



Food and Agriculture
Organization of the
United Nations

GAP Frameworks in Asia and the Pacific at

Expert Group Meeting on the Scope and the Setting up
of an Arab – GAP Framework

(31 May - 1 June 2016, Cairo, Egypt)

Shashi Sareen

Overview

- Introduction - Background of food safety and importance of GAP
- Scenario on GAP – Globally/ in Asia
- Initiatives taken towards GAP - Regional TCP - Development of Standards and scheme for GAP Implementation and Certification in Countries of SAARC (TCP/RAS/3501)
- Establishing a scheme and national infrastructure for GAP – standard, SO, certification and accreditation
- Outputs of the project

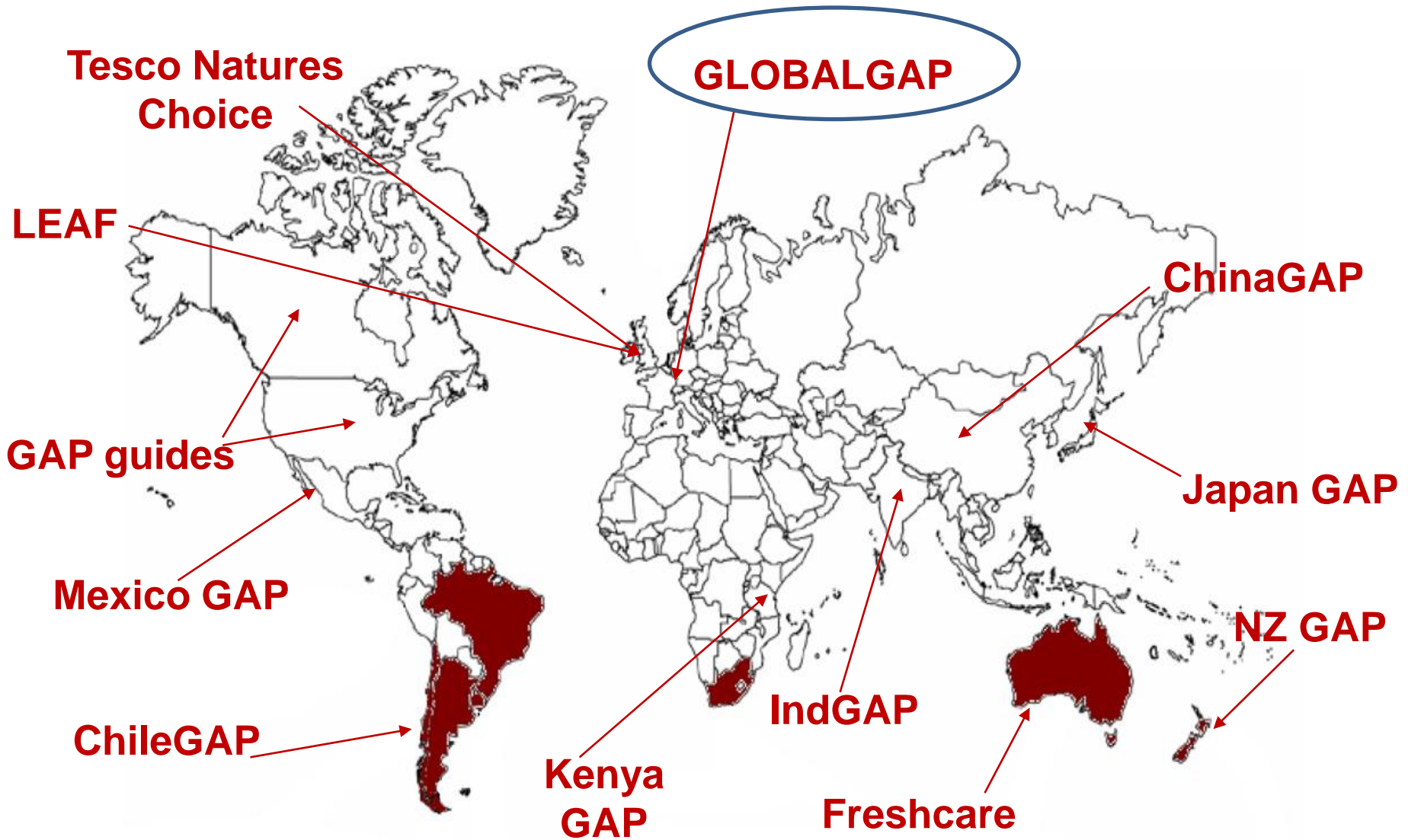
Introduction

- Food safety gaining increasing importance – both health and trade perspectives; also reduces losses and wastes – overall economic impact
- **Hazards** may arise at different stages of food chain right from primary production
- **Preventive approaches** needed - Good practices – GAP/ GMP/ HACCP
- Implementing GAP during on-farm and post production processes leads to **safe agri produce while taking into account economic, social and environmental sustainability**
- GAP basically deals with GPs or **collection of principles to apply for on-farm production and post-production processes** - applicable till the farm gate.

