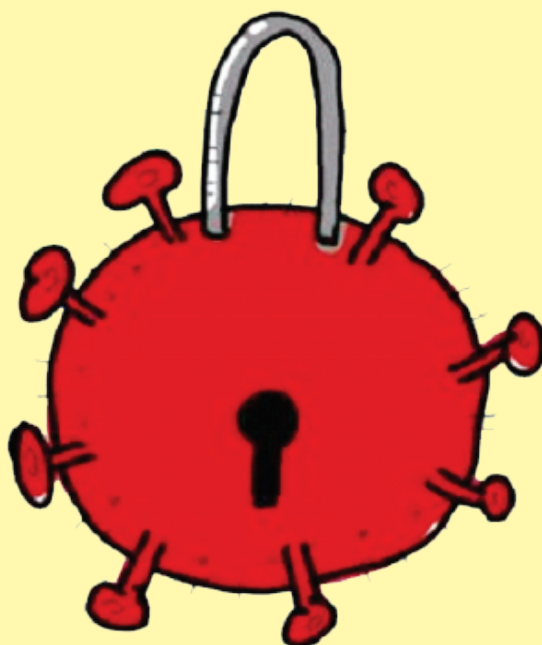


National Webinar on
**Impact of COVID 19 on
Dairying, Poultry and Fisheries**

A National Perspective

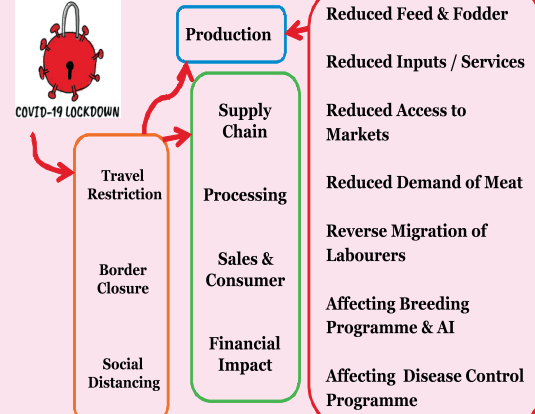


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IMPACT



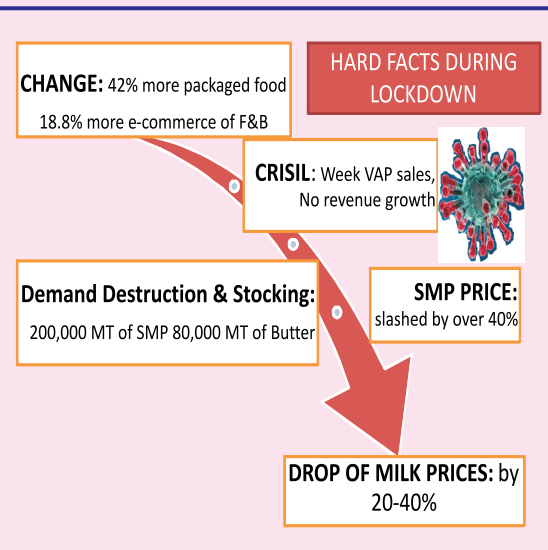
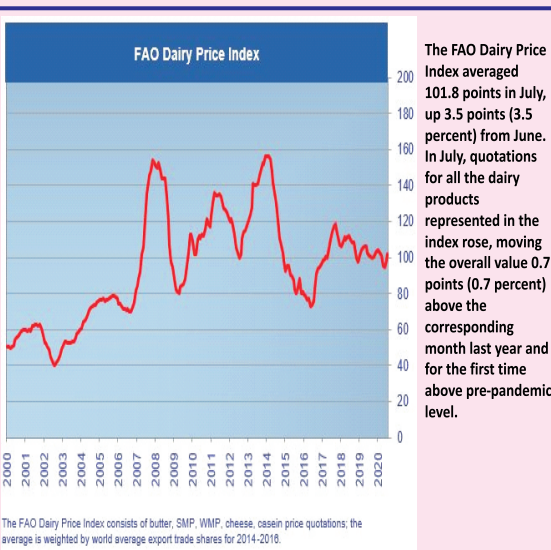
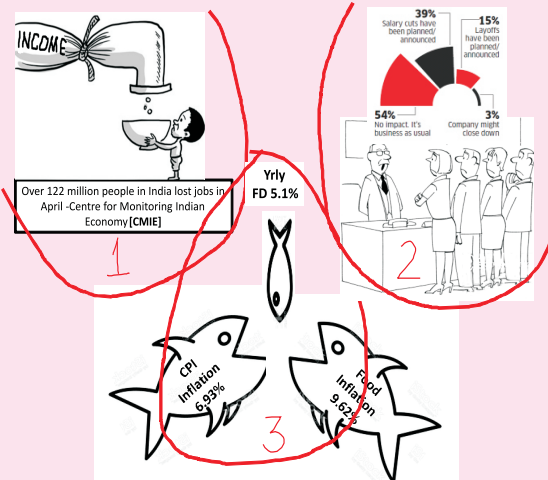
LESSONS LEARNT DURING COVID CRISIS.....

Migrant Workers are important in Farm Operations



LESSONS LEARNT DURING COVID CRISIS.....

