

Workshop on Development of National Gene Banks in OIC Member States
6th July 2020

AGRICULTURAL BIODIVERSITY & RESILIENT FOOD SYSTEM

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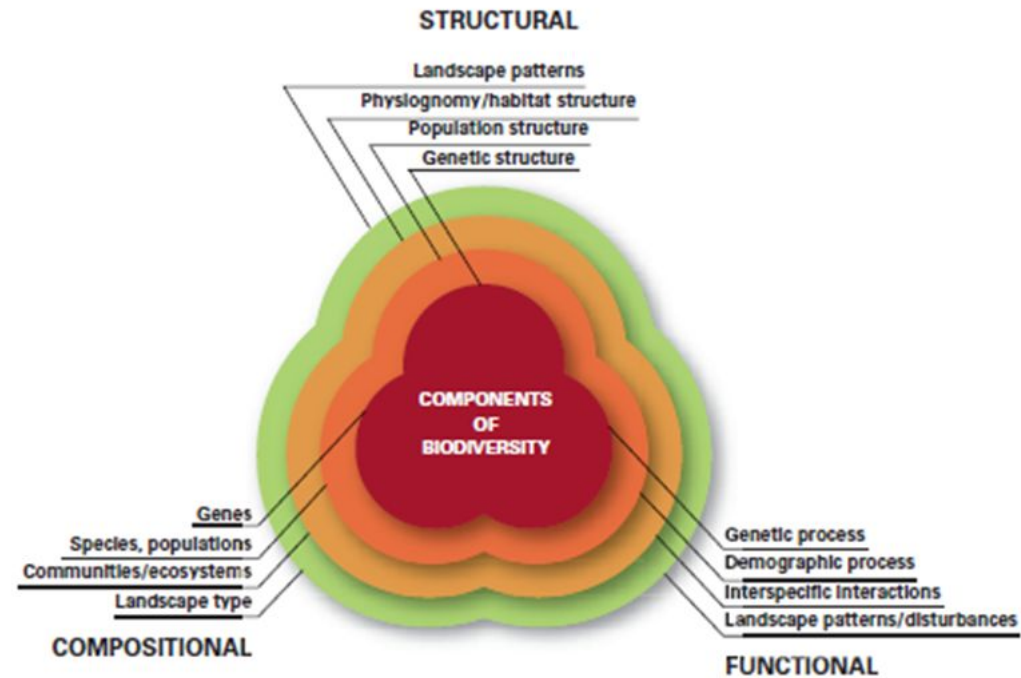
MYGENEBANK, AGROBIODIVERSITY AND ENVIRONMENT RESEARCH CENTRE,
MALAYSIAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE (MARDI)

“Enhancing Food Security in OIC Member States through Agricultural Biodiversity”

