INCORPORATING BLOCKCHAIN INTO THE SOUTHEAST ASIAN SEAFOOD SUPPLY CHAIN: AN INQUIRY INTO BLOCKCHAIN'S POTENTIAL TO ENHANCE TRACEABILITY AND FOOD SAFETY

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GLOBAL STUDIES TASK FORCE IN PARTIAL FULFILLMENT OF THE BACHELOR OF ARTS (HONOURS) DEGREE

PRESENTED TO

GLOBAL STUDIES PROGRAMME NATIONAL UNIVERSITY OF SINGAPORE
ACADEMIC YEAR 19/20

Executive summary

1. Issue Area

We identified two problems in the SEA seafood supply chain: its highly fragmented nature and a resultant difficulty in implementing food safety certifications across the region. The documentation of certifications and supply chain processes are unstandardised within the supply chain, with different actors relying on a range of paper-backed and electronic-based systems.

2. Task Force Research Question

This report seeks to answer the research question: Can blockchain technology be implemented into the SEA seafood supply chain to ensure a safer acquisition of seafood?

3. Task force Research Insights

(a) International Certification

HACCP certification is an international framework for food safety guidelines adopted by many actors within the seafood supply chain. We have identified certain gaps in the maintenance of the HACCP system, such as the inability to verify processes in real-time and issues with unstandardised documentation systems. The implementation of HACCP within Southeast Asia is also currently inconsistent in different countries, with several countries using alternative certifications instead.

(b) Government regulations in Singapore, Malaysia, and Thailand

There are existing national regulations concerning the safety of food acquisition that govern the import and export of seafood in these countries. Furthermore, there are initiatives surrounding the digital technology in these countries, hence providing the opportunity for their involvement in the regulation of the seafood supply chain.

(c) Blockchain properties:

Blockchain, with its decentralisation, near real-time feature, immutability and security, presents promising potential in addressing the

problems identified with the HACCP framework and the SEA seafood supply chain.

4. **Taskforce Policy Recommendations**

    (a) Objectives

      (i)   The integration of real-time certification using blockchain from the midstream actors, namely at seafood processors and exporting houses, for increased transparency.

      (ii)   Heightened consumer demand for knowledge on seafood acquisition processes, in order to generate bottom-up pressure along the seafood supply chain to adopt blockchain technology to increase visibility of information.

    (b) Deliverables

      (i)   Increased traceability and accessibility of seafood product information to supply chain actors and consumers with the implementation of blockchain technology.

      (ii)   A website accessible via QR codes that present seafood product information to the consumer.

      (iii)   A Seafood Expo that aims to bridge gaps regarding blockchain implementation between blockchain technology providers, food safety regulators and seafood suppliers through informative sessions.

      (iv)   A Seafood Expo that further utilises marketing strategy aimed to encourage consumers to partake in the QR code initiative.

      (v)   School education programmes to inculcate the habit of conscious seafood consumption amongst the youth consumer base.