Increased E-Marketing



National Webinar on
**Impact of COVID 19 on
Dairying, Poultry and Fisheries**

A National Perspective



Outline



Indian Journal of Animal Health
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Outline, IJAH, 2020

Outline

National Webinar on
Impact of COVID 19 on
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A National Perspective

Published by

Indian Journal of Animal Health
ISSN 0019-5057
Publisher: West Bengal Veterinary Association
37, K. B. Sarani
Kolkata – 700037
West Bengal
www.ijah.in
ijahwbva2010@gmail.com

© Indian Journal of Animal Health

Published in September, 2020

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Printed by

Arati Kar
22 / 25, Raja Manindra Road
Kolkata – 700037, WB

Price: Rs. 50.00

Citation of the publication

Indian Journal of Animal Health (2020). Outline. Proceedings of the National Webinar on Impact of COVID 19 on Dairying, Poultry and Fisheries: A National Perspective. August 29, 2020, Kolkata, West Bengal, India, pp 1-20.
DOI: <https://doi.org/10.36062/ijah.2.2020.01-20>



Dr. K. M. Bujarbaruah, FNAAS, ARS, PhD, DSc(hc)
Former Vice Chancellor
Assam Agricultural University
and
Dy. Director General
ICAR, New Delhi

Foreword

We all are now aware of the COVID 19 related impact on both formal and non-formal sectors of our economy across the globe. Agriculture and allied sector which is the livelihood option for around 48 percent of India's population is no exception. However, it was the livestock, poultry and fishery sub sectors within agriculture that were hit very hard specially during the initial period of the lockdown leading to the economic suffering of the farmers. Some states like Assam had undertaken an assessment of the impact and came out with strategic recommendation for immediate, midterm and long term mitigation measures to be taken up by the Government. A thorough study across the country, however, is yet to be taken up or compiled nationally which is why the national webinar arranged by Indian Journal of Animal Health, Kolkata on the topic of 'Impact of COVID 19 on Dairying, Poultry and Fisheries: National Perspective' is very timely and relevant. It was observed that while the dairy and poultry sectors suffered both from demand and supply side constraints, the fishery sector by and large faced supply side problems like hormones etc required for fish breeding or subsequent restriction to venture out to the sea for fishing. Poultry sector also became a victim of the orchestrated fear that it might be responsible for the Corona.

The topic was well introduced by Prof. Pradip Kumar Das and the resource persons, namely Dr. R. N. Chatterjee, Dr. S. M. Deb, Dr. Saroj Kr. Swain, Dr. A. Sur and Dr. Debasish Sarkar had made some excellent presentation covering the areas of poultry, dairying, fisheries, economics etc. Special inputs and wisdom from Dr. Gaya Prasad and Dr. Hemanta Kumar Majumder elevated the status of the proceeding. Earlier, the remarks from the president and other office bearers of IJAH, Kolkata were also well appreciated.

I am happy that the organizers have brought out some relevant recommendation from the presentations made including the inputs from other participants and the Chairman and I sincerely hope that the recommendation will attract the attention of the policy makers and the government leading to formulation of suitable research and development agenda to negate the impact of COVID 19 and win back the confidence of the people engaged in this vital sector of food economy.

My sincere thanks to the organizers, more specifically to Prof. Pradip Kumar Das for giving me the opportunity to chair this important webinar.

K. M. Bujarbaruah
Chairman
Webinar

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Address of Publisher	: Dr. P. Sarkar, General Secretary, WBVA	
Base paper presentation	: Prof. P. K. Das, Editor, IJAH	
Address of Session Chairman	Prof. K. M. Bujarbaruah, Former DDG (AS), ICAR and Former VC, AAU, Assam	
<i>Technology Integration for Aquaculture Development</i>	: Dr. S. K. Swain, Director (Acting), ICAR-CIFA, Bhubaneswar, Odisha	Prof. S. K. Das
New age Poultry Production in Covid 19	: Dr. R. N. Chatterjee, Director, ICAR-DPR, Hyderabad, Telengana	Dr. I. Samanta
<i>Challenges Faced by Livestock Sector due to COVID 19 and their Mitigation Strategies</i>	: Dr. S. M. Deb, Head, AG & B Div., ICAR-NDRI, Karnal, Haryana	Dr. S. Das
<i>Covid 19: An Eclipse of the Dairy Industry</i>	: Dr. A. Sur, VP, Keventer Agro Ltd., West Bengal	Prof. S. K. Das
<i>Possible Economic Impact of Covid 19 on Animal Husbandry and Fisheries</i>	: Dr. Debasish Sarkar, Principal, Chandernagore College, WB and Eminent Economist	Dr. S. Chatterjee Dr. G. H. Mondal
Valuable Remarks on the Webinar	: Prof. Gaya Prasad, Former ADG (AH), ICAR, New Delhi	Prof. S. N. Joardar
	: Dr. H. K. Majumder, President, National Academy of Science, Kolkata Chapter	
Concluding remarks of Chairman	: Prof. K. M. Bujarbaruah, Former DDG (AS), ICAR and Former VC, AAU, Assam	Dr. P. R. Ghosh
Vote of thanks	: Dr. A. Mukherjee, Chairman, Publication Board, IJAH	Dr. S. K. Bose Dr. S. Alam

Preamble

Indian Journal of Animal Health (IJAH), a bi-annual scientific journal, has been published uninterruptedly by since 1962 intending to promote the art of Veterinary & Animal Husbandry, Fishery, and Dairy Sciences and their relation to Public Health & Agriculture. It caters the scientific communities from different Institutions and Universities to bring the latest information about the advancement of sciences to the door step of end users. This year the IJAH organized a national seminar on *Drug Resistance - A Global Menace: One Health Approach* on 7th March and published a *special issue* of the journal on it. The IJAH is in progress to publish another special issue within the end of this year on *Gut Microbiome and Health for Improving Productivity of Animal and Fish*.

