



WILDERLAB



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

Create change



Inspire Challenge 2019

 Platform for
Big Data
in Agriculture

Clear insights for healthy fish

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RESEARCH
PROGRAM ON
Fish

Led by



Aquaculture for nutritional security



Food security is achieved if adequate food (quantity, **quality**, safety, socio-cultural acceptability) is available and accessible for, and satisfactorily **utilised** by, all individuals at all times to live a healthy and happy life



Aquaculture for nutritional security



Fish provides:

Protein

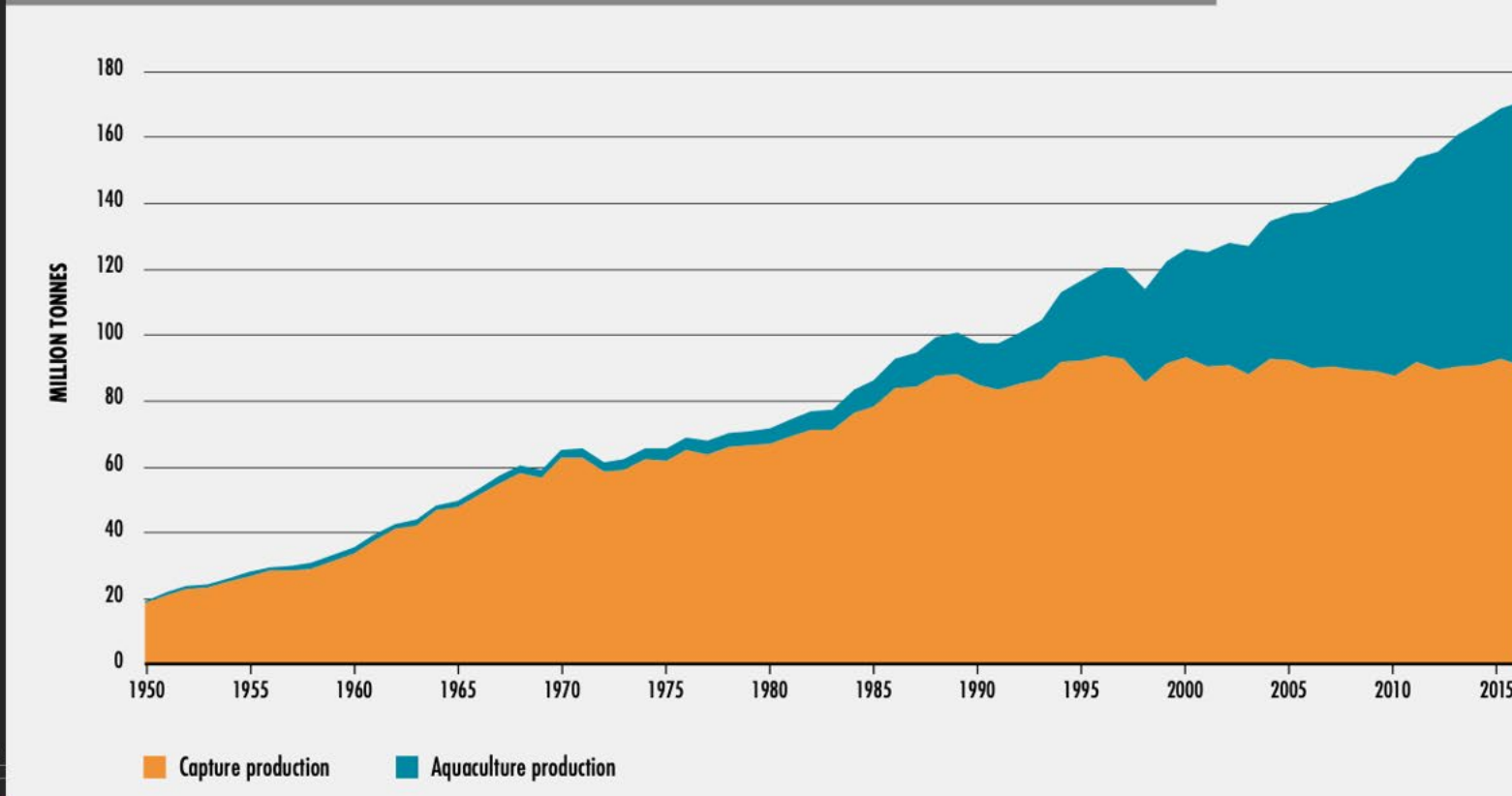
Iron

Vitamin A

Iodine

Aquaculture for nutritional security

FIGURE 1
WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



54.1 million tonnes of finfish

Aquaculture for nutritional security



US\$138.5 billion
annual revenue



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Aquaculture for nutritional security