Introduction

- Implementation of GAP risen recently – **food scares, rejections, consumer demand**
- Many buyers also require GAP **certified** products
- GAP may be
 - **Private sector** driven – large buyers; **alliance** /association/ inter-professional body – some form of collective organization or group (association/ inter-professional body); OR
 - **Government driven** – mandatory or voluntary but framework to be set up
- The status in Asia – ASEAN/ SAARC countries and support provided in the region

GAP globally



GlobalG.A.P

- Initially known as EurepGAP started in late 1990s as a private sector standard focused primarily on pesticide residues
- Developed by European supermarket chains and their major suppliers
- In Sept' 2007 name changed to GlobalG.A.P
- Certifications figures
 - 2008 - 92000 certified producers in 88 countries;
 - 2012 - 123,000 certified producers in 111 countries);
 - 2015 about 150,000 certified producers and more than 140 CBs approved

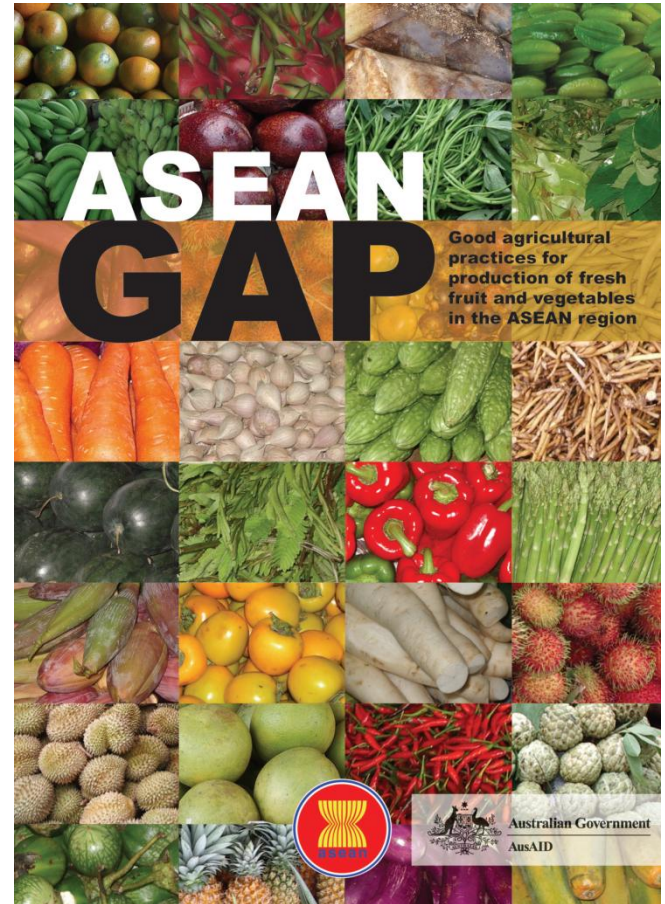


- The Integrated Farm Assurance Standard Version 5 (V5) to become effective from 1st July 2015.
- Option to produce national interpretation guideline for certification in consultation with local stakeholders

GAP in ASEAN and SAARC Countries

ASEANGAP

- ASEAN GAP is voluntary standard for ASEAN countries on production of fresh fruits & vegetables adopted in 2006
- ASEAN GAP regulates the procedures of planting, care, harvesting & post harvest include packaging but does not regulate for sprouts and fresh cut produce.
- ASEAN GAP only applies for production processes & not used to certify for organic or GMO free products
- Four modules - Food safety; environmental management; worker health, safety & welfare; produce quality



GAP in ASEAN Countries



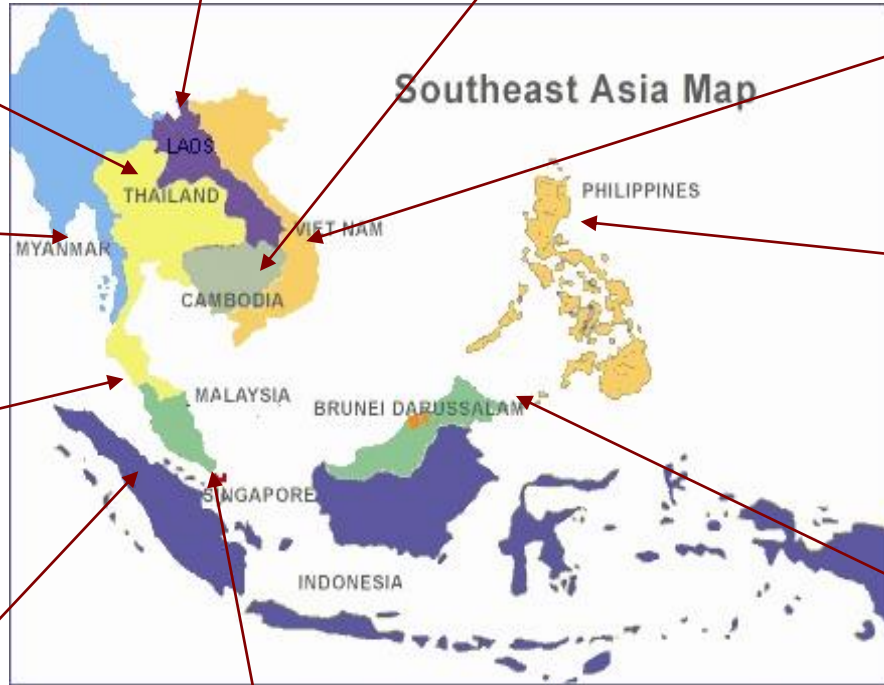
**Thailand Q
GAP (2003)**



**Lao GAP
(2014)**



**CamGAP
(2010)**



**VietGAP
(2008)**



**Myanmar
GAP (2014)**

**PhilGAP
(2006)**



**Malaysia
MyGAP (2013)**

SALM (2003)



**Brunei GAP
(2014)**



**Indonesia
GAP (2004)**

**Singapore GAP-VF
(2004)**



GAP in SAARC Countries

- **In SAARC** – no common standard adopted – countries too had not adopted National GAPs – for exports implemented GlobalGAP
- **FAO initiative:** Regional TCP - Development of Standards and scheme for Good Agriculture Practices Implementation and Certification in Countries of SAARC - TCP/RAS/3501
- **Objective:** to support the countries of the Region in establishing a system for GAP & its implementation
- **Countries:** All SAARC; **Pilots** - Bhutan, Bangladesh, Maldives, Nepal, Sri Lanka
- **Dates** : March 2014 – June 2016

