



Impacts of COVID-19 on the Food Systems in the Pacific Small Island Developing States (PSIDS¹) and A Look into the PSIDS Responses

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1. Background and Impacts:

Due to the COVID-19 pandemic, cities have been lockdown, businesses have been closed, travel and gathering have been banned, and supply chains have been disrupted. The pandemic is upending economies and daily life everywhere, including the Pacific Small Island Developing States (PSIDS) [1]. In the selected PSIDS, Fiji is the only country with confirmed positive cases of COVID-19. As of 07 May 2020, there has been 18 confirmed cases in Fiji [2]. Many other PSIDS are officially free of COVID-19 (no reported cases). It is due to the timely strict restrictions, to prevent the spreading of COVID-19. Some PSIDS have declared a state of emergency, some lasting months. Air travel and commercial flights have practically ceased. These strict measures and restrictions have badly affected Pacific countries reliant on imports, tourism and revenue from labour mobility [3]. COVID-19 impacts on tourism, remittances and supply chains have affected food systems in the Pacific region as well.

1.1. Impacts on economic access to food:

In some PSIDS, tourism contributes as 70 percent of the overall GDP and generate up to 34 percent employment [4]. In 2019, Fiji's tourism incomes totaled around US\$ 900 million³ (17.2 percent of GDP), Samoa US\$ 193.5 million (23 percent), Vanuatu US\$ 175.8 million (19.3 percent), Cook Islands US\$ 238.2 million (73.3 percent) and Tonga US\$ 59.1 million (10.4 percent) [5]. Tourism provides a larger domestic market for local agriculture produce, as well as for marine resource products. In 2017, hotels and resorts in Fiji's main tourism areas spent FJD 74.4million (US\$ 36.4 million) on procurement of fresh produce [6]. More than half or 52 percent of the mentioned amount was spent on imported food items [6].

¹ The selected PSIDS covered in this article are Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

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³ www.xe.com was used to convert local currencies into the US\$ (accessed May 2020)

Due to the strict travel restrictions around the globe and in the PSIDS, a sharp reduction has been seen in tourist numbers. As a result, the tourism dependent economies of PSIDS, such as Fiji, Samoa, Cook Islands, Vanuatu, and to a lesser extent Tonga will experience a major recession this year. Fiji now stands to lose nearly 602k⁴ visitors by air this year (-67 percent y/y). This is equivalent to US\$ 631.3million loss in tourism receipts which will subtract 12ppt from nominal GDP. Vanuatu's economy is expected to decline (-13.5 percent), as are Samoa (-18.7 percent), Cook Islands (-60.4 percent) and Tonga (-7.9 percent) [5].

In 2019, services had provided 80.2 percent of total employment in Samoa; it was 47.8 percent in Fiji, 39.9 percent in Tonga, 32.5 percent in Vanuatu and 29.7 percent in the Solomon Islands [7]. Due to the COVID-19 restrictions, people working in the services and corporate sectors in urban areas are at high risk to lose jobs. From the decline in the tourism sector, large employment losses are also predicted. In Fiji, a total of 75k jobs (25 percent of total), are at risk, it is 21k for Vanuatu and 7k for Samoa [5]. Households in urban areas purchase food and mostly depend on imported foods. Loss of jobs due to closure of business is likely to cut their incomes and effect their purchasing power and ability to procure food [1].

In many PSIDS, remittances (flow from internal and international migrants) contribute to development in various contexts and provide an important source of foreign exchange. In 2016, nearly a quarter of Tonga's GDP was derived from remittances [8] and it was recorded 40.7 percent in 2018 [7]. In 2018, remittances contribution in the Samoa's GDP was 17 percent [9]; it was 14.1 percent for Marshall Islands, 9.7 percent Kiribati, 9.5 percent Tuvalu and 5.2 percent for Fiji [7]. Remittances meet varieties of real needs of Pacific Islanders and food is one of the main items purchased with remittances [10]. Based on data from the Asian Development Bank, in Papua New Guinea (PNG) households spent 88 percent of all remittance income on food and it was 50 percent in Tuvalu [10].

