kerala. B P Remesh (2010), *Dynamics of Rural Labour: A Study on Smallholding Rubber Tappers in Kerala*, Concept, New Delhi.

(b) Dairy

3.34 As per the Livestock Census, 2012, the state has about 1.03 crore milch cattle of which about four lakh (i.e. 3.9 percent) are crossbred cattle for commercial rearing. In addition, there are about 4.35 lakh milch buffalos. Milk production in the state has been 945 million litres in 2018-19 (DES, Government of Assam). Data also reveal that indigenous cattle account for 53 percent of the total milk production of the state, while the contribution of crossbred cattle is 31.5 percent; the rest being contributed by buffalo (13 percent) and goats (2 percent). Productivity is though low (per livestock 46.7 litres/year or 0.13 litres per day), the indigenous cattle and buffaloes are the main source of milk production in the state ensuring household nutritional security. Productivity of cross-breed cattle on the other hand is much higher at 746 litres per year or about 2 litres per day per livestock. Study²⁸ reveals that about 3 percent milch cow and 2.2 percent buffalo in the state are reared in collective or cooperative mode. It may, therefore, be said that the production of milk from the indigenous breed of livestock is primarily used for domestic or local consumption, and the effect of lockdown should be minimum in this segment.

3.35 Estimates based on available data show that production from cross breed milch animal and buffalo together account for 35 million litres of milk in a month in the state, and this quantity is largely meant for market. It is reported that the dairy farmers from the neighbourhood areas of Guwahati supplies about 148 thousand litres of milk everyday to Guwahati city²⁹. The lockdown though had broken the supply chain in initial few days and it was restored after a week. Still the lockdown resulted in a decline in effective demand by 50 percent, largely caused by closure of the trade and commercial establishments of the state. The sector however, has been able to regain the momentum and compensate loss to an extent by concentrating on certain value added products like paneer, cream and sweets having reasonably high market demand.

3.36 Given the assumption of decline in demand by 50 percent, it is estimated that the dairy sector of the state has failed to procure about 17.5 million litres of milk in 30 days. Naturally, this loss was transferred to the farm households. There have been, however, reports that some farmers resorted to distress selling at a price much lower than the usual price. Leaving aside distress selling and considering the price as Rs. 35 per litre at the source, the loss incurred by the dairy sector for one month of lockdown is estimated at Rs. 61.25 crore. In addition considering the associated loss in transportation, retailing and value addition process there is an additional loss of Rs. 15 per litre, which could amount to Rs. 26.25 crore. Thus, one month lockdown have generated a loss of Rs. 87.5 crore in the dairy sector of the state.

3.37 The Sitajakhala Dugdha Utpadak Samabai Samity located at Amolighat, Morigaon district, with its 300 members produces about 18 to 19 thousand litres of milk daily. Reportedly there is non-procurement of about 8 to 9 thousand litres of milk per day from the farmers because of reduced demand caused by the lockdown. Consequently, the estimated loss could be about Rs. 90 lakh in a month for the dairy farmers of the society. This figure, however, excludes loss caused by supply chain disturbances and inability to create value addition. The Western Assam Milk Producers Cooperative Union Limited (WAMUL), though faced a shock in the initial phase of lockdown could bring back the procurement to the normal level of 35 thousand litres a day. WAMUL reportedly could procure even from the non-members by tapping the market opportunities provided by the lockdown.

3.38 There is a growing concern for possible future loss in perishable commodities like milk in the event of another supply chain breakdown due to COVID-19. Value addition and

²⁸ Survey on "Work and Well-being in Rural Assam", OKDISCD, Guwahati (survey conducted during December 2018 – April 2019).

²⁹ As reported in Dainik Assam, April 26, 2020

product diversification hold some opportunities but have obvious limitations given the uncertainties involved. During the time of crisis and income depression people usually cut down high value commodities. This puts a natural limitation on the possibility of value addition and product diversification. Therefore, ensuring a stable and resilient supply chain – both forward and backward – is vital for all such commodities.

(c) Piggery

3.39 The piggery sector in Assam faced two challenges during COVID-19 and lockdown. First, there has been a drastic fall in the sale of pork-meat due to prohibitions during the lockdown. Second, even though some relaxations were provided later, as the African swine fever struck the piggery sector of the state, especially in six districts, the state government had to impose ban on the sale of pork-meat which has done further damage to the already struggling piggery sector.

3.40 It has been found that pork meat accounts for 38.5 percent of total meat consumptions in the state (DES, Assam; 2018-19). Moreover, it is an important source of income for about 7 lakh households in the state³⁰. In addition, several thousands of people are dependent on the sector for their livelihood as retailers of pork-meat. According to the livestock census of 2012, there were 16.36 lakh pigs in the state. A ready and remunerative market has seen rapid growth of this sector in recent times. It is estimated that 19.4 thousand tonnes of pork-meat are sold in the state annually and value of the pork-meat market is Rs 582 crore. Thus, going by the average sale, the loss of 30 days (i.e. during the first phase of lockdown) comes to Rs. 48.5 crore.

Study³¹ also indicates that average annual return to woman involved in SHGs is around Rs. 11,500 from piggery. Clearly, the piggery sector has been hit hard by the situation arising out of COVID-19 and subsequent lockdown, limiting livelihood avenues to several thousands of people among whom there are sizable proportion of women.

3.41 During the lockdown the, various inherent vulnerabilities of the sector got exposed, imperatives to create a resilient value chain has become evident. Moreover, adequate extension services to the sector along with other support services have emerged as the primary requirements of the sector³².

(d) Fishery

3.42 The Department of Fishery, Government of Assam has put the estimated loss in the fishery sector at Rs. 160 crore resulting from the lockdown³³. As per the data of fishery department, the sector engages about 1.16 lakh fishermen, 408 hatchery owners, 4799 seed growers, 1361 wholesalers, 16.8 thousand retailers and 13 thousand vendors – all affected more and less by the lockdown. Study³⁴ estimates that altogether 8.2 percent households of Assam have ponds and some fish production. The average area covered by the pond/fisheries is estimated at 1.3 bigha. In addition there are fisheries operated in cooperatives (one percent with average size is 2.9 bigha) and at contract level (0.7 percent with average size is 7.5 bigha). Monthly return from the fisheries at household level is estimated at Rs. 1500/ per month. The fisheries at household level are primarily for self-consumption or return from the ponds/fisheries is just to supplement household income.