Objectives of Project

- Ensure **safe fruits & vegs** in domestic markets
- To **facilitate regional trade** through implementation of common GAP standards in the region
- To ensure **acceptability** of fruits and vegetables in **global markets**

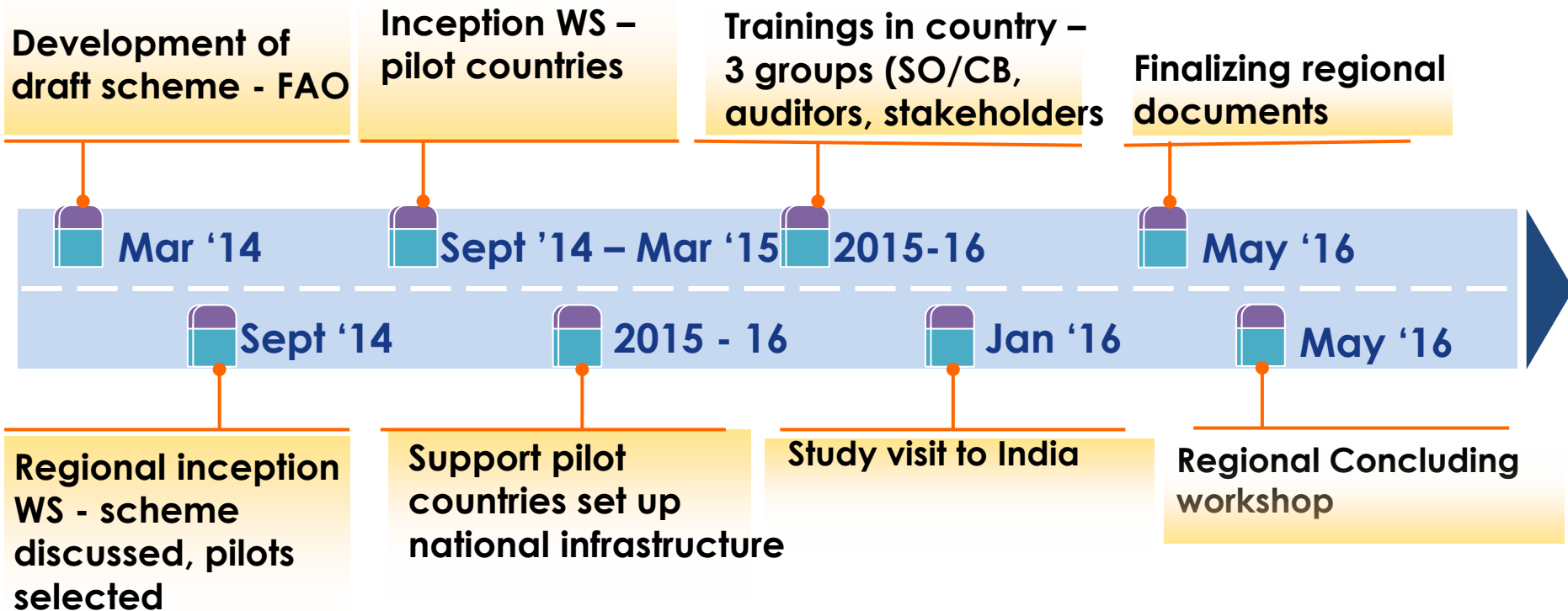


Through development of a credible GAP system

- Standard
- System for certification following international accreditation criteria

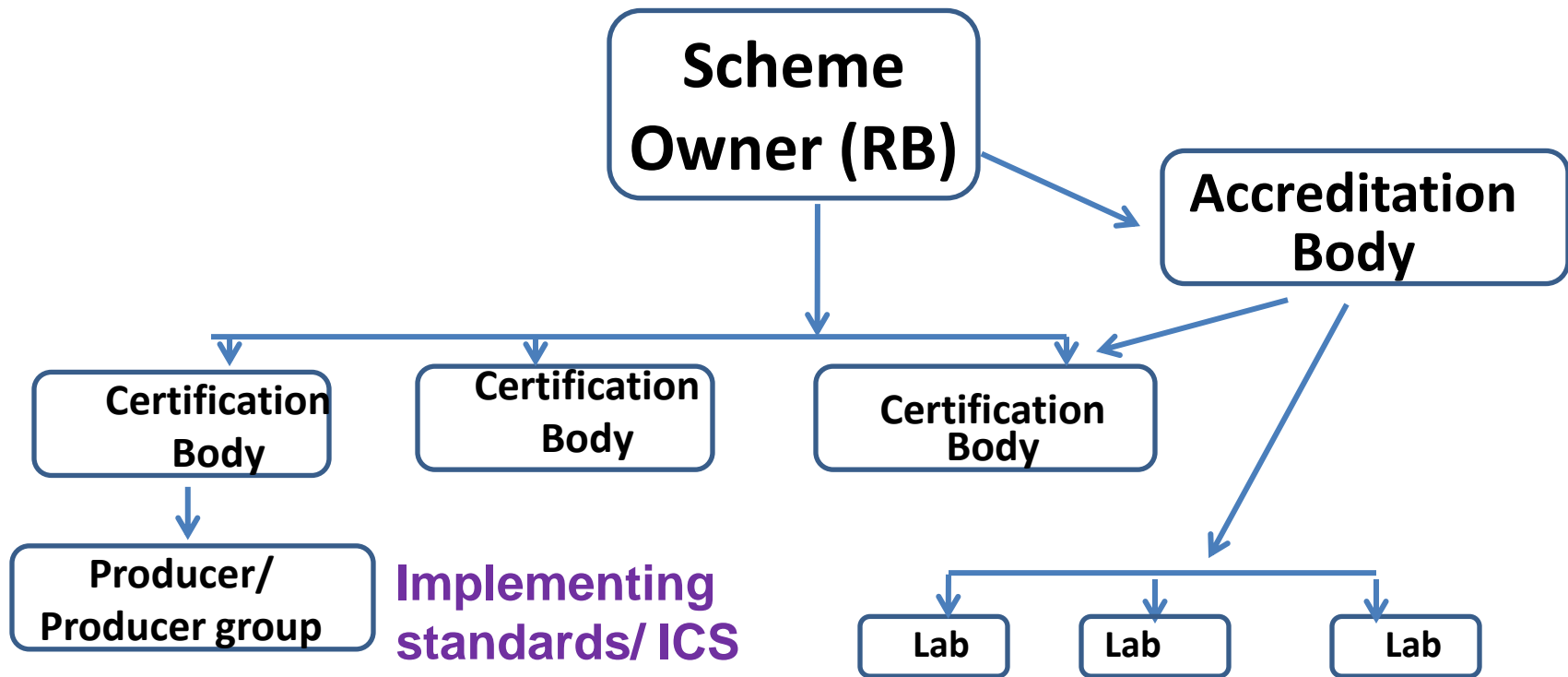
Addressing food safety also helps farmers including women