Due to COVID-19, less money is flowing back to Samoa and the families of seasonal workers are affected as well [3]. In March 2020, private remittances dropped by WS\$ 8.3million (US\$ 3million) to WS\$46.3 million (US\$ 17million) compared to WS\$54.62 million (US\$ 19.8 million) in March 2019 [11]. Families of seasonal workers are either going without or relying on credit from village retail shops [3]. Tonga and Samoa are most vulnerable to declines in remittances, followed by Marshall Islands, Tuvalu, Kiribati and Fiji [7]. A drop in remittances could affect the purchasing power of families relying on remittances and could decrease the demand for food. This may also increase demand for cheap and unhealthy imported food and could increase food related non-communicable diseases (NCDs).

1.2. Impacts on locally grown food supply chains:

Agriculture in PSIDS is largely dependent on smallholder farms. Smallholder production strategies characteristically comprise a mixture of root crops, vegetables, fruit and livestock for household consumption, surplus sales and gifts, supplemented by income from cash crops such as copra, kava, cocoa, coffee and vanilla [12]. Locally produced food products play essential role in the economy,

⁴ These estimates are based on zero tourist arrival in first three months and gradual resumption of tourist activities in the second half of 2020.

employment generation, food security and nutrition in this region. In Samoa, food consumed from own production contribute 31 percent of the total Dietary Energy Consumed (DEC) [13], it is 25 percent in Tuvalu [14] and 19 percent in Tonga [15]. In the rural areas of the Pacific region, most people produce and consumed from its own food production. In the rural areas of Solomon Islands, 80 percent of the dietary energy consumed is coming from own production [16].

Supply chains of locally grown perishable produces for domestic markets are short and farmers, traders, wholesalers and retailers are the key actors. Once produces are harvested, need to be cleaned, packaged, and transported to the markets. The supply of local food products to the fruits and vegetable markets were decreased and prices were increased [17]. The factors causing reduction in the local food supply chains could be named as, (a) strict travel restrictions; (b) ban on public transportation⁵; (c) low demand for the fresh produces from the tourism industry; (d) cut in the business operation hours; (e) strict safety restrictions; and (f) ban on market vendors to stay overnight in the market place. In March 2020, in Samoa the overall volume of fresh produces supply to markets decreased 30 percent while limited supply of all produce pushed average prices up 12 percent when compared to February 2020 [17]. The number of market vendors trading at the local markets was recorded 29 percent lower than the previous month (February 2020) [17]. In addition, prices for some domestic cash crops (such as Kava) has been sharply decreased in Fiji. The prices reduction is due to the limited demand from domestic and international markets, linked to COVID-19 [18]. In May 2020, price of one kilogram of kava in Suva – Fiji market was FJ\$ 50 – 70 (US\$ 22.5 – 31.6), when compared to FJ\$ 150 (US\$ 67.7) late last year [18].

1.3. Impacts on imported food supply chains:

Pacific Islands spend billions of dollars on importing primary sector products (agriculture, fisheries, aquaculture, and forestry sectors) into the region [19]. People in urban areas have limited access to land and do not produce their own food, and are mostly depended on imported foods. Imported food have key places in the dietary patterns of the Pacific Islanders and have become staple foods in many Pacific Islands. Rice, flour and noodles have become staple food in the Solomon Islands [20]. Meat, cereals and cereal products, beverages, food preparations, and sugar are the top five primary sector imports for the majority of Pacific Island countries [19]. In some PSIDS, the mentioned imported food products are the key food groups, which contribute more than 50 percent of the total dietary energy consumed (DEC) [19]. In the Apia urban area, the contribution of these food groups [Cereals and products, Meat (including canned, processed etc.), Sugars and syrups] is 58 percent of the total (DEC), and this is 40 percent in rural Savaii area [13]. In Tuvalu, the contribution of food purchased and consumed at home is 66 percent of to the DEC (in which cereals, sugar and meat contribute to 86 percent of the calories purchased) [14]. In urban areas of the Solomon Islands capital Honiara in particular, 80 percent of the dietary energy consumed comes from purchases [16]. Access to the imported fresh food have been limited (the one supplied via air-cargo, such as fruits, vegetables and dairy products), and prices of other imported food have been slightly increased, particularly in urban