In the context of present COVID pandemic caused by SARS-CoV-2 virus, the IJAH have prioritised this vital health issue that affect directly or indirectly almost every facet of the society including animal husbandry and fish farming. The Ministry of Agriculture, GOI and ICAR stated that the COVID 19 pandemic posed a direct impact on the livelihood of animal and fish farmers due to lockdown. Various industries related to this sector viz. dairy, poultry, fish processing, feed manufacturing sector were also affected to a large extent. The lockdown/ restricted mobility situation also constrained the access of entire technical service systems and limited the supply / marketing chain associated with animal and fish agriculture. It resulted in reduction of milk, meat, egg and fish production and supply chains which may have long term implications towards sustainability of this sector and livelihood security of the farmers. In spite of understanding about the losses in this sector due to COVID 19 pandemic, short- or long-term impact on livestock, poultry and fish production system has not been assessed yet in any tier in India.

Keeping in view the livelihood of nearly two-third of rural population who directly depend upon this sector; IJAH organized one national webinar entitled **Impact of COVID 19 on Dairying, Poultry and Fisheries: National Perspective** on August 29, 2020 involving the technocrats, planner, economists and stakeholders. The session was chaired by **Prof. K. M. Bujarbaruah**, Former Deputy Director General (Animal Science), ICAR and Former Vice Chancellor, Assam Agricultural University, Assam. **Dr. S. K. Swain**, Director (Acting), ICAR-Central Institute of Freshwater Aquaculture, Kausalyaganga, Bhubaneswar, Odisha delivered his speech on Technology Integration for Aquaculture Development. **Dr. R. N. Chatterjee**, Director, ICAR-Directorate of Poultry Research, Hyderabad, Telangana talked on New age Poultry Production in Covid 19. The Challenges faced by Livestock Sector due to COVID 19 and their Mitigation Strategies was elaborated by **Dr. S. M. Deb**, Head, AG & B Division, ICAR-National Dairy Research Institute, Karnal, Haryana and Former Director, ICAR-National Research Centre on Yak, Arunachal Pradesh. **Dr. A. Sur**, Vice President, Keventer Agro Ltd., West Bengal discussed in depth the issue of Covid 19: An Eclipse of the Dairy Industry. **Dr. Debasish Sarkar**, Principal, Chandernagore College, West Bengal and Eminent Economist discussed on Possible Economic Impact of Covid19 on Animal Husbandry and Fisheries. **Prof. Gaya Prasad**, Former Additional Director General (AH), ICAR; Former Director, ICAR-IVRI and Former Vice Chancellor, SVPUAT, Meerut and **Dr. Hemanta K. Majumder**, President, National Academy of Science, Kolkata Chapter, NASI Senior Scientist Platinum Jubilee Fellow put their valuable remarks on the webinar. Nearly 700 participants from India and abroad comprising faculties, scientists,

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professionals / technocrats of government and corporate sectors including the farmers, interacted with the speakers in the webinar. The discussion was initiated by **Prof. P. K. Das**, Editor, IJAH. The introductory lecture and welcome address were given by **Dr. Partha Sarkar**, General Secretary, West Bengal Veterinary Association and **Prof. B. Roy**, Chief Editor, IJAH, respectively.

All the speakers critically analysed that the Indian major market of milk, meat, egg and fish is the hotels, restaurants and local shops; which was seriously affected during lock-down. Hence, the farmers had to lost their income since about five months. On the other hand, the production rate has been fallen due to shortage of quality feed and insufficient health care services causing increase in the production cost. A lot of low genetic potential have also been generated because of inappropriate breeding input which may reduce animal protein production system in long-term. In consequence, the earning and livelihood of rural two-third population would be affected; particularly the self-employment of women population. Further, the family purchasing power was greatly reduced during lock-down as a whole. Hence, animal protein supplement in daily ration of the general mass would be seriously affected. It would also decrease the demand of milk, meat, egg and fish market. But, it is anticipated that the large section of job-less rural people sought to earn their living depending on dairying, poultry and fisheries by the reason of it low investment-great return within a short period of time throughout the year.

In this context, all speakers tuned in the webinar that rejuvenation of rural livelihood – nutrition – economy is to be prioritised in the planning of the government along with the organised sectors. Emphasis is to be given to provide the direct financial / input assistance to the farmers to reinstate their animal-fish farming. Farmers' Self-Help Groups and Farmers' Cooperatives should be involved in infrastructural development for large scale animal resource generation, products procuring, processing and marketing. Purchasing power of the farmers should be restored so that they will be able to accept any loan effectively. Hence, integration of all the government aids and schemes should be converged for animal and fish resources development. Peoples' awareness programme is to be promoted in relation to avert the rumour of spreading corona virus through animal products. It is to be publicized that the health of environment – animal & fish – human can be protected in One Health Approach.

The virtual meet also provided some tangible hints to the policy makers so that the potentiality of this sector can be better utilized to generate infrastructure and implementation of required legislative boosting for Dairy, Poultry & Fishery industry in comparison to global perspective.

Details of deliberations and recommendations of the webinar are summed and outline of this webinar are presented in this publication. Hope, the major outputs will be accepted and implemented by the concerned personnel and related agencies or organisations.

26.09.2020
Kolkata
West Bengal

Prof. Barun Roy
Chief Editor
IJAH

Prof. Pradip Kumar Das
Editor
IJAH

Webinar youtube link

<https://www.youtube.com/channel/UCDZ4m0JHdKpfBlqWD7QY3UA>

Impact of COVID 19 on Dairying, Poultry and Fisheries : National Perspective^{\$}

Prof. Pradip Kumar Das

Editor

Indian Journal of Animal Health

In the perspective of current COVID 19 pandemic it has been documented that a few pet cats and dogs and some large cats in USA; few minks in the Netherlands were infected by SARS-CoV-2 virus. Experimentally ferrets, cats, and golden Syrian hamsters got curable mild infection; whereas it was confirmed that mice, pigs, chickens and ducks did not show any symptom in such trial where animals were experimentally infected with SARS-CoV-2, even not a single report of infection had been confirmed of livestock and fish. In this context, the Centres for Disease Control and Prevention (CDC) in their advisory on 12th May, 2020 declared the guidelines to protect both human and animal health. The scientific advice of The World Organisation for Animal Health (OIE) stated that *although several animal species have been infected with SARS-CoV-2, but these infections are not a driver of the COVID 19 pandemic; the pandemic is driven by human to human transmission*. They emphasised on the multi-sectorial one health approach to combat such pandemic situation. The OIE did not recommend any COVID 19 related sanitary measures be applied to the international movement of live animals or animal products without justifying a risk analysis.