SAARC GAP Scheme: The process steps and progress



Establishment of a national scheme and infrastructure for GAP

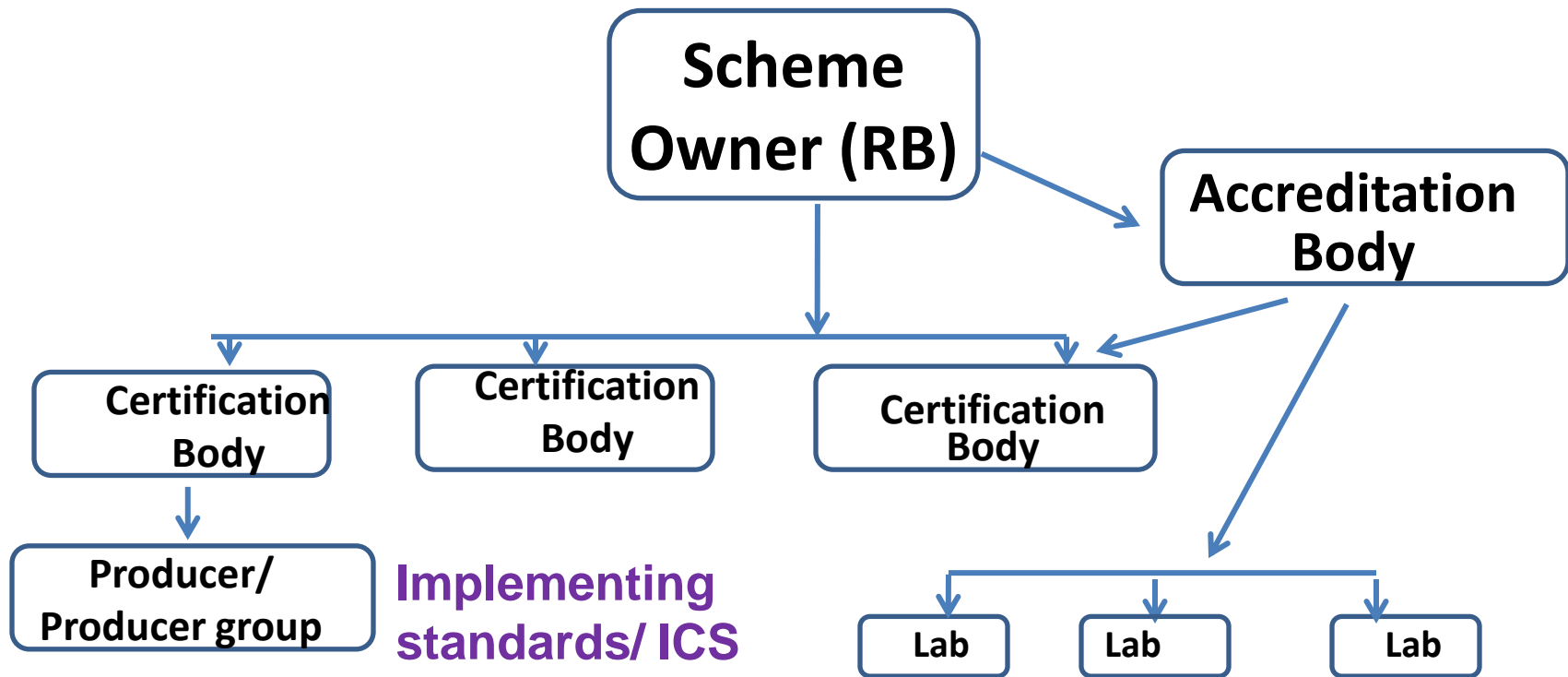
Scheme concept & Players in a GAP scheme



Labs - testing of pesticide residue, microbiology, heavy metals etc and accredited to ISO 17025