³⁰ *The Hindu*, 22 April, 2020

³¹ Survey on "Work and Well-being in Rural Assam", OKDISCD, Guwahati (survey conducted during December 2018 – April 2019).

³² Study on Effectiveness and outcomes on skill acquisition and sustainable livelihood initiatives under AFFBC (2018), OKD ISCD.

³³ As reported in *The Assam Tribune*, April 28, 2020

³⁴ *ibid*

3.43 Total fish production in the state during 2018-19 was 3.3 lakh MT; contribution of man-made fisheries being higher (53.3 percent) than the natural water fisheries (46.7 percent) (DES, Government of Assam, 2018-19). On the other hand, the state imported 12.64 thousand MT of fish during 2018-19 (DES Assam, 2018-19) which is 3.7 percent of total fish made available in the state. The lockdown period is reported have no immediate impact on production front of the fishery sector; though there were losses of livelihood and income of those involved in the supply chain viz. the transporters, wholesale and retail traders. The chain has been, however, restored subsequently.

3.44 Notwithstanding, it is expected that the impact on the fishery sector will be felt in the future. There is an apprehension that fish production might decline up to 50 percent in coming months. This is because the months of February, March and April are the right time to release the fingerlings to the cultured fisheries. Reportedly along with constraints faced by the breeder firms to supply fingerlings to the fishery, the lockdown has affected supply of fish feeds and hormones. Most of the breeders (seed growers) in the state do not have nursery ponds and this has put them in difficult situation. Even though the state has improved production of fish seeds from 4364 million in 2012-13 to 9893 million in 2018-19, the internal production of seeds still meets about 50 percent of the requirements. Moreover, for fish feeds to a large extent the state depends on import from other states.

3.45 Reportedly, the fingerlings have already come (mainly from West Bengal) to the state before lockdown and from this point of view there should not be impact on production if the required inputs, feeds are ensured immediately. The fish farmers report three major problems. One, there is scarcity of fish seedlings and multiplication of seeds do not yield desired results after a certain stage; two, high costs of feeds and three, infrastructure for preservation, and transportation to market is at rudimentary level to take advantage of market and thereby ensure decent return.

3.46 The state's fishery department though provides an estimated loss; the impact of the lockdown could be much higher on the sector, which would emerge only by the end of the year. The cultured component of fishery sector may face decline in production and yield because of the interruption in supply of seeds, fingerlings and feeds at the prime phase of initiation of farming process of the year. Data suggests that if there is decline in production by 30 percent the total annual loss could be about Rs. 1000 crore.

Impact on the Manufacturing Sector

3.47 The manufacturing sector of the state accounts for 14.4 percent of total NSDP (Directorate of Economics and Statistics, Assam; 2018-19); the organised sector accounting for about three fourth of the contributions. Five industries in the organised sector of state, namely manufacture of refined petroleum products (32.0 percent), food products (27.0 percent), chemical products (15.5 percent), non-metallic mineral (7.1 percent) and tobacco products (5.8 percent) accounted for 87.4 percent of total NVA of the state (Annual Survey of Industries; 2012-13). As per ASI data (2017-18) there are 4538 industries in the organised sector of the state; employing 2.17 lakh persons of which 1.4 lakh workers.

3.48 The ASI data reveal that altogether 1.82 lakh (84 percent) employments are provided by the above mentioned five industries (food products 45.9, chemical products 29.8, refined petroleum products 4.1, chemical products 4 and tobacco products 0.3 percent). During the lockdown the establishments related to these sectors remained completely

closed which employ 1.44 lakh workers/employees (79 percent) of the organised sector. The loss caused by this closure amounts to Rs. 14.20 crore per day or Rs. 426.30 crore in a month. Moreover, 43.25 lakh person days of work were also lost in a month. Further, 20 percent of the workers in the organised manufacturing sector are contract workers. It is apprehended that out of the contract workers about 40 to 50 percent may have been ousted or laid off during this period.

3.49 On the other hand, a rough estimate indicates that manufacturing activities of the unorganised sector contributed Rs. 4540 crore to the NSDP of the state (2018-19). Among the unorganised sector five sectors viz. food processing, furniture, wood products, textiles and wearing apparel account for 82 percent of total value addition (NSSO, 62nd Round; 2005-06).

3.50 Closure of these five components, and the rest of the components in the unorganised sector; even after assuming that 50 percent of the food processing sector were not affected during the lockdown period, the total loss in terms of value addition is estimated at Rs. 10.6 crore in a day i.e. Rs. 318 crore in 30 days. Besides, there are around 3.71 lakh manufacturing units in the unorganised sector of the state with employment of 1.7 persons per enterprises. Considering stagnant and sluggish growth in this sector, and assuming employment has not grown, this sector absorbs 6.32 lakh workers and the lockdown has affected a minimum of 5.4 lakh workers. The estimate thus, indicates significant loss of jobs in unorganised manufacturing sector of the state.

Impact on Handloom Sector

3.51 Economic Survey, Assam (2017-18) estimates that the state has 19.48 lakh weavers. According to the Census on Handlooms in India (NCAER, 2009-10) there were 12.41 lakh weaving households in Assam; 6.1 lakh engaged entirely for commercial production. In Sualkuchi – the weaving hub of the state – there are about 5500 handlooms producing silk (involving 35 percent of the looms), muga (less than 1 percent looms) and tasar products (about 50 percent looms) for upper end markets. In recent times, a significant section of looms (about 15 percent) are forced to use cotton and polyester yarns because of paucity of supply of natural yarn, particularly muga, and exorbitant and unaffordable high prices.