Indian Council of Agricultural Research (ICAR) and Ministry of Agriculture & Farmers Welfare and Ministry of Fisheries, Animal Husbandry & Dairying, Government of India in their series of advisories since March, 2020 related to COVID 19 pandemic have been suggesting continue the farming activities and services with minimum supporting staff maintaining social distancing and personal hygiene following various safety measures. During May, 2020 the ICAR published that *the challenge became still tougher as the lockdown resulted in shortage of farm labourers on one hand and disruption of marketing channels at the end of consumers. Perishables like poultry, dairy, fruit and vegetables started perishing and this resulted into destruction of a lot of food which otherwise could have been consumed by the people of India. Such trend couldn't be let continue as our national food reserves can feed 1350 million people only for few months*.

The advisories of ICAR in respect to the fisheries sectors have been recognised by the Food and Agricultural Organization (FAO), where it was stated that *besides the disruption of fishing activities from open-water, and aquaculture in both freshwater and brackish water systems, several associated activities like seed production, feed plant operation, supply and market chains, etc. have been greatly impacted. As a whole, the fishermen, fish workers, processors and their communities have been facing the threat of the pandemic, which is affecting the entire value chain and the livelihoods depending on it*.

Minister of State for Fisheries, Animal Husbandry & Dairying of Government of India stated that *India's fish export likely to fall 5-10 percent in financial year 2020-21 due to*

^{\$}Base Paper presented in the Webinar

COVID 19 crisis. The Central Institute of Fisheries Technology (CIFT) reported *COVID 19 inflicts a daily loss of Rs. 224 crore to India's fishery sector.* The All India Poultry Breeders Association (AIPBA) declared *the Indian poultry industry lost nearly of Rs 22,500 crore during COVID 19.* Dairy industrialists communicated that *milk consumption drops 30% amid lockdown.*

Under these circumstances, we are organising this Webinar on **Impact of COVID 19 on Dairying, Poultry and Fisheries: National Perspective** to discuss in detail such impacts from the scientists, researchers, professionals and eminent personalities in the related fields.

The role of dairy, poultry and fishery in the society are multidimensional. These resources provided the basic source of animal proteins which contain nearly one third of the daily menu and directly related with food security. Its importance has been increased many folds in COVID pandemic situation. From the socio-economic point of view, these sectors are primary sources of income of nearly 24 million Indian people and the number increased many folds when agriculture experiences several crises. Considering its importance as a major means of non-edible agricultural by-products in value chain system as well as primary input of bye-products like hides and skins, blood, bone, fat, etc., the dairy, poultry and fishery are the precise resources in national economy.

Hence, when the farming systems were greatly affected during lockdown caused by COVID 19 pandemic, the national income as well as livelihood were significantly affected. It is not yet being declared from Government sector about the details of impact of such events on dairying, poultry and fishery. But, considering the ground reality as physical distancing, unsecured transportation, scarcity of raw materials; it can be taken into account that farming system has been seriously affected. Optimum production was also troubled due to lack of sufficient services like health care management and genetic up-gradation programme causing increased mortality as well as generation of poor breeding stock. Further, market of primary products like milk, meat, egg and fish remained uncertain, even internationally. In consequence, processing and ancillary industries are distressed to a great extent. As a result, losses of potential market along with loss of man-days have been perceived. COVID 19 pandemic situation directly reduced the purchasing power of the Indian citizen. It also disheartened the farmers and all the related personnel, which immediately created a short-term impact due to COVID 19.

Beating of breeding stock, generation of poorer progeny and loss of principal component or mortgage as well as defaulter of credit payment are few of the long-term impacts to farmers during COVID 19.

Proper analysis of impact considering all such aspects is an emergent issue to the nation. Not only to support directly the victimised producers and related personnel; structural reformation for input generation and marketing support as well as financial support have also to be extended many folds from the normal budgetary provision; even declared packaged for farmers, to accommodate the jobless Indians and strengthen the women empowerment as demanded nationwide in post COVID 19 pandemic. Continuous technical support and motivation through ICT for hygienic and value added products preparation as well as replacement of breeding or farm stock with potential resources

should be ensured to encourage the progressive farmers. Labour intensive and SHG activities are to be promoted. Increasing grant to make research, extension and capacity building programme should also to be prioritised from Government sectors.

Keeping in view the livelihood of nearly two-third of rural population in these sectors, the webinar hopefully will make guidelines from the resourceful talks of the technocrats, economists and interactions with stakeholders.

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How is COVID-19 affecting the fisheries and aquaculture food systems

Although COVID 19 does not affect fish, the fish sector is still subject to indirect impacts of the pandemic through changing consumer demands, market access or logistical problems related to transportation and border restrictions. This will in turn have a damaging effect on fisheries and fish farmers' livelihoods, as well as on food security and nutrition for populations that rely heavily on fish for animal protein and essential micronutrients.

At the same time, misleading perceptions in some countries have also led to a decreased consumption of seafood, resulting in a fall in prices of fish products. This emphasises the need for clear communications regarding how the virus is transmitted and that is not related to seafood.