Scheme concept & Players in a GAP scheme

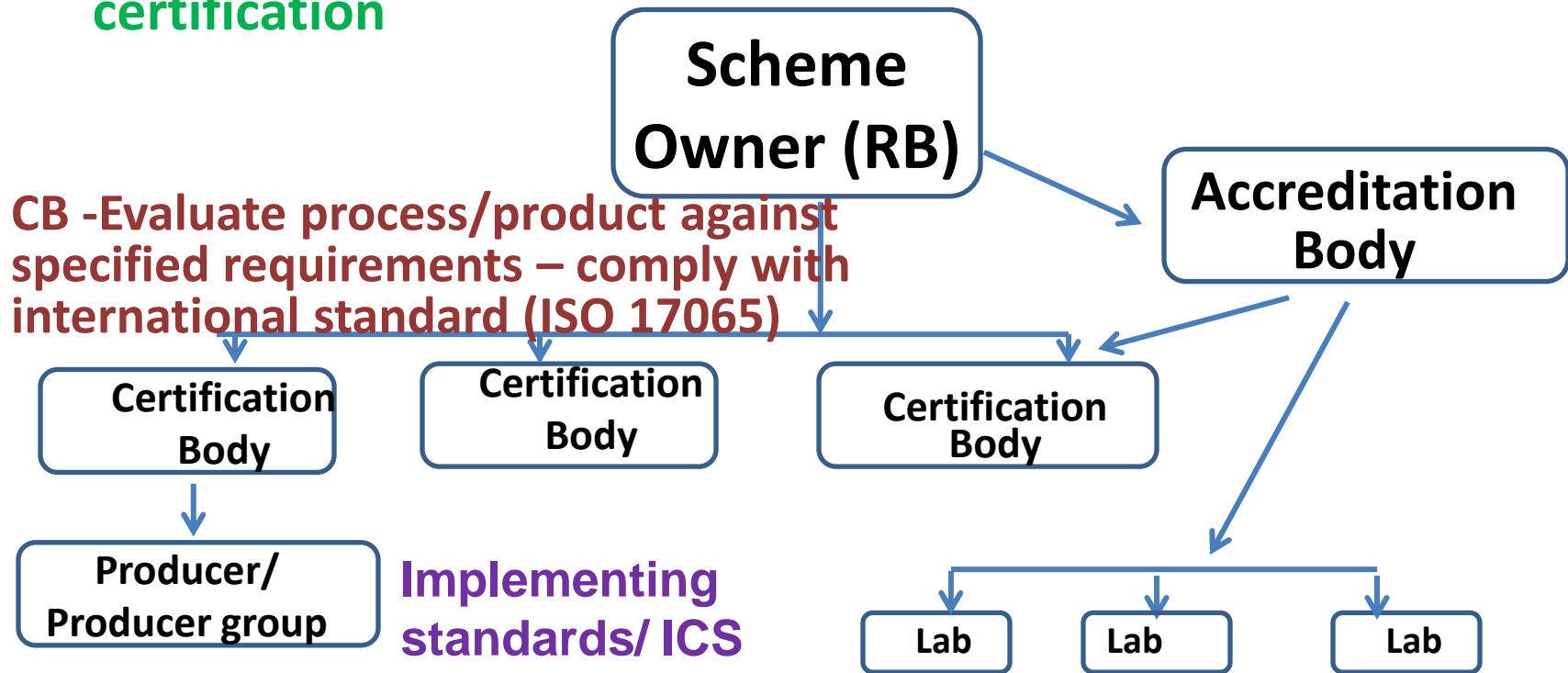
Scheme owner – owns standard & scheme & logo; responsible for implementing scheme; may operate system for approval of CB or authorize AB to accredit CBs based on scheme



Labs - testing of pesticide residue, microbiology, heavy metals etc and accredited to ISO 17025

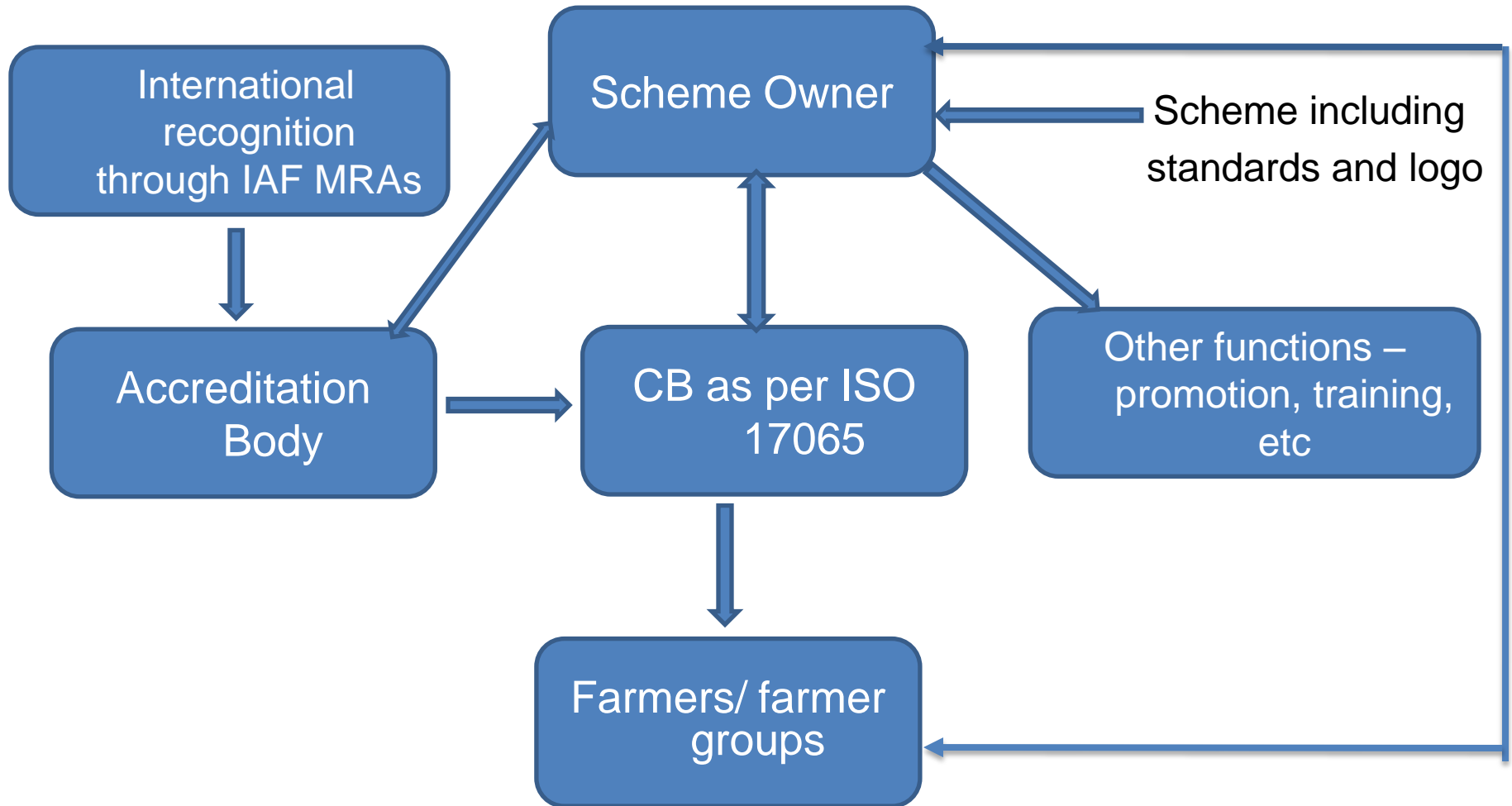
Scheme concept & Players in a GAP scheme