3.52 Interaction (telephonic) with entrepreneur weavers of Sualkuchi reveal that the lockdown has affected 98 percent looms. Estimated average operational costs of a handloom, if operated throughout the month (i.e. 25 workdays), is Rs. 35,000 for looms engaged in silk weaving, Rs 75,000 for looms engaged in muga yarn weaving, Rs. 30,000 for looms engaged in tasar yarn weaving and Rs. 12,000 for looms engaged in cotton yarn weaving. In the respective categories of looms, it requires on an average 2.7 kg of silk yarn (both wrap and weft yarn together), 2.1 kg of muga yarn, 2.1 kg of tasar yarn, 1.8 kg of designer yarn in all categories of silk, muga and tasar weaving looms; and 6.5 kg of cotton yarn and 1.2 kg of acrylic thread to make a loom operational throughout the month with standard work schedule. Given these, financial loss in Sualkuchi (not considering the margin of wholesalers and retailers) alone could be at Rs. 15.95 crore in a month; and overall loss may be Rs. 156.6 crore (for 4.35 lakh looms) in a month in the state.

3.53 The fallout of the lockout on weavers is expected to be severe because of certain reasons. One, most of the weavers or master weavers or entrepreneur weavers (about 95

percent) are small, procure yarn in small quantity to continue operation, and only after selling the produces could generate the working capital for the next round of production. The lockout has not only halted their production process, but also exhausted whatever resources they had to resume production. Two, all the transactions in this sector, from procurement of raw materials to marketing of the products take place through cash transaction, not on credit. In the post lockdown period there will be serious crisis not only for procurement of yarn, but regarding the demand for their product which will lower the prices. Therefore, the post lock down period will see serious slump in the market of handloom products because of lack of effective demand. Moreover, during the lockdown period the weavers and entrepreneurs have lost the peak marketing season (festivals and marriage). The petty master and entrepreneur weavers having 2-3 looms are dependent on local traders and/or traders in Guwahati to sell their outputs. It is now likely that in post lockdown period the cash rich traders shall take advantage of the situation and push the master and entrepreneur weavers to the margin.

Impact on Bell Metal Industry

3.54 The bell metal manufacturing cluster of Sarthebari, Barpeta too has faced similar nature of crisis like the handloom weaving sector during the lockdown period. There is, however, no reported figure on loss incurred during the lockdown period by the sector. The sector for years has been facing serious crisis to procure the basic raw materials, which often forced the manufacturers to use scarp bell materials. Moreover there are constraints to procure charcoal, an essential component to be used for the furnace. The lockdown has virtually stopped all the traders to reach the upper market ends outside the state as well as all forms of market within the state.

Impact on Services Sector

3.55 The services sector of the state contributes 40.4 percent to the NSDP of the state (DES, Assam; 2018-19); lower than the country average of 54.3 percent. Most of the services fall within the rubric of the unorganised sector. The contribution of the unorganised sector services to the state NSDP is around 30 percent. As per the National Commission on Enterprises in Unorganised Sector (2006), Assam has 85.5 lakh workers in the unorganised sector. This figure now is estimated at 1.28 crore. Reportedly, the state has been able to register just 2.72 lakh unorganised sector workers under the Unorganised Workers sector Social Security Act, 2008. It has been observed that the lockdown has affected five sectors more explicitly namely, trade and business, transport, construction, tourism-hospitality and financial services thereby affecting livelihoods of about a crore of people.

(a) Impact on Trade and Business

3.56 Estimates³⁵ show that about 20.5 lakh people of the state are now involved in trade and business; a large section is involved in petty trades with just survival level of income. Study³⁶ reveals that average earning from trade activities in rural areas is Rs. 4128 per month and people find this income inadequate and irregular. Study³⁷ reveal that 32.6 percent trades involve grocery sector and 3.5 percent trades involve vegetable vending; thus the rest of the trading units involving 13.1 lakh people have terribly suffered during the lock down period from sudden loss of daily income. It is also reported that people involved in trades of perishable goods have incurred severe losses.

3.57 During the lockdown some people have been compelled to shift jobs. It is observed that people from different trades have taken the job of vending vegetables, fruits, processed

³⁵ Based on the data of Periodic Labour Force Survey, 2017-18, MoSPI, Gol, 2019

³⁶ Survey on "Work and Well-being in Rural Assam", OKDISCD, Guwahati (survey conducted during December 2018 - April 2019, Sample Size 10181 households)

foods, bakery items, milk, fish, and meat; some even turned to vending of masks. These goods had ready demand and it was relatively easier to enter with minimum financial involvement. In Guwahati, for example, it was observed that one would bicycle to Fancybazar, buy gamocha and engage family members to stitch mask and sell about 300 pieces a day at Rs. 30 to earn some income. This goes on to show the severity of the impact felt in the sector.

(b) Impact on Transport Sector

3.58 The road transport sector of the state accounts for 2.3 percent of total NSDP of the state (Directorate of Economics and Statistics, Assam; 2018-19); water transport, services incidental to transport and storage accounts for additional 0.1 percent each to NSDP. The total value of contribution of these three components comes to Rs. 5257.6 crore annually or about 438 crore in a month. An estimated number of 11.66 lakh persons at present are involved in commercial transport operations. Barring an insignificant section of person engaged in transport of essential goods, the lockdown has affected at least 11 lakh workers in this sector. Taking into consideration of additional one lakh workers involved in non-motorised transport sector and warehouse and storage workers the figure could be 12 lakh. This section of people has been hit hardest by lockdown.

3.59 For example, there are 1.38 lakh auto rickshaws, 42 thousand general taxis, 10 thousand taxis under tour AATT registration, 9345 maxi cabs, 14 thousand motor cabs, 45 thousand three wheelers and stage carriers and 9 thousand e-rickshaws on the roads in the state, in addition to the buses and trucks. In the year 2018-19 the state collected Rs. 737.5 crore as revenue from registration and other charges on vehicles of all forms.

3.60 The All Assam Cab Operators Union demands an amount Rs 10,000 as relief to all the members of their union for a month as an immediate relief to their agony. The same proposition applies for the workers of the entire sector, where workers are either self-employed or casual earners. It may also be noted that the demand for bank-credit for transport sector has increased by 9 percent during 2019-20. The impact of shut-down in the sector will have impact on bank-credit and also on repayment of the existing loans.