FAO. 2020. How is COVID-19 affecting the fisheries and aquaculture food systems. Rome. Doi: 10.4060/ca8637en

Ministry of Environment (Government of India) issues guidelines to prevent COVID in the zoo

After confirmation of COVID in a tiger housed in the Bronx zoo, New York, the Ministry of Environment (Government of India) issues guidelines to prevent COVID in Indian zoos. The keepers should watch the animals on CCTV for any abnormality for 24 hours. The samples collected from the suspected carnivores such as cat, ferret and primates should be sent to the designated animal health institutes for COVID testing. The designated animal health institute includes Centre for Animal Disease Research and Diagnostic (CADRAD), Indian Veterinary Research Institute, Bareilly, UP; National institute of High-security Animal Disease (NISHAD), Bhopal; and National Research Centre on Equines, Hisar, Haryana.

No need to put mask on your pet!



People are buying face mask for their pets throughout the country to protect them from COVID19 which is unnecessary. Centers

for Disease Control and Prevention (CDC, Atlanta, USA) says that very few numbers of pets were detected to suffer from COVID due to close contact with their owners suffering with COVID. CDC suggests to keep the cats indoors and to walk dogs on a chain at least 6 feet away from others. Healthy diet and indoor exercise will help to boost the immunity. If anyone of the family is suffering with COVID and is under home quarantine, he or she should avoid the contact of other family members including the pets.

New age Poultry Production in Covid-19



Dr. R. N. Chatterjee

Director

ICAR-Directorate of Poultry Research
Hyderabad, Telangana

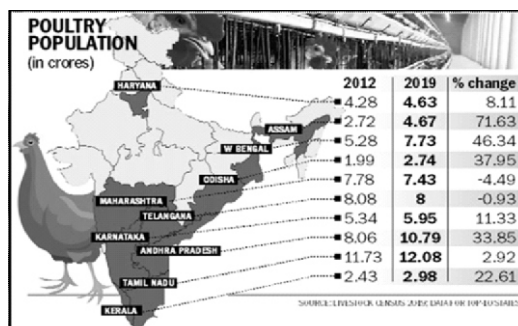
Dr. Rudranath Chatterjee, Director, ICAR-Directorate of Poultry Research, Hyderabad had delivered on *New age Poultry Production in COVID 19*. His presentation was sub-divided into three interrelated chapters namely poultry production during pre-COVID, lockdown epoch, and impact analysis of COVID on Indian poultry sector. It was a nicely compiled, data-based presentation depicting global and Indian scenario on poultry population, per capita consumption of eggs and poultry meat, and recent growth in Indian egg and poultry meat production.

The salient features of his presentation includes rumors related to poultry birds as a possible source of COVID 19 and associated demand drop for eggs and meats among the consumers, reduced business opportunity of small contract farmers, disruption of supply chain, closure of meat processing plants and restaurants, and reduced import and export of chicks. Dr. Chatterjee described the beneficial effects of chicken meat and egg

Backyard or commercial poultry cannot act as vehicle for SARS-CoV-2 transmissions; rather the birds can be used for production of anti-SARS-CoV-2 antibodies

consumption such as source of balanced protein, vitamins, essential minerals and fatty acids, natural anti-oxidants, which can boost up the immune status of the consumers, required to tackle the current pandemic. He also stressed on the fact that backyard or commercial poultry cannot act as vehicle for SARS-CoV-2 transmission; rather the

birds can be used for production of anti-SARS-CoV-2 antibodies. He suggested to use locally available feed ingredients or alternative feed ingredients to tackle the transport issue of feed during the lockdown period. He also highlighted about home deliveries and takes away counters as an alternative business strategy of poultry meats, meat products and eggs.



Source: Livestock Census 2019; Data for top 10 states

Technology Integration for Aquaculture Development



Dr. S. K. Swain

Director (Acting)

ICAR-Central Institute of Freshwater Aquaculture
Kausalyaganga, Bhubaneswar, Odisha

Dr. Saroj Kumar Swain, Director, ICAR-CIFA had delivered a lecture on *Technology Integration for Aquaculture Development*. Dr Swain briefed the recent advances in the freshwater aquaculture technology development and outreach. He elucidated the role of ICAR-CIFA in the furthering the growth of the sector. He told that years of rigorous research efforts by the institute has resulted in many notable outcomes such as the genetically improved fishes: Jayanti Rohu, which grows faster than the normal ones; Catla, Scampi, a gamut of diversified fish species of regional importance including ornamental fishes and cultivable pearls, and a range of feed formulations, therapeutics and aqua-chemicals. He urged the need for linking such proven technologies for societal benefits through aquaculture development in general and in the post-COVID 19 periods in particular.

The salient features of Dr. Swain's deliberation include many key strategies viz. resource mapping, enhancement of genetic quality, balanced diet and pond environment, pro-active aquatic health management and, biotechnology and genetics. Location-specific technologies starting from traditional to technologically advanced smart aquaculture systems had also been given due importance in his deliberation. For example, he has emphasised the importance and success of rice-based integration of aqua farming in the North-Eastern states, particularly in Arunachal Pradesh and community-based aquaculture in shallow inundated areas. As the technologically advanced culture practices like RAS, Biofloc and Aquaponics etc. which are capital intensive and need mechanical designing, the role of private entrepreneurs in these emerging sectors have become crucial. Aquaculture sector was also impacted during the initial phase of the

COVID19 pandemic; 14 million persons directly or indirectly involved in this sector have suffered because of the lockdown and shutdown. The post-harvest sector, especially, marketing of fish to the consumers, processing and export have largely

Aquaculture sector was also impacted during the initial phase of the COVID19 pandemic; 14 million persons directly or indirectly involved in this sector have suffered because of the lockdown and shutdown

been affected because of the disruption in the supply chain. Small scale fish farming is less dependent on the commercial inputs; hence it has a limited impact. However, fish production is anticipated to be affected during 2020-21 because of decrease in seed production due to the pandemic. Dr Swain pointed out the opportunities to come up during the post COVID situation where the newly evolved localised marketing supply chain will continue to operate, the demand of fish seed will be more, there will be more start-ups, skilled manpower will be more in the sector using additional migrant labourers.