⁵ Ban on public transportation (buses and the one carry more than 5 people) was imposed in Samoa under State of Emergency (SOE) linked to COVID-19. In Samoa, many market vendors use public transportation (particularly buses), bring fresh produces to the local markets, if the produces not sold, they are sleeping overnight in the market places.

areas of the region. If the pandemic continues, it will have serious impacts on the food systems in this region; and will interrupt food supply chains of urban and peri-urban areas.

In PSIDS, fish is the main source of protein and a key part of the food systems. Average national fish consumption ranges between 55 kg to 110 kg per person per year [21]. This is almost 3 - 6 times the average global consumption [21]. Disruptions in the fish supply chains are already happening due to disruptions in transportation, trade, and labor [22]. For PSIDS, tuna industry is very important because it provides shelf-stable food (such as canned tuna) and they receive revenue from the licensing of fishing vessels [23]. Due to the strict travel restrictions associated with COVID-19, the mobilization of observers is difficult, it is hard to replace crew, access to vessels maintenance operation is limited, and vessels were required 14 days quarantined before going to the ports. Vessels operation have disturbed and sometime to get permission to operate without observer, vessels were waiting for over week that cost them US\$ 50 – 60,000 per day per vessel [23]. The island nations also lose about US\$130,000 per day per vessel at port under quarantine [24]. Tuna is the second largest revenue earner for Solomon Islands and is badly affected. More workers from the fisheries sector are being laid off and Soltuna, which employs over 1,000 workers, is a company that is scaling down [24]. Small-scale fish supply chains are also disrupted. In Samoa, under the state of emergency (S.O.E.) orders, fish markets (including roadside fishing stalls) across Samoa remain closed on Sunday. Due to which weekly income of fish vendors and consumers access to fish are limited (a roadside fishing stall could earn around WS\$ 300 – US\$ 108 between 6am and 7.30am on Sunday morning) [25].

As the pandemic is unpredictable and if continue for a longer time, the economy of the PSIDS reliant on tourism and remittances will be badly affected. Purchasing power of families dependent on remittances and employment in the services sector will be declined. Losses of jobs and incomes resulting from declines in tourism expenditure, remittances and general household and business spending will hit these PSIDS particularly hard [7]. The food systems in the Pacific Islands will be further disturbed, as access to imported food will be limited and food prices will be increased. Evidence from the 2007-2008 suggests, that the global financial crisis, had a major impact on rising food prices, and access to imported food was limited in this region. For example, the Honiara Consumer Food Price Index showed that the overall price for food (especially for rice, flour and noodles) increased by 53 percent from the last quarter of 2005 to the same period of 2010 [16].



Pictures © Farmer Joe-Samoa. Precaution measures taken in the supermarkets in Samoa

2. Measures and interventions:

To reduce and mitigate impacts of COVID-19 on economies, PSIDS have approved economic stimulus packages. Samoa has announced US\$ 23 million, Vanuatu US\$ 32 million and Fiji US\$ 400 million [3], Tonga US\$ 25.5 million [26], Federated State of Micronesia US\$ 15 million [27] and the Solomon Islands US\$ 37.5 million [28] economic stimulus packages. The Stimulus Packages are sourced from current government budget, government bonds, overseas concessional loans and direct budgetary support from donors and development partners. Established COVID-19 task forces, emergency response agencies, clusters and relevant ministries are implementing stimulus packages in short, medium and long terms. Some stimulus packages addressing priorities areas such as health response, enabling the private sector, securing citizen purchasing power, improving food security, multisector response, tax holiday for tourism operators, loan holidays, and subsidies for some export crops (such as Cocoa and Coconut) are few to name.