19.3 million people
employed in finfish
aquaculture alone

Disease losses and antibiotics use



Disease the major **constraint** to aquaculture growth
eg. \$5.3 billion China 2017



Disease losses and antibiotics use



Mitigation in developing countries through **overstocking** and **antibiotics**

67 antibiotics used by 11 major aqua countries



Disease losses and antibiotics use

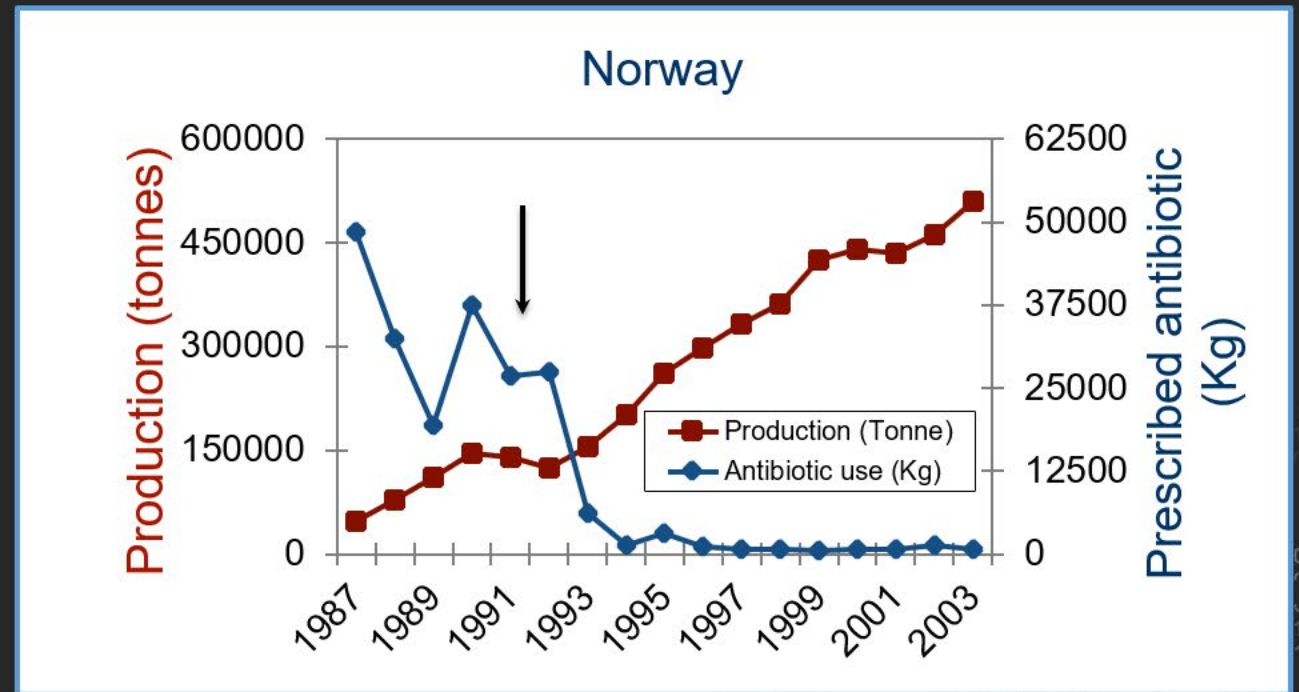


Antibiotic resistance mechanisms identical in fish, livestock and human pathogens