Accreditation Body – to testify competence of CBs used in the scheme – international system – under the aegis of IAF – ABs comply with ISO 17011 – Peer evaluation – sign MRA for each scheme – ISO 17065 relevant to product/ process/service certification



Labs - testing of pesticide residue, microbiology, heavy metals etc and accredited to ISO 17025

Scheme Concept



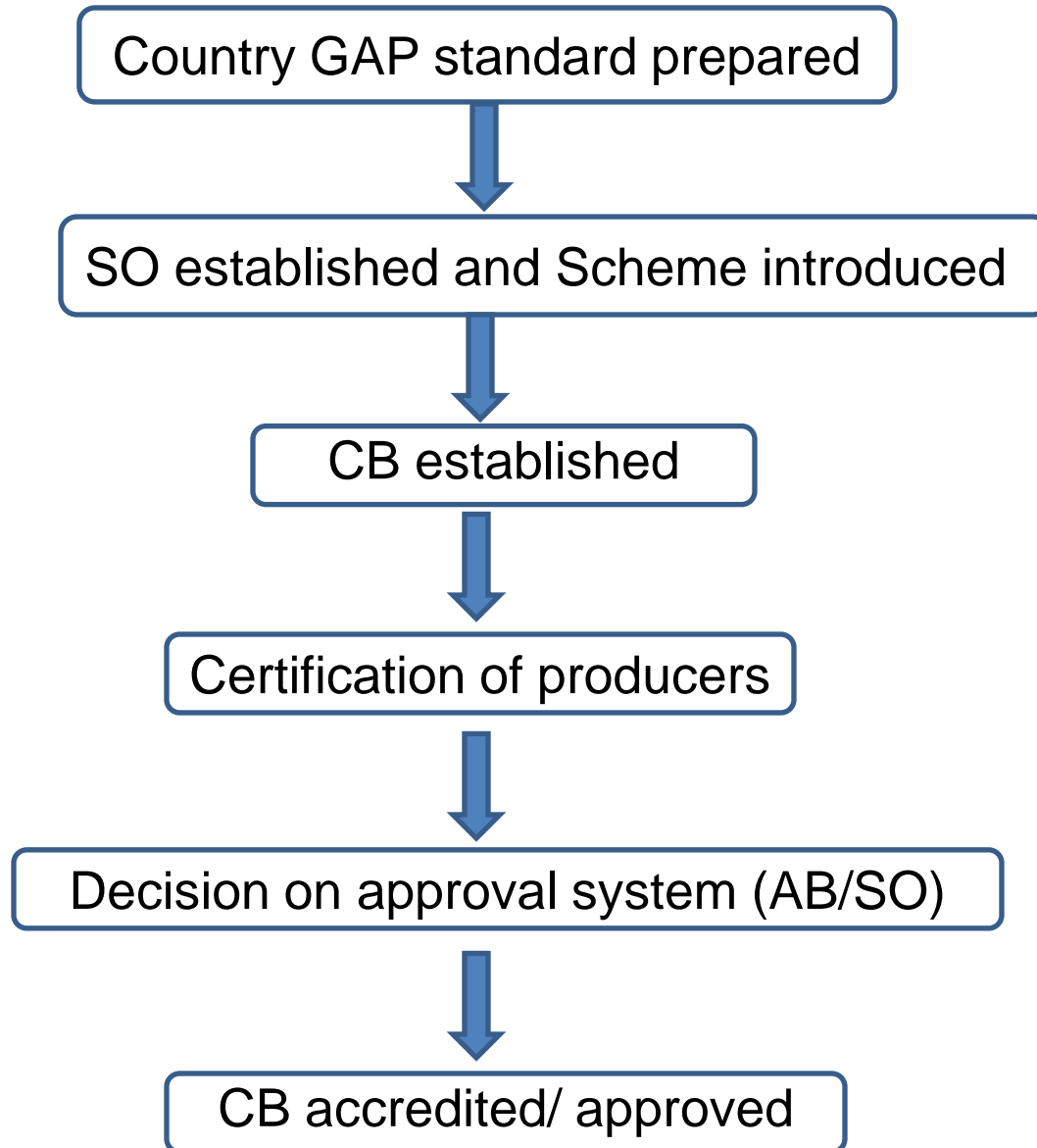
Elements of Implementation of GAP in a Country – the GAP Scheme