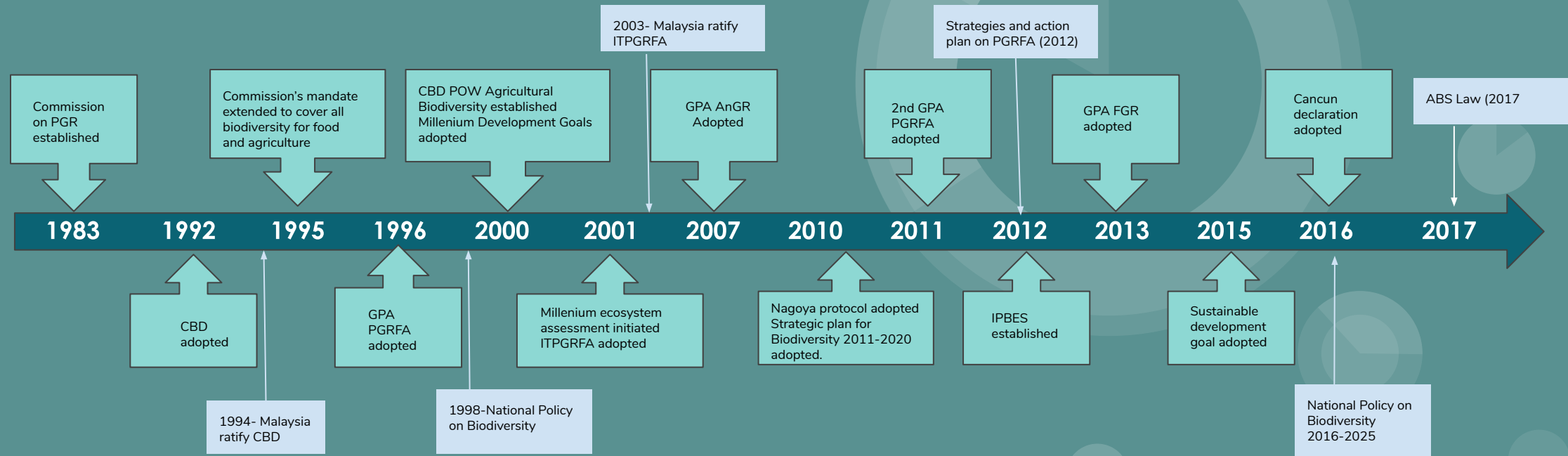
Juz & Ayat	Translation/ Exegeses	Create Hypothesis based on Ayat/ Exegeses
6:99	It is He who sends down water (rain) from the sky, and with it we bring forth vegetation of all kinds, and out of it we bring forth green stalks, from which we bring forth thick clustered grain. And out of the date-palm and its spathe come forth clusters of dates hanging low and near, and gardens of grapes, olives and pomegranates each similar (in kind) yet different (in variety and taste). Look at their fruits when they begin to bear, and the ripeness thereof. Verily, in these are signs for people who believe.	Water cycle & Importance for Biodiversity & Agro Food industry Plant biodiversity, Agrobiodiversity
5: 19-21	And the earth We have spread out, and have placed therein firm mountains, and caused to grow therein all kinds of things in due proportion. And we have provided therein means of living, for you and for those whom you provide not [moving creatures, cattle, beasts, etc.]. And there is not a thing, but with us are the stores thereof. And we send it down except in a known measure	Biodiversity; soil stability for biodiversity & agriculture Measurement/ balanced; Agrobiodiversity; livelihood & auxiliary
10:11	It is He who sends down rain from the sky, from it ye drink, and out of it (grows) the vegetation on which ye feed your cattle. With it He produces for you corn, olives, date palms, and every kinds of fruits. Verily in this is a sign for those who give thoughts	Water cycle & Importance Benefits of biodiversity Agrobiodiversity Research & Cognitive behaviour
Surah Al-baqarah: 168	O ye people! Eat of what is on earth, lawful (halal) and good (tayyib); and do not follow the footsteps of the Evil one, for he is to you an avowed enemy,	Biodiversity, Halalan Tayyiban Agro-Food Biodiversity,
Surah Al-baqarah: 172-173	<p>The concept of Halal (Food consumed must be lawful or permissible from the eyes of the Islamic Law) and Tayyib (Good quality/ Wholesome. Halal food may still be)</p> <p>O ye who believe! Eat of the good things that We have provided to you, and be grateful to God, if it is him you worship. He hath only forbidden you dead meal and blood, and the flesh of swine, and that on which other name hath been invoked besides that of God. But if one is forced by necessity, without wilful disobedience, nor transgressing due limits – then he is guiltless. For God is oft forgiving, Most merciful.</p>	

FIGURE 6

Different scales of agricultural biodiversity that support ecosystem services upon which agriculture is based (Adapted from Noss, 1990)