In particular, to reduce the impacts of pandemic on local food systems and ensure access to safe and nutritious food, governments, private sector actors and donors in PSIDS have taken a variety of actions. In this article, we have briefly mentioned measures and responses taken by PSIDS governments, addressing food systems and security related matters:

2.1. Measure to ensure local food production:

In Fiji, the Ministry of Agriculture (MOA) introduced, and is implementing initiative “Agriculture Response Package for COVID-19”. This initiative is built on up-scaling several initiatives that were already in place. The initiative was introduced to ensure that Fijians have access to adequate food of

acceptable quality and nutritional value throughout this crisis. The “Agriculture Response Package” is in the form of two initiatives [29]:

- (i) **Home Gardening Program:** Under this initiative, MOA provided Gardening Seed Packages to all households in urban and peri-urban areas around Fiji. All the agriculture extension offices started seed distribution on 30 March 2020. Before receiving the seeds, the recipients who meet the selected criteria were required to fill the “Agriculture COVID Response Form”. As of 20 April, 11,602 seed packages across Fiji were distributed. The purpose of this initiative was to provide access to nutritionally rich foods; increased purchasing power from savings on food bills; fall-back food provision due to the potential decrease in production and trade; and continuity of food supply now and into the future.
Based on demand from the corporate sector, MOA is re-packaging the seed distribution. Calling it “Corporate Employee Seed Package (CESP)”, targeting those corporate employees - who have lost their jobs.
- (ii) **Farm Support Package:** One million Fijian dollars (around US\$ 452k) is allocated for this initiative with aims to boost production of short-term crops. MOA distributed planting materials and open-pollinated seeds to farmers around Fiji at no cost. All the agriculture extension offices started seed distribution on 30 March 2020. Before receiving the seeds, the recipients who meet the selected criteria were required to fill the “Agriculture COVID Response Form”.

In Samoa, to support food security and increase local food production. WST \$3.5million (US\$ 1.26million) has been allocated to the Ministry of Agriculture and Fisheries (MAF), under the COVID-19 economic stimulus package. WST 1million or US\$ 360k (of US\$ 1.26 million) was allocated to increase local food production. MAF had purchased seeds of fruits, vegetables and other short cycle crops and were distribute to farmers and families, including in town areas. MAF in partnerships with the Ministry of Women, Community and Social Development (MWCSD) also distributed planting materials such as cassava, sweet potato and taro to increase food production in the local communities [30].

In Tuvalu, the government is supporting home gardens through providing seedlings. Government is also fast-tracking existing agriculture projects in the capital and the outer islands [31].

In Tonga, to increase local food production, TOP 3.2million (US\$ 1.36 million) were allocated to the ministries managing agriculture and fisheries. The Economic & Social Recovery Cluster (ESRC) have receive TOP 22.4 million (US\$ 9.35 million) to support 3 types of business such as Primary, Secondary and Tertiary. ESRC will also support farmers and fishers [26].

In Vanuatu, the Department of Agriculture and Rural Development (DARD) introduced and is currently implementing “COVID- 19 Food Security Response Plan”. One of the priority areas of the mentioned plan is to promote backyard gardening “stay at home and grow your own food”. Seedling of root crops and vegetable were prepared, and sold to the interested household [32].

Vanuatu Fisheries Department was promoting backyard fish farms in response to COVID-19. Fisheries Department was offering free Tilapia fingerlings and feed. Pick-up was available in both Port Vila and

Santo. The basic requirements were to build the pond first and later receive the free Tilapia fingerlings and feed from the Fisheries Department [32].

Tropical Cyclone Harold⁶ emergency response has overlapped COVID-19 preparedness plan. The emergency response plan for TC Harold is merged with COVID-19 preparedness plan. Through the TC Harold response plan, the assistance package includes (distribution of local and dry food rations, planting materials/seeds, small livestock/chicks and fishing gears).