One Health



Disease losses and antibiotics use



Disease losses and antibiotics use



Challenges for vaccines in LMIC

Smallholder

Multiple farm species

Low economic value

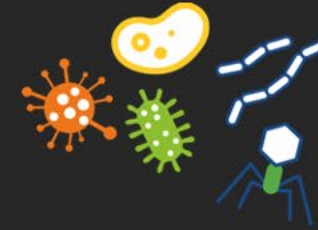
Rich microbial ecosystems

pathogen diversity/evolution

Solution: locally produced
autogenous vaccines



Clear insights from fuzzy data



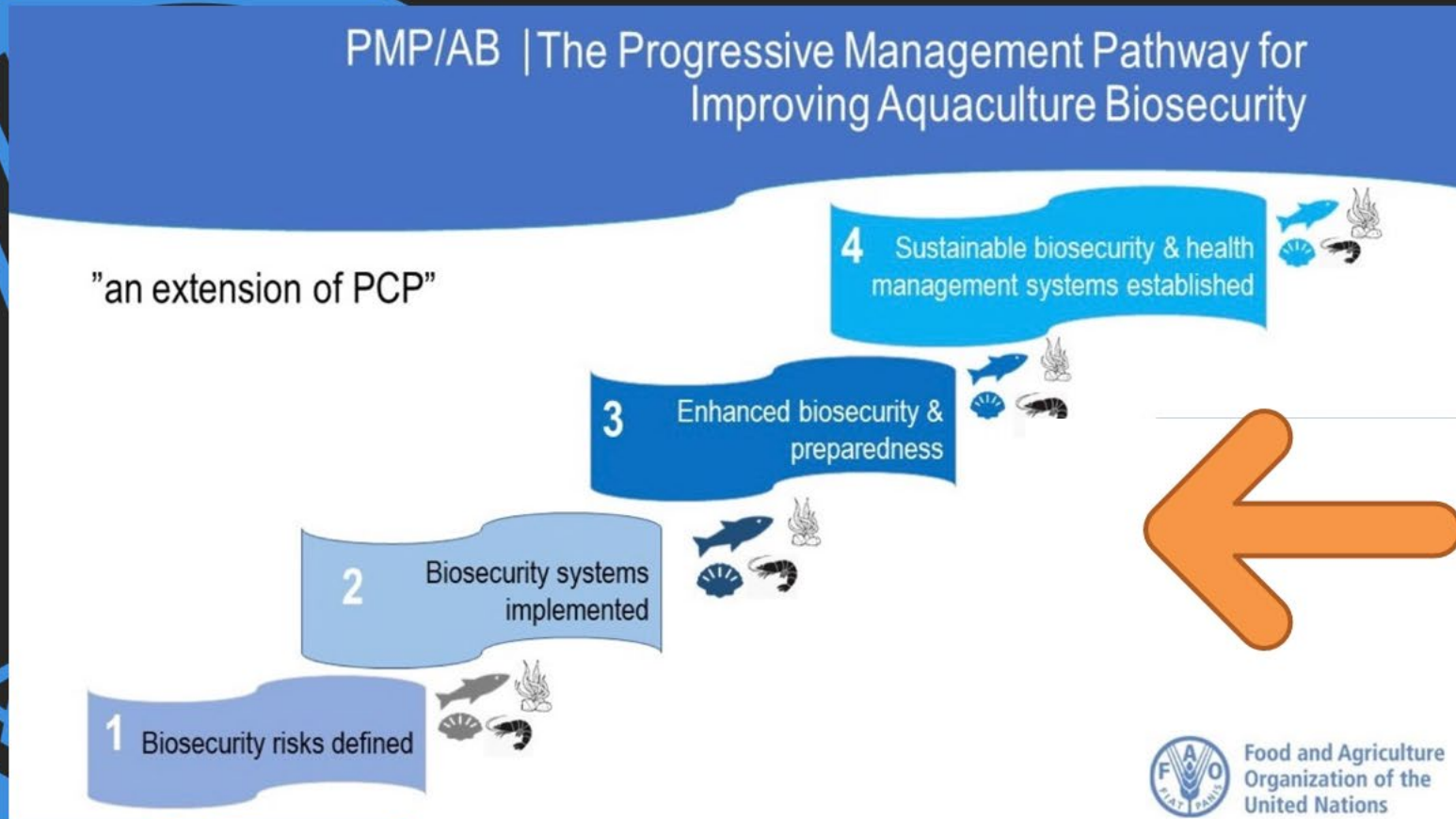
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Clear insights from fuzzy data



Local solutions aligned with global policy



COFI/SAC 10th Session, August 2019



Local solutions aligned with global policy





RESEARCH PROGRAM ON Fish

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WorldFish



Jerome



Andy



Shaun

Thank you!



Platform for Big Data in Agriculture

bigdata.cgiar.org