- **GAP standard** - SO through technical committee with subject-matter specialists prepares GAP Standard – requirements to be fulfilled by farmer – certification not a necessity.
- **Conformity Criteria** – recognizing 100% compliance not possible, requirements classified into Cr/Maj/Min, & deviations acceptable
- **Governing structure** – decision making and supervision for implementing GAP – Scheme Owner, Committee structure
- **Certification process** – procedure for evaluation, verification and certification - uniformity in certification when multiple CBs – individual farmer/ group certification
- **Requirements for Certification Bodies** - Competence of CB – Accreditation – Accreditation Body (AB) – in absence of AB, Scheme Owner may perform this function - ISO/IEC 17065.
- **AB and its selection**
- **Rules for use of Certification Mark/Logo.**

Status & decisions needed by Country

1. Whether market driven or regulatory intervention - voluntary or mandatory implementation
2. Structure to be established for implementing GAP in country
3. Decision on SO & Department/ Secretariat responsible
4. Decision on the CB – government/ private; single/ multiple
5. Decision on approving mechanism for CB – SO/AB
6. Constitution of multi-stakeholder Committees to develop and oversee operation of Scheme - *Steering, Technical and Certification Committees*
7. Finalizing standards and scheme documents on GAP – 4 modules – standalone or comprehensive
8. Deciding and developing the certification mark/logo

Steps for Implementing GAP in Countries



GAP Standard: Fruits & Vegetables

The Standard - Structure

- Covers - all types of **production systems** – conventional/hydroponics; open/ controlled environment; **Excludes** - High risk (sprouts, cut f&v), Organic & GMO certification
- Five modules (4+1)
 - Food safety module
 - Environmental management module
 - Worker health, safety & welfare module
 - Produce quality module
 - General requirements – common requirements + Group Certification (ICS)
- First four are **standalone modules - used alone or in combination** with others;
- Enables **progressive implementation** of modules based on country/ producer priorities
- Each module **grouped into elements** – each element has 1 or more good practices - enumerating criteria/ requirements for control needed for implementation

Modules at a glance

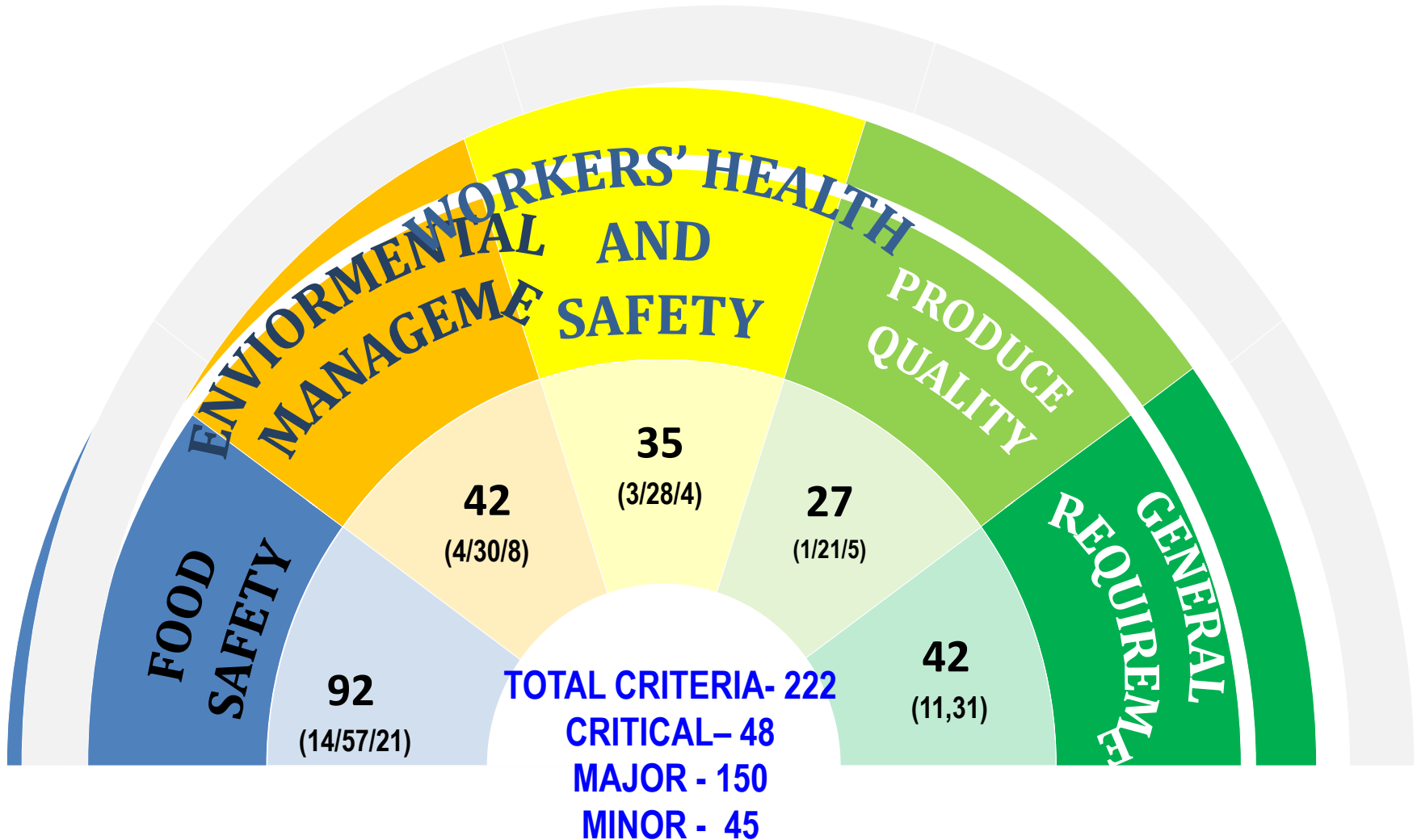
Standard requirements (Elements)	Food Safety	Environmental management	Worker health, safety, welfare	Produce Quality
Site history & Management	X	X		
Planting/ Propagation Material/Root stock	X	X		X
Genetically Modified Organisms (GMO)	X			
Fertilizers & Soil additives	X	X		X
Water (Irrigation/Fertigation)	X	X		X
Chemicals (Plant Protection Products/others)	X	X	X	X
Harvesting and Handling Produce	X			X
Traceability and recall	X			X
Training	X	X	X	X
Documents and records	X	X	X	X
Review of Practices	X	X	X	X
Soil & Substrate Management		X		
Waste Management		X		
Energy Efficiency		X		
Biodiversity		X		
Air/noise		X		
Working conditions			X	
Workers Welfare			X	
Personal Hygiene (Worker health)			X	
Quality Plan				X