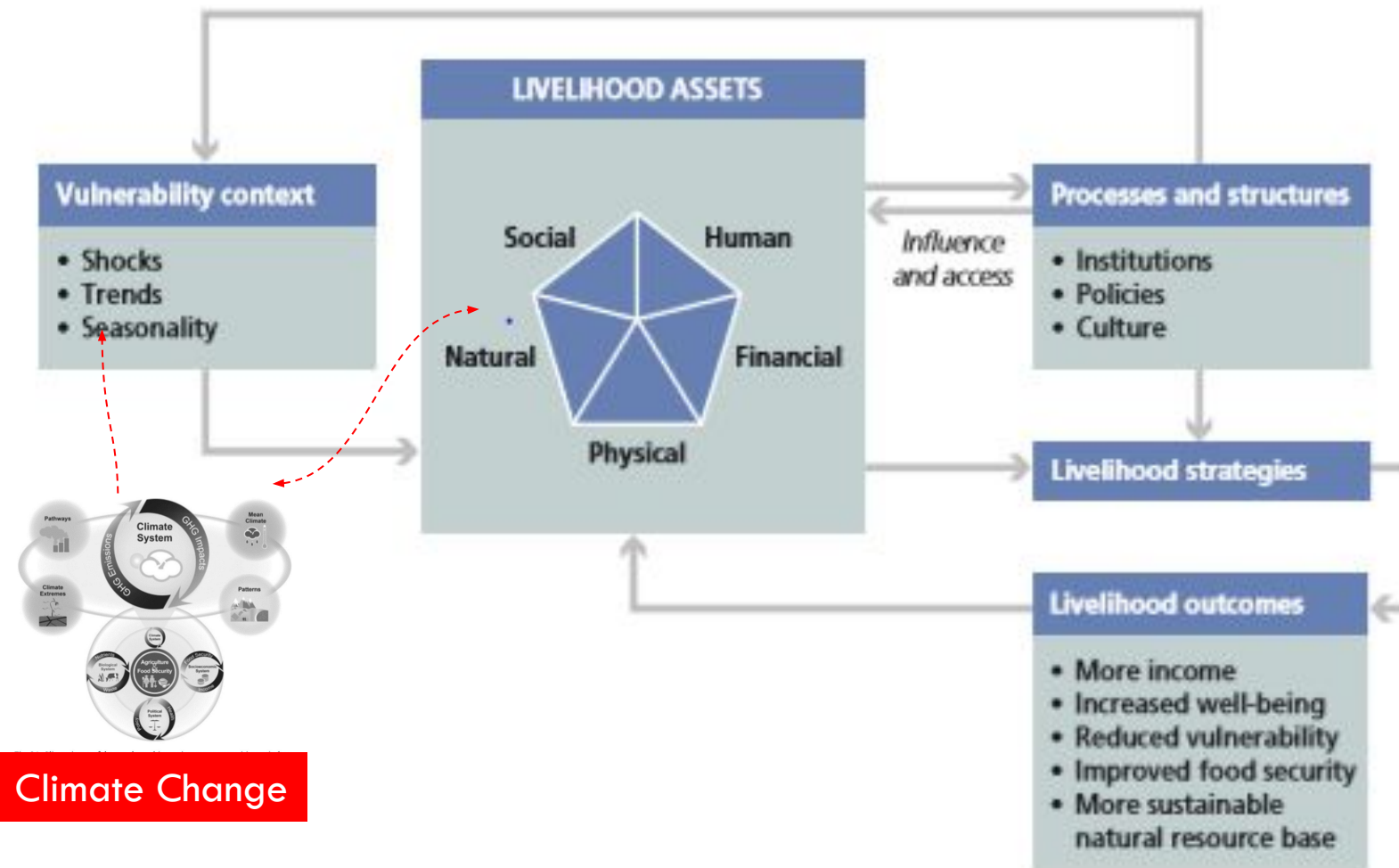
KEY DEVELOPMENTS IN THE INTERNATIONAL RECOGNITION OF THE IMPORTANCE OF BIODIVERSITY FOR FOOD AND AGRICULTURE (IPBES)