PLANTING IN PREPARATION FOR COVID-19

AGRICULTURE DEPARTMENT IS NOW SELLING CAPSICUM AND CHILLY SEEDLINGS TO ANY INTERESTED INDIVIDUALS.

THE SEEDLINGS ARE READY TO GO AND BE TRANSPLANTED

PRICE: 200VT/SEEDLING TRAY

VENUE: DEPARTMENT OF AGRICULTURE TAGABE AREA

FOR MORE INFORMATION, YOU CAN CONTACT HEGGAR MOLISA AT 33550 OR TO PLACE YOUR ORDER.

FOOD SECURITY IS EVERY ONES BUSINESS

BE FOOD SECURED!

The advertisement features a large green plastic basket filled with green chili seedlings. At the bottom, there are four smaller baskets containing different types of seedlings.



COVID-19 BACKYARD TILAPIA FISH FARM

Guaranteed 4-5 months harvest cycle!

FREE fingerlings & feed

Terms and conditions apply

Call to arrange pick-up. Tilapia fingerlings and feed are available for pick-up at these two locations:

- A) Tagabe Aquaculture Station, Port Vila
- B) Santo Fisheries Dept. Branch, Luganville

Come and enjoy farming with our great team of experts!

Vila Office: 23119 or Santo Office: 36218
On-call staff: Josephine Rambay (VILA): 5264793, Noel Molley (VILA): 5975678 or Glen Alo (SANTO): 5868700
jrambay@vanuatu.gov.vu or galo@vanuatu.gov.vu

The advertisement includes a logo for the Vanuatu Fisheries Department, a photo of a Nile Tilapia fish, and three numbered photos showing different pond types: 1. Earthen Pond, 2. Plywood/Plastic Pond, and 3. Concrete Pond. It also shows a man holding several tilapia fingerlings.

Pictures © Department of Agriculture and Rural Development (DARD) and Vanuatu Fisheries Department

In the Solomon Islands, under the preparedness for response to COVID-19. Ministry of Agriculture and Livestock (MAL) has signed a contract with Sape Farmers Group. Under this contract, Sape Farmers Group will cultivate Cassava on 40 hectares land. This will increase local food production and

⁶ Tropical Cyclone Harold – Category –5 (formed April 1 – dissipated April 11, 2020). After wreaking havoc in Solomon Islands, the storm smashed into Vanuatu, caused widespread destruction in the Solomon Islands, Vanuatu, Fiji and Tonga.

will guarantee food supply to Honiara city in case there is food shortage due to the COVID-19 restrictions [33].

To encourage urban agriculture production in the Solomon Islands. Seedlings were distributed to the Honiara residents, and MAL continue mass production of seedling for further distribution.



Picture © Ministry of Agriculture and Livestock (MAL), distributing seedlings to the Honiara residents

2.2. Measures to ensure supply and market of fresh food:

In Fiji, after the first case of COVID-19 was confirmed in Lautoka area, lockdown was imposed in the greater Lautoka area on 20 March 2020 and later on in the greater Suva area on 3 April 2020. The MOA has made below arrangements to ensure the supply of fresh food and produce to the local markets and food vendors in lockdown areas [29]:

1. The Agriculture Marketing Authority (AMA)⁷ was buying from all suppliers and was delivering the produce to the vendors (of Lautoka market and within the greater Lautoka area and in Suva market and within the greater Suva area) every day for the duration of the lock down period
2. The AMA had setup buying booths at the two ends of the lockdown areas (for both greater Lautoka and Suva areas)
3. The booths were buying from 4am-1pm for the greater Lautoka areas and from 5:30 am – 1 pm for the greater Suva area (started immediately, when lockdown was imposed)