(c) Impact on Tourism and Hospitality Sector

3.61 The tourism and hospitality sector of the state is one of the severely affected sectors of the economy because of the lockdown. It is likely that revenue from this sector by the end of present financial year will decline significantly even if the sector resumes functioning around next October. Contribution of the sector to the state GSDP was estimated at 1346.9 crore as per the advance estimates for the year 2019-20. Revenue collection to the state tourism department in 2018-19 was estimated in the range of Rs. 1200 to 1500 crore³⁸.

3.62 It is difficult to have a precise estimate on engagement of people in tourism and hospitality sector of the state as people engaged in different industries and sectors contribute directly and indirectly to the tourism sector. Therefore, the spread effect of this sector is highly significant. Some estimates however indicate engagement of 50,000 people directly in the tourism sector of the state. As per the Economic Survey of Assam (2018-19) there are 9711 vehicles registered under All Assam Tourist Taxi component (and thus involve about 17,000 persons in this taxi component alone), and 41,676 taxis in other categories. Reportedly there are 100 tour operators at Guwahati and thus coordinate with thousands of tourist vehicles in the state. In addition there are about 600 Jeeps for safaris in the National Parks and Sanctuaries of Kaziranga, Manas and

³⁷ Ibid

³⁸ As reported in India Today, December 20, 2019

Pobitora involving drivers and guides. The whole tourism value chain across lodge and hotels, home stays, travel agents, tour operators, restaurants and transportation services largely catering to the services to the tourists and located at the tourist destinations is facing the brunt from the lockdown.

3.63 The year 2018-19 saw arrival of 60.27 lakh domestic and 41 thousand foreign tourists to the state. Data from tour operators reveal that daily average spending is Rs. 11,000 per person per day by the foreign tourists and Rs. 2000 per person per day by domestic tourists in India for overnight stay. As per NSSO the average expenditure of a tourist is Rs. 6358 for per overnight trip in India covering components of accommodation (13.3 percent), food (15.0 percent), transport (31.9 percent), shopping (17.8 percent), recreation (2.2 percent), medical (1.0 percent) and others (1.7 percent)³⁹. The data highlights the effect on different sectors of the economy caused by non-arrival of tourist for recreational and holidaying purpose. This estimate however excludes other reasons of travel – business, medical (a medical trip costs 2.4 times higher than the holiday and leisure trip, accounting for 13 percent of total travel in India), educational, religious and others altogether accounting for 53 percent of total travels made in India. It is not likely that the tourism sector will recover till December 2020 from the present crisis and could be exacerbated by recent restrictions such as ban on foreign tourists' arrival. The loss incurred in the process will be huge to the extent as indicated by the GSDP estimated for the state.

(d) Impact on Construction Sector

3.64 The construction sector during 2018-19 accounted for 8.8 percent of total NSDP of the state (Directorate of Economics and Statistics, Assam); total value in terms of contribution of the sector came to Rs. 18346.6 lakh crore or about 1530 lakh crore in a month. Taking into account of the projected population of Assam in 2020, and data of Periodic Labour Force Survey of India 2017-18, tconstruction worker constitutes 9.9 percent of the workforce in Assam (rural 10.2 percent and urban 7.7 percent). There are at present 7.8 lakh construction workers in rural areas and 5.9 lakh in urban areas, altogether 13.72 lakh construction workers in the state. Loss of livelihood for more than a month in this sector has brought in serious crisis to the construction workers. In addition to the construction workers about 9500 persons are involved in real estate activities in the state as entrepreneurs and employees. It is forecasted that in post lockdown period lack of effective demand in the housing sector would lead to crisis and completed units will remain unsold. The real estate developers procure raw materials on credit and with fall in demand of housing stock the crisis will be spilled over across the input supply chains.

(e) Impact on Financial Services

3.65 The fallout of decline in economic activities during the lockdown and a rise in unemployment rate will lead to a deterioration of household finances. The financial institutions and banks on the other hand are not likely take risk to go for non-priority sector lending. Retail finance in non priority sector lending especially in housing, consumer durables, tourism and hospitality, transport, real estate will slow down unless there are special stimulus packages from the government. In addition, credit to MSMEs and agriculture will be hit due to accumulating overdue and defaults in these sectors.

3.66 Growth in the microfinance sector in Assam has slowed due to rising incidents of defaults. There are 30 lakh members, mostly women, under 2.9 lakh SHGs who have initiated livelihood activities with support from 26 MFIs in Assam and the gross loan

portfolio of MFIs in Assam is about Rs 2,500 crore (MFIN December, 2019). With NBFC-MFI interest rate at 16 percent to 18 percent, all women SHG-bank linkage under NRLM at 7 percent interest per annum and bank promoted SHG-bank linkage by commercial banks hovering around 18 to 20 percent, the incidence of financial burden varies across the members and groups. Assam is found among highly indebted borrowers (MFIN; December, 2019). The bulk of the micro finance crisis in Assam lies with the unprecedented growth of SHG-bank linkage taking a rapid surge under NRLM. The halting of economic activities except for the women SHGs under NRLM producing masks, the rest of the SHGs would face serious crisis not only in respect of repayment but also loss of income for household.

CHAPTER 4

Overarching Impact of COVID-19

4.1 Besides the macro-economic and sectoral impacts, COVID-19 is sure to have some very significant overarching impacts in the socio-economic condition of the state. These will have both immediate and far reaching implications for the state, which need to be understood and taken into consideration for adoption of effective measures by the government. This section particularly highlights four overarching impacts of COVID-19 on the state which public policy must necessarily and adequately focus upon. These four overarching impacts relate to inequality, women-issues, infrastructure and other disaster (including flood) management. Since the purpose of this section is to throw up critical issues and concerns, emphasis is provided on the policy relevance rather than quantitative estimates of possible impacts.