Challenges Faced by Livestock Sector due to COVID 19 and their Mitigation Strategies



Dr. S. M. Deb
Head, AG & B Division
ICAR-National Dairy Research Institute
Karnal, Haryana and
Former Director
ICAR-National Research Centre on Yak
Arunachal Pradesh

The topic *Challenges Faced by Livestock Sector due to COVID 19 and their Mitigation Strategies* was well deliberated by the honorable speaker Dr. S. M. Deb, Head, AG & B Division, ICAR-National Dairy Research Institute, Karnal, Haryana and Former Director, ICAR-National Research Centre on Yak, Arunachal Pradesh. Dr. Deb in his brief deliberation presented some data to show the importance of farmers even during the lock down and pandemic situation and discussed how the COVID situation affected dairy sector because of travel restriction, boarder closure and social distancing. This has the impact towards supply chain, processing, sales and consumer activity and financial crisis. Overall impact on production due to the pandemic situation finally affected the farmer and dairy sector as a whole. Dr. Deb pointed out mainly the hampering of supply and demand network and different ongoing programmes related to dairy farming which ultimately led to immense loss. He also raised the positive sides of this crisis as some important lessons were being learnt in COVID pandemic namely shift from meat based to dairy based protein, more SMP and milk powder production by cooperatives, need of being organized, increase participation in e-marketing etc. Role of migrant workers in farm operation was once again proved.

Dr. Deb emphasised his discussion on four major issues, viz. un-interrupted supply of inputs, sales and services, issue of migrant labourers, health and financial crisis. Dr. Deb opined that steady supply in dairying sector can be possible by strengthening the coordination among all relevant sectors including transport, markets and media to assist flow of information from reliable sources. Promotion of local resources, production of animal feed and supplements are also essential for stable dairy business. He analysed that post-harvest processing and value addition operations are required closer to food production centres. Online platforms and use of smart phones as well as various digital tools can facilitate livestock farmers to contact service providers. On the perspective of global concerns on exports of agricultural commodities, Dr. Deb suggested that India, being trade-surplus on meat & milk products may seize the opportunities. Dr. Deb also opined that Veterinary & AH Services should be included as essential in true sense. On the issue of migrant labourers according to Dr. Deb, One Nation One Ration Card may stop reverse migration of labourers, PDS has to be focussed on the vulnerable sections of rural society, MGNREGA is a demand-driven scheme that guarantees wage, employment and Government under National Food Security Act is supposed to provide subsidised grain to 75% of rural population and 50% of the urban population. To mitigate the health issue behavioural insights to market processes & environments including biodiversity, land,

water, and ecosystems; where diseases flourish, should be addressed. Dr. Deb expressed that investments should also be focussed on agri-sector as a growth engine and to bring resilience in food security.

Some important lessons were being learnt in COVID pandemic namely shift from meat based to dairy based protein, more SMP and milk powder production by cooperatives, need of being organized, increase in e-marketing etc.

The state governments must implement MGNREGA, proactively, to promote dairying. Lastly, he focussed the needs for immediate financial stimulus to the farmer to return back the dairying business in post-COVID scenario. He stated that Amartya Sen, Abhijit Banerjee and Raghuram Rajan have advocated for providing direct cash to the farmers to purchase inputs and development of infrastructure. Hence, it is expected that the government must address these issues empathically to make the sector sustainable and provide livelihood security to the livestock rearers.

Indigenous peoples' livelihoods and food security at risk

The COVID-19 pandemic is affecting indigenous peoples' food security differently across the world: those who rely on their indigenous food systems to generate food and have adopted traditional lockdown practices, are coping better than other communities who rely heavily on the market for their food needs. Furthermore, the livelihoods and food security of indigenous peoples who are displaced from their lands and those who are suffering conflict and violence at this time are particularly vulnerable during this pandemic. Due to the vast diversity of indigenous food systems across the world, food securities and insecurities manifest differently for indigenous peoples' communities

FAO. 2020. COVID 19 and indigenous peoples. Rome.

Doi: 10.4060/ca9106en

The food industry should have Food Safety Management Systems (FSMS) based on the Hazard Analysis and Critical Control Point (HACCP) principles in place to manage food safety risks and prevent food contamination. Food industry FSMS are underpinned by prerequisite programmes that include good hygiene practices, cleaning and sanitation, zoning of processing areas, supplier control, storage, distribution and transport, personnel hygiene and fitness to work – all the basic conditions and activities necessary to maintain a hygienic food processing environment. The Codex General Principles of Food Hygiene lay down a firm foundation for implementing key hygiene controls at each stage of the food processing, manufacture, and marketing chain for the prevention of food contamination.

FAO. 2020. COVID 19 crisis and support for agrifood: Public sector responses through the financial sector. Rome. Doi: 10.4060/ca9846en

COVID 19: An Eclipse of the Dairy Industry



Dr. Asitava Sur

Vice President

Keventer Agro Ltd., West Bengal

Dr. Asitava Sur, Vice President, Keventer Agro Ltd., West Bengal delivered a speech on *COVID 19: An Eclipse of the Dairy Industry*. He presented the way the dairy sector is being affected by the pandemic. Dr. Sur also pointed out the regional scenario to show the effect of pandemic on dairy sector in the eastern part of India along with the national situation. His excellent deliberation along with the ppt visuals gave some direction towards the way forward.