SUSTAINABLE WORK SYSTEM

FIGURE 2.2

The sustainable livelihoods analytical framework

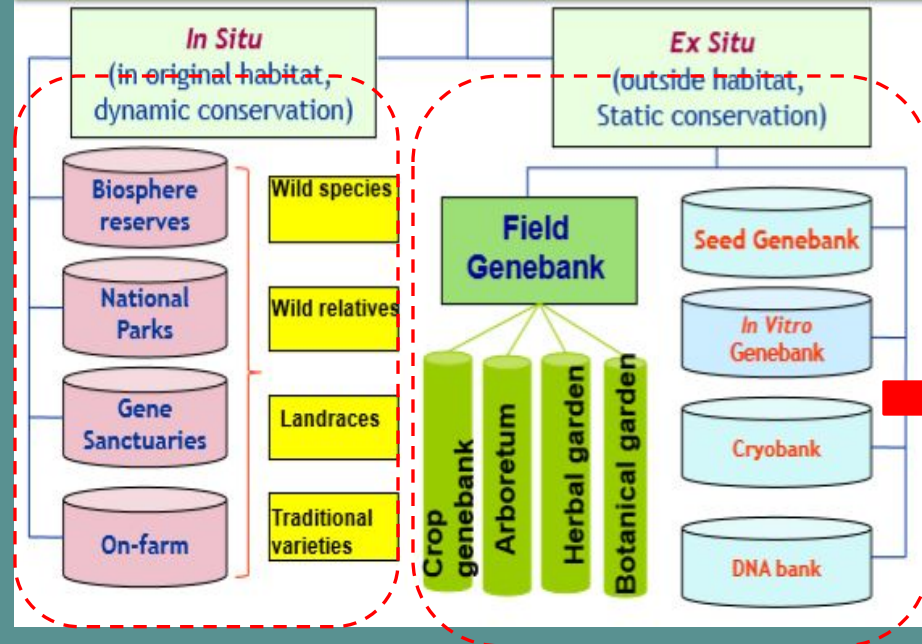


Source: Adapted from FAO (2012a) based on Randolph et al. (2007) and Carney et al. (1999).

Biodiversity & Food System

Strategies for Conservation

Both static (seed banks, culture collections etc.) and dynamic (conservation of populations in evolving natural environments) ways are needed.



Genetic resources conservation

Ex situ conservation strategies

R.K. Tyagi
and
Anuradha Agrawal

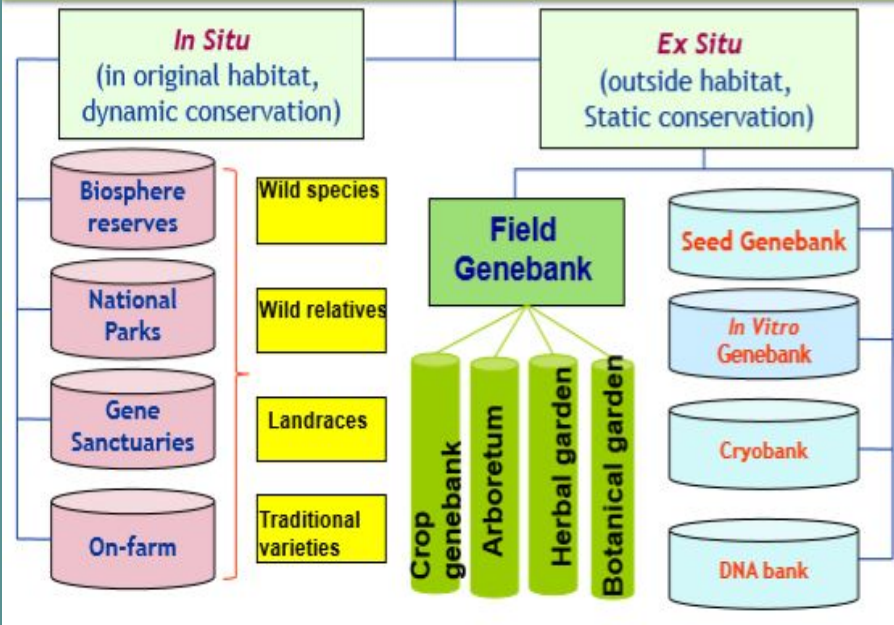


Fig. 1.1. Key drivers or threats (dark ovals) and opportunities (light ovals) of agri-food systems.

GENEBANK

Strategies for Conservation

Both static (seed banks, culture collections etc.) and dynamic (conservation of populations in evolving natural environments) ways are needed.



IMPORTANCE OF MYGENEBANK FOR BREEDING PROGRAM



Identification of potential rice accessions for breeding



Material transfer for research
(> 20 SMTA /year)



Development of new rice varieties (49 Varieties)



Referral centre

MALAYSIAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE



RECOMMENDATIONS

- Resilient food systems depend on a very complex system that needs joint effort and inclusiveness from all parties involved directly/indirectly. Mainstream and integrate agrobiodiversity, food and nutritional security into key development sectors.
- Strengthen R&D&C to diversify food systems
- Strengthen national genebanks and linkages/networking
- Innovative partnerships with all sectors (public/private sectors) to resolves growing gaps and support vulnerable communities/countries
- Policies intervention