Issue of Inequality

4.2 Disasters – whether natural or otherwise, typically, don't affect everyone equally⁴⁰. This is because the poor and the vulnerable don't have enough resilience to withstand disasters and therefore, they suffer the most. Besides, they also lack capacity to cope post disaster hardships. Evidently, the COVID-19 is also affecting different sections of people differently and it is argued that it is going to worsen the social and economic inequality even further⁴¹. Already, the struggle and sufferings of the labouring poor has become well-known not only in India, but also in other countries as well. This is due to the very nature of most of the works that the vast majority of the poor and the vulnerable are engaged in. Their works are by nature “bundle works” wherein their wage, food and shelter are tied as a ‘bundle’ to their so-called ‘work’; and when there is no such ‘work’ they also tend to lose the food and shelter together with their wages.

4.3 Assam's labour/employment scenario is already marked by several inequalities across rural-urban and categories of work. It has already been pointed out that most of the employments are in self-employment and casual employment categories, bulk of the employments are in the unorganised sector. The PLFS (NSSO, 2017-18) data reveal that average earning of the self-employed in the state is Rs. 11586 per month with average earning in rural areas as Rs. 10742 and that in urban areas Rs. 13715 respectively. Similarly, the casual workers average wage is just Rs 261 (rural Rs. 259 and urban Rs. 311) per day in the state. Those working as the ‘regular salaried’ earn, on an average, Rs. 16,300 (rural Rs. 12777 and urban Rs. 20664) per day. These figures not only underline economic inequalities but also the vulnerabilities of bulk of the people who are employed. Along with poverty, the inequality is only going to worsen in the state as a result of the shock induced by COVID-19 and lockdown.

4.4 Increase in inequality together with falling income of a large section of people will potentially have a far more severe dampening effect on aggregate demand which will limit any attempt at economic recovery. Moreover, studies suggest that more than growth, reducing distributional inequality in income has better rate of reduction in poverty in Assam⁴². It is, therefore, important that policy should particularly focus on distributive

⁴⁰ Michael S Cronin, 'Poverty and Disasters' (18th World Conference of Social Work, 2008) <www.cfess.org.br/pdf/michael_cronin.pdf>.

⁴¹ Faheem Ahmed and others, 'Why Inequality Could Spread COVID-19', *The Lancet Public Health*, 2020 <[https://doi.org/10.1016/S2468-2667\(20\)30085-2](https://doi.org/10.1016/S2468-2667(20)30085-2)>.

⁴² Joydeep Baruah, 'Poverty in North East India: An Overview', in *Social Sector Development in North East India* (New Delhi: Sage Publications, Forthcoming).

justice for mitigating and minimising the adverse economic impact of COVID-19 in the state.

Issue of Women

- 4.5** It is both necessary and important to recognise specific issues of women following COVID-19 and measures like lockdown. Given the situation, women are specifically vulnerable, at least, on two counts. Firstly, majority of the frontline caregivers in the public health system of the state are women. For instance, about 50 percent of the total qualified health workers including doctors and technicians in the state are women. Different categories of health workers including qualified ANMs in the state comprise 85 percent women⁴³. Besides, other supporting frontline workers in the COVID-19 battle in the state such as ASHA and Aanganwadi workers are predominantly women. It is said that, approximately over 3 lakh women are directly involved and working as foot soldiers in the fight against COVID-19 in the state⁴⁴, and clearly, they constitute a sizable proportion of the most vulnerable section of people to COVID-19 in the state.
- 4.6** Secondly, women are particularly vulnerable to the COVID-19 and subsequent lockdown due to the nature of their employment. It is found that overwhelming number of the casual workers – a category which is most vulnerable to lockdown and its after affect – are women. Among the self-employed women of Assam, most are engaged in home based or care based work which have stopped completely and unlikely to resume immediately. Even among the regularly employed women, 21 percent are found without any written job contract, 47 percent have no paid leave benefit, 41 percent are found not covered by any social security scheme like PF, health insurance etc., and as many as 15 percent have neither a written job contract, paid leave and social security benefit. Moreover, wage and income of women are also found as lower than those of man as revealed by the PLFS (NSSO, 2017-18). Informal nature of employment and low-pay employments of women make them extremely vulnerable for laying off at the minimum pretext, and it is expected that they will become even more vulnerable because of COVID-19 and lockdown.
- 4.7** Further, according to the National Rural Livelihood Mission (as on December 1, 2017) 1.15 lakh SHGs have been formed in Assam with approximately 12 lakh members (on average 10 to 12 members per SHG). Thus, on average there are 4 to 5 SHGs in each village of Assam. A study done for NCW (2019) indicates that 63 percent SHGs in Assam have running loan of some form all the time. The loans provisioned in groups are in general at 2 percent monthly i.e. 24 percent annual interest rate payable at equated fortnightly instalments. It is estimated that at 24 percent annual interest rate equated fortnightly instalment of an individual loan amount Rs. 10,000 (the amount most of the rural women seek) comes to Rs. 473, and in the process a borrower pays Rs. 1177 as total interest during the year. Now, with the lockdown halting the activities of the SHGs – majority of which are women SHGs – burden of loan repayment is expected to put substantial stress on women in the days to come.
- 4.8** Besides, there are some antecedent issues as well. Prolonged lockdown is reported to have resulted in increased number of cases relating to diverse forms of abuse and domestic violence in the state⁴⁵. The ‘work from home’ mode advised during the period of lockdown has turned out to be burdensome and difficult for women to carry out. Besides, COVID-19 and lockdown have been adversely impacting the routine immunisation programmes, weekly ante-natal and post-natal check-ups, functioning of

⁴³ *Employment and Unemployment Survey, 68th round, NSSO, Government of India (2011-12)*

⁴⁴ *As reported by Government of Assam*

⁴⁵ *As reported by various news papers*

AWCs having long term implications on reproductive health of women in the state. All these issues warrant that public policy should be sensitive to the specific issues faced women at the time of COVID-19 and lockdown.

Critical Infrastructures

4.9 During the pandemic the criticality of infrastructure has become apparent. The disruptions caused in the supply chain highlight hierarchical dependencies of multi-level infrastructure especially of those relating to transportation, logistics and utility services. The COVID-19 and lockdown have also revealed important gaps therein.