⁷ Agricultural Marketing Authority (AMA) was enacted in the Parliament of the Republic of Fiji Islands under Act no. 2 of 2004 on the 9th of March 2004. Mission of AMA is to secure markets and facilitate the purchase, sale and export of Agro and Aqua produce to stimulate economic growth within rural communities. More: <http://www.ama.com.fj/>

4. The suppliers were paid cash at these booths for the sale of their produce to the AMA.
5. The purchasing was for the required variety of fresh food and fruits which is sold at any market for an estimated volume based on the consumption requirement. Farmers and suppliers were asked to refrain from mass harvesting of produce – as AMA was not buying more than as required.
6. The AMA were distributing the purchased fresh produce within the greater Lautoka and Suva areas immediately after procuring the produce from suppliers/farmers every morning.

In Vanuatu, under the “COVID- 19 Food Security Response Plan”. One of the priority areas of the mentioned plan was “Commercial Food Basket”. The purpose of this action was to guarantee supply of local produces to the urban household at affordable prices. DARD in partnership with some key farmers was collecting local produces and was available (since 27 March 2020) for sale at DARD Sepeta warehouse in Port Vila. The food basket included local produces such as sweet potato/kumala, manioc and Tahitian lime fruits [32].

DARD also promoted Mobile Marketing. Such as selling local food, using trucks. The purpose was to encourage physical distancing and improve access to local food [32].

Some measures were taken to monitor and control prices, particularly food prices and keep smooth supply of food and other items [34].

In the Solomon Islands, to increase access and supply to fresh food, SBD 1.2million (around US\$ 144k) was allocated to the Honiara City Council to rehabilitate Kukum market where root crops and vegetable will be sold. Further funding will be facilitated for the establishment of Naha and White River satellite food markets. With support from the UN Women, Safe Market concept has been finalized. This is to ensure women market vendors’ economic activities continue to support their livelihood [33].

2.3. Measures to store and better manage postharvest handling:

In Tuvalu, government has encouraged landowners and producers to practice food customary and stockpiling techniques, this include drying fish and root crops, preserving breadfruit, and storing coconuts. Local communities and chiefs were encouraged to organize community-based stockpiling and rationing [31].

In Samoa and Fiji, governments have encouraged farmers not overharvest; this is to reduce postharvest losses and to avoid flooding local food markets.

In Tonga, around \$US 426 000 were allocated under the stimulus package to strengthen food stock [35].

2.4. Measures to strengthen Import substations:

In Samoa, under the economic stimulus package, WST 2.5million (US\$ 899k) were allocated to the Scientific Research Organization of Samoa (SROS). With the allocated amount, equipment and consumables will be purchased. To substitute imports, SROS will produce and commercialize some

local value-added agriculture products such as breadfruit flour, coconut oil, avocado margarine and others [30].

In Fiji, Vanuatu, Tonga, Tuvalu and the Solomon Islands, seedling and planting material were distributed and local food production were promoted to replace imported food and improve local and healthy food production.

2.5. Measures to reduce or deferred import tariffs:

In Tonga, import duty was deferred until 30 June 2020 on agriculture and fisheries equipment and all the other goods needed to help revive tourism sector in Tonga [35].

In Samoa, duty concession on specific food is approved (which are essentials and identified by the ministry of finance).

The expansion of the Code 121⁸ is approved to include all equipment, inputs required for the development of agricultural and fisheries, regardless of “qualifying project” status [30].

2.6. Measures to cancel and deferred taxes:

In Tonga, all the taxes imposed on good and services within Tonga were deferred until June 2020. Except for PAYEE [35].

In Vanuatu, road and rent taxes and business license fees and charges were cancelled effective from 1 April 2020. These are part of the measures taken to stimulate and manage the economy [36].

In the Solomon Islands, a five-year tax holidays for tourism operators in the country were approved [28].

2.7. Measure to facilitate access to finance:

In the Solomon Islands, loan holidays and US\$ 8.5 million worth of subsidies for copra and cocoa export products approved under the stimulus package [28].