The salient features of Dr. Sur's deliberation include some optimistic reports about the dairy sector, during such pandemic, like production and supply chain of milk which by and large held unchanged, creation of buffer stocks to tide over the crisis and a reasonable return achieved by most of the dairy companies. He also quoted ACE Equity which reported seven dairies like Hatsun, Heritage, Hindustan foods, Kwaliti dairies, Modern dairies, Parag foods and Vadilal industries, to have given a 50 % plus return from March 23 till now. The ray of hope reported in Dairy Reporter about food sustainability partnership between FAO and Dutch Cooperative Radobank to look at dairy sector rural communities in India

In July, quotations for all the dairy products represented in the index rose, moving the overall value 0.7 points (0.7 percent) above the corresponding month last year and for the first time above pre-pandemic level.

and Kenya in COVID situation. The FAO Dairy Price Index was also figured in his discussion which averaged 101.8 points in July, up 3.5 points (3.5 percent) from June. In July, quotations for all the dairy products represented in the index rose, moving the overall value by 0.7 points (0.7 percent) above the corresponding month of

last year and for the first time above pre-pandemic level. On the other side, the hard facts during the lock down were also surfaced in his discussion which is quite alarming like week value added product sale, no revenue growth (CRISIL); drop of milk price by 20-40% and slashed SMP price by 40% (Indian Dairying: Time to Act). Regional sales showed a definitive downward trend for all the dairy products including milk and excluding the fermented product and paneer which showed some growth.

FAO discourages sampling surveys as part of active surveillance for SARS-CoV-2 in animal species that would distract time and resources away from other responsibilities of veterinary services. Instead, FAO encourages public health, veterinary and wildlife authorities, and forestry and natural resources management to work closely together with a One Health approach to investigate SARS-CoV-2 transmission between animals and humans, provided conditions and resources allow.

FAO, 2020. Animal Production and Health, Paper 181, pp: 3

Possible Economic Impact of COVID 19 on Animal Husbandry and Fisheries



Dr. Debasish Sarkar

Principal

Chandernagore College,
West Bengal and

Eminent Economist

Dr. Debasish Sarkar, Principal, Chandernagar College, West Bengal and Eminent Economist delivered speech on *Possible Economic Impact of COVID 19 on Animal Husbandries and Fisheries*. Considering the nature of the Animal Husbandry sector, there is no unique understanding for impact of COVID 19 in this area. This is a labour intensive industry. Due to pandemic, a large number of poor farmers have lost their income or job as a result of restriction of movement, high cost of inputs and other essential goods, market closure, etc. As the behavioural pattern of the consumer in terms of consumption has been changed, the field is to be explored for the poor farmer. Diversity of the market has been lost for this pandemic and the big market giants play a vital role in control the online market. As a result the poor farmers are losing a lot.

Dr. Sarkar elaborately narrated that COVID 19 has affected every sector including animal husbandry and fisheries, where a large number of women are engaged. It is also totally labour oriented sector. In pandemic, possibilities of job opportunities have been decreased.

Input matrix affected significantly that cause the rise of cost of inputs as well. On the other hand, the demand of the animal products drastically reduced in the market. Rumors against the animal

Government is willing to provide loan but farmers are not in mood to receive loan, as there are huge possibilities to exhaust the money for livelihood, not for farming.

products were added with it to shrink the demand. Hence, the farmers suffered both in production as well as market. He opined that the TRANS policy as announced by Finance Minister, GOI to relieve the farmers is not appropriate in present scenario. Government is willing to provide loan but farmers are not in mood to receive loan, as there are huge possibilities to exhaust the money for livelihood, not for farming. He also agreed that data driven real relief should be provided to farmers to boost up the farm production.

The impact of the crisis due COVID 19 pandemic on the economy and incomes will depend on the duration of the emergency, the severity of restrictive virus-containing measures, the resilience of the economic and social support systems and other country characteristics, and on how effectively countervailing measures will reach businesses and population segments that are most severely affected. The financial sector plays a fundamental role in enabling successful country responses.

FAO. 2020. COVID 19 crisis and support for agrifood: Public sector responses through the financial sector. Rome. Doi: 10.4060/ca9846en

Valuable Remarks on the Webinar



Prof. Gaya Prasad
Former Additional Director General (AH),
ICAR, New Delhi;
Former Director, ICAR-IVRI and
Former Vice Chancellor, SVPUAT, Meerut

Prof. Gaya Prasad opined that health of animals, vaccination programmes, schemes like FMD CP and others were badly affected during COVID 19 pandemic. Although not clear just at the present moment, the total estimates in future will show the economic loss and other impacts in animal husbandry sector more vividly.

COVID 19 experience pointed out our poor funding status at the surveillance of emerging diseases of human and animals. It showed our weakness related to disease preparedness to address emerging diseases from environmental hosts.

To avoid this type of situation, we should be more vigilant to the environmental reservoirs like bat, rodents, insects and wild animals. As such we should be more serious in developing infrastructure and expertise to address the issues of environment-animal-human interface and well being of mankind at large.



Dr. Hemanta K. Majumder
President
National Academy of Science, Kolkata
Chapter and
NASI Senior Scientist Platinum
Jubilee Fellow

According to **Dr. Hemanta K. Majumder** many of us are scared of COVID 19. But considering death rate and overall health of the Indian population, it should be kept in mind that it is not so much harmful. Per day death in India is more than 25 thousand including accidents, infectious diseases and cancer. It is not comparable to COVID 19 death (total 62 thousand in India during last 6 months).

Development of vaccines is currently being tried by different scientific groups. But it is not so easy to develop a useful vaccine. We should keep in mind that for AIDS, SARS, MARS and Dengue, no vaccines are available so far.

Like many organisms, this SARS-CoV-2 is going to stay with us.

Hence, our planning would be made accordingly.