4.10 The state has, however, several critical infrastructure projects currently undergoing and some are in the stage of initiations. These include projects related to highways, roads and bridges, railway expansion, water supply, power and embankments. Due to COVID-19 and lockdown, these projects have been put on hold. Halting of these infrastructure projects will have serious spill over effect on growth and employment in the coming years.

4.11 Several of these projects are capital account expenditures including those externally aided ones. Therefore, due to delay in implementation these projects will result in time and cost overrun, and put pressure on the state's public finance. The increase in the economic cost of the projects may potentially reduce the net return on these huge investments.

Other Disaster Management

4.12 COVID-19 has been designated as a disaster in the country. However, following the monsoon, the state will see multiple waves of flood. Last year, some 45 lakh people were affected in about 4000 villages of the state by the annual flood and a total of 150213.6 lakh hectares of agricultural land was affected and standing crops such as rice and maize were lost before the harvest i.e. September to October (ASDMA, 2019). State required 494 relief camps to protect and give shelters to lakhs of people. Floods also adversely impact infrastructure. Roads and bridges are damaged and inundated and hamper access to the affected districts. Critical infrastructure including hospitals are also affected by floods which would throw up additional challenges for the health sector in the state.

4.13 Managing flood this year, amid COVID-19 will face new challenges. As mentioned earlier, already construction, maintenance and repairing of the embankments couldn't be completed as expected due to COVID-19 and subsequent lockdown. This makes the state more vulnerable to flood this year. Secondly, establishing relief camps will be extremely difficult this season maintaining the hygiene and social distancing norms. Schools may not be used as potential relief camps for longer term since already several school days have been lost due to lockdown.

4.14 Further, COVID-19 together with the post-flood diseases will put an extra-ordinary double burden on the state's public health system. Lack of accessibility to many of the places during flood-time will make response to COVID-19 extremely challenging. Public policy, therefore, needs to consider this issue thoughtfully and effectively.

CHAPTER 5

Conclusions and Policy Recommendations

5.1 The analyses presented in the foregoing chapters make it abundantly clear that COVID-19 will have distinct and significant impacts on the economy of the state at three different levels viz. macro-economic level, sectoral level and cross-cutting or overarching level. In the macro-economic front it is expected that due to the impact of COVID-19 the growth rate will fall, unemployment and poverty will increase and the government's revenue will decline. The main findings of the macro-economic impact can be summarised as under:

- » The COVID-19 is expected to lower the growth rate of the state's economy by 1.3 to 5.2 percent in current fiscal 2020-21. This suggests a potential loss in the Gross State Domestic Product (GSDP) worth of Rs 3219 to Rs 12877 crore at 2011-12 prices. The loss is equivalent to Rs. 4442 to Rs 17770 crore at the current prices.
- » The lockdown has caused a total loss in Gross State Domestic Product (GSDP) worth Rs. 27463 crore at the current level of prices, which is about 8 percent of the GSDP. The estimated loss includes Rs 6061 crore for the period March 24 to 31, 2020 and that of Rs. 21,402 crore for the period April 1 to May 3, 2020. Agriculture and allied sector in the state alone is estimated to face a loss about Rs 3875 crore. Manufacturing and Construction sector lost Rs 4244 crore and Rs 2284 crore respectively. Among the services the Trade and Hospitality sector has been a major loser with a loss of Rs 4945 crore. The Real Estate and Transport are two other sectors incurring substantial losses estimated as Rs 1882 crore and Rs 1523 crore respectively. The estimated loss, however, indicates the 'minimum losses' occurred in the economy during the lockdown.
- » As a consequence of COVID-19 it is estimated that 67 lakh people's livelihood will face vulnerabilities of myriad kind. The categories of casual labour and the self-employed are expected to face severe stress and hardship. Due to condition created by COVID-19 – depending on the overall condition and degree of economic contraction, it is estimated that unemployment in the state will further increase by 15.7 to 27.1 lakh. As a result, the unemployment rate in the state will increase up to the range of 16 to 27 percent from the present level of 8 percent. Consequently, it is found that the poverty rate may go up to about 50 percent in the state.
- » COVID-19 will put considerable stress on the state finance as there will be an estimated loss of revenue in the fiscal 2020-21 within the range of 12423 to Rs. 18236 crore, depending worst and best case scenarios of growth in the country in general and the state in particular.

5.2 The analyses of the sectoral level impacts of COVID-19 have been carried out for some of the key sectors and the major findings are as follows:

- » The impact of COVID-19 on agriculture is found rather complex and cascading and, hence going to be far reaching. It is evident that there are some direct losses in terms of loss of production and income to farmers due to the lockdown. But the sector is expected to witness the most significant impacts indirectly.
- » Due to the large-scale return migration to the state following COVID-19, there will be a significant fall in the inflow of remittances to the state part of which (around 16 percent) is used for agricultural investment. Consequently, it is estimated that there

will be a drop in the agricultural investment in the coming season by 10 to 25 percent which is equivalent to Rs 786 to 1572 crore. Due to the anticipated contraction in the agricultural investment, it is expected that there will be a loss of 284 to 366 lakh person days of work in the agricultural sector, which, in turn, will tend to reduce the level of general wages. Combined effect of all these may create a significant agrarian distress in the state in coming days, if adequate interventions are made to off-set these tendencies.