In Fiji, the banks to offer loans to small and medium businesses and customers at a maximum of five percent. This is because the Reserve Bank of Fiji (RBF) had approve US\$ 26m worth of loans to banks at an interest rate of one percent [37].

Through ad-hoc organization ‘Business Assistance Fiji’, micro, small and medium enterprises (MSME) will receive concessional and financial support, as part of government ongoing COVID-19 assistance. These assistance packages will be available from the 7 June 2020.

Micro-enterprises will receive a concessional loan of FJ\$7 000 (around US\$ 3 150) with a 0.5 percent interest rate on a 5-year loan term. Small enterprises will receive working capital up to FJ\$ 14 000 (around US\$ 6 300) with 1 percent interest rate. Medium enterprises, will receive maximum FJ\$ 21

⁸ Under this scheme, the assistance is manly for the reduction of import duty from 8% to 0 for imported raw and other particular materials from overseas suppliers for use by business approved under the Customs Tariff Amendment Act 2008 https://www.mcil.gov.ws/storage/2017/08/CODE_121_Guideline_2017_Edited_V.1.2.pdf

000 (around US\$ 9,454) at an interest rate of 1.5 percent and a five-year loan term with a grace period in the first year [38].

In addition, under a MSME credit guarantee scheme through the Reserve Bank of Fiji (RBF), government will guarantee up to 60 percent of the default amount for loans up to FJ\$ 60 000 (US\$ 27 000). For entrepreneurs in the agriculture, fisheries and forestry sectors, government will guarantee up to 75 percent of the principal outstanding on the defaulted loans of up to a limit of FJ\$ 75 000 (US\$ 33 700) per business [38].

Business Assistance Fiji will also assist newcomers (unemployed but with very good skill sets) to the micro-enterprises industry in meeting the necessary requirements in order to be eligible for the concessional loan [38].

3. Lessons Learnt:

1- Boosting local food production:

For countries relying on imported food, boosting local food production is crucial. Particularly during crises, when food supply chains are disrupted and food prices are increased. Local food production could increase availability to nutritionally rich food, guarantee food supply, provide jobs for those affected and could increase purchasing power from savings on food bills. In particular, home gardens in urban areas could provide access to food and income during lockdown, and when income sources of urban dwellers are badly affected by crises.

To boost production, government support was essential (from extension to the distribution of planting materials, to contract farming and to exempting taxes on equipment needed for local food production). In some cases, people were encouraged to move from bigger cities to rural areas and to contribute in the food production.

2- Strengthening food supply chain arrangement:

During lockdown and state of emergencies, access to food was disrupted. Using different food distribution channels and government support could ease this problem. In case of PSIDS, government played facilitator role between producers to food vendors to consumers. Government purchased food from farmers and sold it back to food vendors in the lockdown areas without adding additional cost. In some cases, food was brought to a place, which was easily accessible for the urban residents. Moreover, government had played a role of intermediary (without adding extra cost) between rural producers and urban consumers.

Social media, online marketing, barter and mobile marketing were other channels used during this crisis.

3- Using traditional food handling practices:

Storing and handling food during crises are very important. Food losses could be high if there is low demand. In addition, to reduce food losses and wastes, efficient food handling techniques are required. In PSIDS, producers were encouraged to use traditional and customary food stockpiling techniques, this include drying fish and root crops, preserving breadfruit, and storing coconuts. Local communities and chiefs were encouraged to organize community-based stockpiling and rationing. Producers were also discouraged from overharvesting.

4- Facilitating access to finance:

Downstream firms – MSMEs are hardly affected. To reduce financial burdens on MSMEs, governments support and assistance were essential. In PSIDS, governments have provided varieties of financial assistance such as provided subsidies for export crops, deferred/cancelled domestic taxes, provided duty concession on imported equipment, and facilitated access to low-cost credit with favorable repayment terms and low interest rate. Agriculture, fisheries and forestry enterprises are receiving more benefits of these assistance packages – provided part of COVID-19 recovery assistance.

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