INDIAN JOURNAL OF ANIMAL HEALTH

ISSN 0019-5057

Published by : **West Bengal Veterinary Association**

37, Kshudiram Bose Sarani, Kolkata – 700037, West Bengal

Website: www.ijah.in; Email: ijahwbva2010@gmail.com

AIMS AND SCOPE

Indian Journal of Animal Health (IJAH) is a peer-reviewed biannual journal published since 1962 that accepts research articles, short communications, reviews, book reviews and scientific reports in all aspects of veterinary or animal and fishery sciences. Letter to the editor as well news and views section will also be considered in the journal. Multidisciplinary areas related to animal and fishery sciences are to be encouraged through various aspects of the journal.

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Impact of COVID 19 on Dairying, Poultry and Fisheries : National Perspective

Recommendations

Dairy and Dairy Industry :

1. Since milk production inputs, procurement, processing and sales were observed to be the major hurdles during COVID 19 with resultant stress on farmers economy, strengthening of input supply chain by the respective state governments and putting in place adequate number of procurement channels with MSP are recommended.
2. Registration of farmers under small, medium and large categories by each state is recommended to carry out a category wise assessment of the impact and related support needs for the these categories on short, medium and long term basis and to explore providing of such supports taking the advantage of financial resources under various government schemes.
3. An Animal Disaster Management Unit with experts from IT sector is recommended under the Veterinary Department of each state to immediately attend the supply chain disruption and other vital areas of the production to consumption chain for all such situations.
4. Research institutes/ universities including the industry dealing with Dairy sector need to take up client oriented research to develop pandemic specific digital technologies to minimise the loss and sustain the profit with focus on stream lining milk processing and marketing during such pandemic and developing suitable prophylactic measures to guard against the entry of diseases following FAO (2020) guidelines with minor modification wherever are needed.
5. Virtual meetings/ strategic brainstorming sessions at periodic interval during the pandemic is recommended involving researchers, state department official, industry partner and 2-3 members from the three categories of farmers to hammer out experience and resource based intervention schedules.

Poultry :

1. In most of the pandemics including COVID 19, poultry sector which is a high growth industry is observed to be placed in the blame game as the spreader of such diseases and before the myth is cleared, the damage to the sector has already been done. It is therefore recommended that the Government should

step in immediately through electronic media to dispose of such propaganda till it is scientifically established so that the farm economy does not suffer.

2. Intervention of the Government is recommended to halt the supply chain (Feed, Vaccines etc) disruption in such pandemics by making special provision to make these items available through systems like PDS (Public Distribution System) or Panchayats at least in high poultry concentrated areas.
3. The Government may also consider subsidizing the replacement stock to be procured by the small and medium farmers following COVID 19 to partially compensate the loss due to distress etc. sale during that period.
4. Cold storage facilities for poultry meat and its products are also recommended to be established by each state government to facilitate proper marketing of the farm produce.

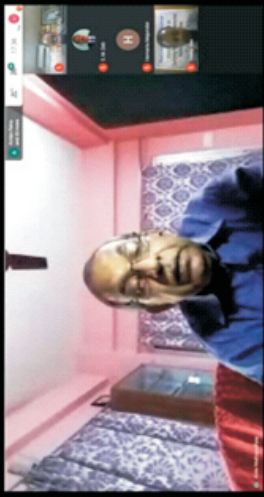
Fishery :

1. Initial impact of the pandemic on fishery sector was minimal which however started surfacing when the continued lock down clashed with the breeding time. It is therefore recommended that the Government should ensure supply of essential items like hormones, feed etc. without interruption during the period.
2. Since fish has limited self life after harvest and also it has no demand side constraint, it is recommended that the government should facilitate its transportation across the country in situation like COVID with special permit etc. wherever are needed.
3. Now that a mega scheme for fishery sector growth and development (PMMSY) has been launched by the Hon'ble Prime Minister, it is recommended that each of the 21 states would be covered to take the advantage of this scheme and not only negate the COVID impact on the sector but also becomes Atmanirbharsil in it.

Economics :

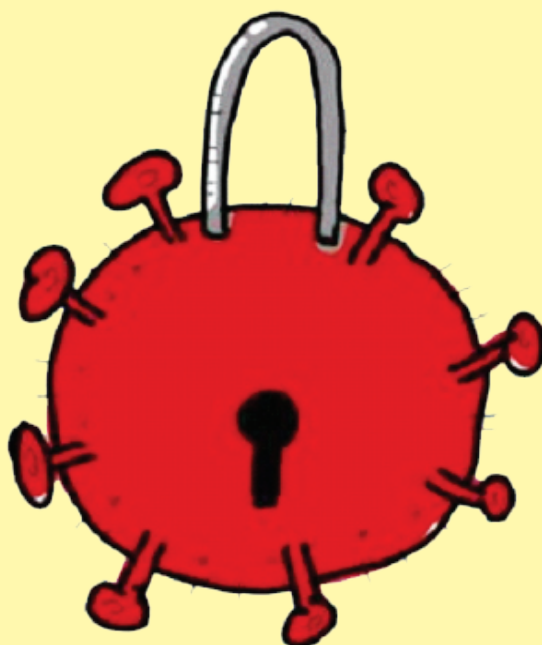
1. Economic impact of COVID in real term on livestock and fishery sectors is recommended to be critically analyzed, separately for all the three categories of farmers, identifying the major hit points responsible for economic loss and to developing learnt lesson based support mechanism to win back the confidence of the farmers. NCAP like institution of ICAR may be given this responsibility.
2. Oligopoly type of market is to be restored to boost up the moral of poor livestock farmers.

Glimpse of the National Webinar

		
Prof. B. Roy, Chief Editor, IJAH	Prof. P. K. Das, Editor, IJAH	Dr. P. Sarkar, GS, WBVA
		
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National Webinar on
**Impact of COVID 19 on
Dairying, Poultry and Fisheries**

A National Perspective



Outline



Indian Journal of Animal Health
2020 • Kolkata