- » The disturbances and disruptions caused by the COVID-19 and subsequent lockdown on the demand side and supply chain have negatively impacted the farmers engaged in high value cash crop productions. Estimated loss in the vegetables has been Rs 38.52 crore and in miscellaneous fruits Rs. 15.25 crore. Loss incurred in banana production is estimated at Rs 32 crore.
- » It has been observed that recent entrepreneurial efforts made by some individuals, even without much government support, have been able to bring about a welcome shift towards high value crops in the state's agricultural sector. Therefore, loss incurred in the high value cash crops is expected to dampen the entrepreneurial efforts of the farmers and induce a reverse-shift in production to traditional crops which will lower the income from the agricultural sector in general.
- » In the plantation, tea sector has estimated to incur losses worth Rs 1200 crore to 1500 crore, the smallholding sector accounting for Rs 500 to Rs 800 crore. Similarly, rubber plantation is estimated to face a loss of Rs. 6.5 crore.
- » It is observed that the livestock has been hard hit by COVID-19 as well as the lockdown. It is estimated that the lockdown has caused a loss of Rs. 90 crore to the poultry sector and Rs. 87.5 crore to the dairy sector of the state. It is further observed that the loss in the sector is primarily due to the nature and vulnerability of the existing supply chains – both backward and forward. The sector is predominantly dependent on near monopoly private players without any safety provision to protect the farmers from potential market failures and shocks.
- » In case of fish production, it is found that the sector has not been impacted immediately. However, the impact will be visible in the next season since the fingerling and feed supplies got disturbed during the lockdown. It is estimated that a drop of 30 percent in the fish production next season would result in a prospective loss of about Rs 1000 crore in the sector.
- » The impact of COVID-19 is felt also on both organised and unorganised manufacturing sectors. The impact on five dominant organised manufacturing industries viz. petroleum, food product, chemicals, non-metallic mineral and tobacco is felt on two counts – first loss in the revenue and second, in the form of loss of jobs. Estimated revenue loss in these sectors due to COVID-19 is Rs.426.3 crore and loss of jobs around 144 thousand.
- » The impact of COVID-19 and the lockdown is found more prominent among the MSMEs and unorganised sector. The sector is expected to face acute capital shortages, severe demand decline and logistic barriers compelling many to go bankrupt and eventually resulting in closure. This will result in considerable job-losses also. The total loss in the sector is estimated to be Rs. 318 crore, affecting about 5.4 lakh workers in the sector.
- » The handloom sector in the state employs some 20 lakh weavers, mostly women. The sector already has been estimated to incur a loss of Rs 156.6 crore due to COVID-19. The cluster of Sualkuchi alone estimated to have incurred a loss of Rs 16 crore. The sector is foreseen to see a visible demand depression in coming days and with the inventories piled up production is expected witness a massive decline. This, together

with shortages of capital and yearn, will make the sector extremely vulnerable unless adequate support is extended.

- » In the services sector, five sectors found to be impacted worst – viz. trade and business, transport, construction, tourism and hospitality. Considering the large section of people employed by these sectors, the impact on livelihood is going to be massive. It is found that 13.1 lakh in trade, 12 lakh in transport, one lakh in tourism and hospitality and 1.3 lakh in construction are terribly hurt by the impact of COVID-19 and subsequent lockdown. The sector is expected to see massive reduction in employment.

5.3 The analyses also show that there are some overarching concerns which emerge as consequences of COVID-19. The analyses highlight four such issues viz. the issue of possible increase in inequality, dimensions of women requiring special attention, issue of possible time and cost overrun of the critical infrastructure projects and last but not the least the possible challenges for flood management this year.

5.4 The analyses clearly points out that the impacts of COVID-19 are hugely cumulative in nature deeply interconnected and therefore, have large multiplier effects. This buttresses the point that policy, accordingly, has to be holistic and integrated.

5.5 In conclusion it can be pointed out that the estimates derived from the analyses amply underline the severity and urgency of the situation arising out of COVID-19. The estimates are in this sense, indicative and directional. It is required that adequate government interventions are made as fast as possible to force a recovery in the economy. The extraordinary nature of the crisis merits extraordinary measures and innovative approaches.

5.6 Considering the above issues and points, the following policy options are offered:

Policy Recommendations

5.7 It is necessary to understand the nature of the present challenge both as an exogenous as well as and endogenous crisis. Apparently, the crisis is exogenously caused by the outbreak of COVID-19 which nobody could have ever imagined. However, at the same time, it also has exposed many weaknesses and vulnerabilities endogenous to the existing system which was not resilient enough to withstand such sudden and exogenous shocks. Therefore, policy recommendations have to consider both the aspects comprehensively.

5.8 Secondly, there is an inherent urgency for overcoming the challenges presented by the situation. Therefore, a series of very short run (to be done within a month), short run (to be done within three months) and medium term (to be done within six months) measures will be necessary. The policies need to have a judicious mix of the three.

5.9 Policies are recommended along four verticals viz. measures related to relief, measures related to support, measures related to augmentation of resources and measures related to designing suitable institutional mechanisms. The broad policy recommendations for each are as given below:

(a) Measures related to relief

5.10 In principle relief measures should be immediate, limited and well targeted. These measures should be targeted to the most vulnerable groups. These groups need to be protected by a special relief package so that their survival is ensured. It is recommended

that:

- » The households/families below the poverty line should be given a cash transfer of Rs. 3000 per household/family per month for at least three months (assuming a recovery in the state's economy within 3 months after timely interventions as suggested) as special COVID-19 relief, in addition to the all existing benefits provided to them. There are about 25 lakh BPL households/families in the state. Therefore, this will require an estimated amount of Rs 2250 crore.
- » Those self-employed in the unorganised sector and/or employed as casual labour but have lost jobs due to the situation arising out of COVID-19 and lockdown should be provided with a special COVID-19 relief of Rs 5000 per month for 3 months (assuming a recovery in the state's economy with 3 months after timely interventions as suggested), provided they are not covered under BPL category. It is estimated that Rs. 1050 crore can support about 7 lakh such worker/labour. This category of labour/worker also includes migrant labours/workers.
- » An advance instalment should be immediately released which are due under various NSAPs (National Social Assistance Programmes) to the widows, old-aged and all those covered under the provisions of NSAPs. Total beneficiaries of these pension schemes stand at about 8.5 lakh. Besides, schemes like Pradhan Mantri Garib Kalyan Yojna (Rs. 84.09 crore), Kushal Konwar Universal Old Age Pension Scheme (Rs. 378.99 crore), Indira Miri Universal Widow Pension Scheme (Rs. 55 crore) should be utilised for the purpose since the amounts are already with the implementing department i.e. Panchayat and Rural Development.

(b) Support Measures

5.11 The support measures are necessary and extremely critical to protect the income of various groups of people and sustain their economic activities in order to facilitate recovery of the state's economy. Accordingly, the following measures are recommended:

- » Provisions should be made to provide the farmers with one-year interest free soft-crop loan up to the limit of 50 thousand to meet the immediate capital/investment requirement with minimum paper works though interest subventions
- » The government should immediately regulate the prices of critical agricultural inputs such and seeds and fertilisers
- » There should be a moratorium on all existing agricultural loans including KCC for at least a year.
- » The government should urgently introduce public procurement system and/or comprehensively restructure the existing ones - in agriculture, handloom, fishery and livestock sectors. For this purpose government should put in place a decentralised (ideally at the block level), well designed supply, procurement and distribution system involving multiple stakeholders in the entire value chain. The public procurement system needs to guarantee sufficiently remunerative prices, timely and quick (i.e. within a week) payment and flexible procurement without any minimum limit imposed on volume/quantity of the product brought by the farmers. All marketing boards and agencies are to be revamped for the purpose. A regulatory authority is to be established to oversee, regulate and coordinate the state's public procurement system. For this purpose Assam Agricultural Produce Marketing Committee (APMC) Act needs to be reviewed and amended.

- » A comprehensive resource mapping of the existing agro-business infrastructure needs to be carried out identifying critical gaps (such as lack of electricity, access roads, other utilities) which needs to be fixed within 100 days for making them adequately functional
- » Cold storage and warehouses rules and regulations should be amended to allow the small and medium farmers to use the facilities on piece rates (per hour or area basis).
- » The agricultural and allied sectors' extension services need to be urgently reformed and revitalised. The existing skill training programmes need to be realigned for this purpose which has enough potential to generate employment in the state.
- » The government should immediately initiate an assessment of adequacy of processing infrastructure in the tea sector to prevent wastage arising out of the flush, which cause significant fall in price of green tea leaves from time to time inducing distress to the smallholders. The government should provide and/or enhance support to the small tea growers in the form of interest subsidy upto 90 percent on loan for establishment of viable mini-factories provided small-growers are organised as co-operatives and apply for such loan. Also, the government should urgently and strictly implement a price formula for the raw tea leaves to the small sector tea growers linked to tea auction prices
- » The government should support the self-employed (other than agriculture) by providing very short term (up to months) and/or short term (up to one year) interest free loans to overcome the problem of capital shortages with the limit of Rs. 50 thousand for very short term and Rs. 1 lakh for short term loan through interest subventions
- » In order to enhance the liquidity of the MSMEs the banks should enhance the credit by additional 10 percent for meeting the requirement of working capital. All dues and reimbursements to the MSMEs should be immediately released to address the problem of liquidity. One time enhancement of the validity period should be granted for all statutory renewals and permissions for at least 6 month starting with March 15, 2020 to promote the ease of doing business.
- » MGNREGA programme should be immediately started providing employment to maximum number of people for maximum number of days. The state government should introduce a "Top-up Employment Programme" for additional days of work up to 50 days to allow employment days to go beyond the limit of 100 days if necessary. The works such as construction of raised platforms, land improvement measures, irrigation works, repairing and maintenance of agri-infrastructures, construction of mini cold storages should permitted to enhance the scope of the employment programme by amending the schedule of permissible works
- » All existing micro-finance loans should be put on one year moratorium. There is an urgent need to bring regulations for Micro Finance Institutions operating in the state as announced in the state Budget 2020-21.

(c) Measures for Resource Management

5.12 It is necessary that state's public finance is managed properly at this time of crisis. However, the state's public finance has to strike a balance between expenditure cut and spending. Since expenditure cut has a far more demand depressing effect, therefore, principle should be expenditure rationalisation, rather than expenditure reduction. With this view following recommendations have been offered:

- » Government should separate the relief and support measures, and expenditure on relief should not be charged on budgetary allocations unless those fall under specific CSS and/or schemes. Relief should be spent from either CM's relief fund or disaster fund. The CSR money of the corporate should be sourced to these Funds through MoUs with the corporate if necessary. It is suggested that CM's relief fund should be brought under income tax benefits to encourage people to contribute.
- » A State COVID-19 Response Fund should be instituted for raising resources for the state government if necessary
- » The Reserve Bank of India should urgently be approached with a request to monetise the deficit
- » There should be an urgent mapping of resources in the sense that money lying with any department unutilised should be sourced back to the finance department so that the amount can be utilised in the priority sectors having highest multiplier effect on the economy.
- » Various Labour Welfare Funds (for instance the fund under Building and other Construction Workers Welfare Cess Act, 1996) generated through cess and levies should be reviewed and properly utilised for the benefit of the labour. Possibilities to create and strengthen labour welfare funds need to be explored putting certain amount of surcharges on certain service operators; for instance the app based transport services providers.
- » A comprehensive social security programme is to be designed and implemented within the provisions of the Unorganised Workers Social Security Act 2008 to provide a much needed safety net to the vast majority of workers
- » The state government should request all creditors for moratorium on all loans taken by the government for three years, including externally aided projects
- » State can also utilise the available window for public debt including suitably designed instruments of infrastructure bonds to fund important projects
- » The special economic package announced by the Government of India provides a much required fiscal space which the state need to utilise to the best possible extent

(d) Institutional Arrangements

- » It is recommended that State and District Disaster Plans are reviewed urgently to accommodate the situations arising out of COVID-19 in the flood management protocols
- » It is recommended that an Empowered Task Force involving economists and sectoral experts be constituted with the mandate of strategising the approaches and preparing a time bound plan of action in the line of above recommendations.
- » Role of technology and data will be extremely important. Therefore, a Technical Support Team and a Data Centre need to be instituted. The IT infrastructure needs to be strengthened and upgraded for taking the benefit of the digital mode which is going to be critical for dealing with COVID-19 in the long run.
- » In conclusion, it is recommended that all policies should converge to three basic principles viz. (a) rationalisation in terms of avoiding duplicities and multiplicities, (b) ushering in self-reliance in economic activities and (c) building a systemic resilience to withstand all exogenous shocks. It is anticipated that the role of the government,

at this moment of crisis and uncertainty should be to instil a sense of confidence and assurance among people so that normal web of circulation is restored in the economy. Sooner this happens is better.

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