FSM – 11 elements/ 88 GAPS; EMS – 13/42; WHSM – 7/35; PQM – 10/27

Verification/ Conformity Criteria

- Criteria/requirements are also known as **Control Points**
- The producer needs to comply with criteria/control points.
- Criteria categorized and compliance levels recommended:
 - **Critical** - those that are required to maintain integrity of the produce and failing to adhere to these may result in a serious breach to food safety and product integrity.
 - **Major** – those that are mandatory and must be followed (90%)
 - **Minor** – those that are important but not essential depending upon the produce category (50%)
- The term “shall” used for mandatory provisions, (Critical/major. The term “should” used for provisions categorized as “minor” or when alternate means of meeting the requirements of the standard exist.

GAP – MODULE WISE CATEGORISATION



Checklists : Structure

- Checklist in the form of a table in each module containing verification indicator for each of the criteria or a checkpoint;
- Checklist – in tabular form, gives **requirement, categorization of level of control, verification indicator** for each criteria. It also has a column for **comments** and on the **compliance status**.
- May be used by either the producer (self-checks) or the auditor.
- Next slide gives some examples

Elements – Food Safety Module

The GAP for controlling food safety hazards grouped into 11 elements & includes 92 practices

- Site history & management
- Planting material
- Genetically modified organisms
- Fertilizer & soil additives
- Water
- Chemicals – agro & non agro
- Harvesting & handling produce
- Traceability and recall
- Training
- Documents & records
- Review of practices

FOOD SAFETY MODULE

Requirement / CP	Category	Verification Statement	Self / Auditor Comments	Compliance Status
Site History and Management				
Site history assessed to identify the risk of contamination to crops grown from previous use of chemical and/or biological hazards on site or adjoining sites and the assessment documented.	Major	Site history assessment record		
Where significant risks identified, the site shall not be used for production of fresh produce without first taking some action to manage the risk	Critical	Records and visual evidence		
If remedial action is required to manage any risk, a monitoring programme shall be in place so that contamination to produce not occur and records of monitoring shall be maintained.	Critical	Monitoring programme & applicable records		

FOOD SAFETY MODULE contd..

Requirement	Category	Verification Statement	Self / Auditor Comments	Compliance Status
Harvesting and Handling Produce				
Harvested produce not placed directly on soil, or on floor of the handling, packing or storage areas.	(Major)	Physical verification of practices		
<i>Equipment, containers and materials:</i>				
Equipment, containers & materials that come in contact with produce to be made of material that will not contaminate the produce and is easy to clean.	(Major)	Cleaning schedule and records. Visual inspection		
The containers used for storage of chemicals, waste, other dangerous substances to be clearly identified and not be used to hold or store produce.	(Major).	Containers present and labelled.		
Equipment/ containers regularly maintained to minimize contamination of produce and kept in areas separate from chemicals, fertilizers & soil additives to avoid cross contamination.	(Major)	Maintenance schedule or visually		
Equipment, containers and material checked for soundness/cleanliness before use and cleaned, repaired and discarded as required.	(Major)	Visual check		
Measuring devices calibrated atleast once per year or as per the legal requirements of the country.	(Major)	Calibration report		

Establishment of Scheme Owner

Concept of Scheme and Scheme Owner

Scheme consist of criteria/standards to be fulfilled, conformity assessment infrastructure and process, governing structure for decision making, certification mark....

Scheme Owner

An organisation or body identified by country responsible for setting up and operationalizing the system/ scheme in a country (to be nominated by the government of the country)

Scheme Owner (SO) - Options

- **Government**
 - Ministry directly or regulator if has agriculture in its domain (other suitable organization engaged in activities relating to agriculture especially quality issues in agriculture);
 - also referred to as Competent Authority; and
 - Positive – government endorsement of scheme automatic – incentivizing by government easier
- **Alliance /association/ inter-professional body** - collective agreement between independent economic units sharing certain objectives – some form of collective organization or group;
- **Others - NSB, Accreditation Body; New organization** may be established for setting up & implementing Scheme

Requirements of SO

- Be a **legal entity** – Govt bodies legal entity by virtue of status
- have a **mandate** for introducing, upgrading and/or internalizing quality in agriculture and/or horticulture
- ideally organization to be **non-profit body**; no **conflict of interest**
- Able to maintain **confidentiality** of information
- **Capacity and arrangements to be appropriate**, e.g. for range of activities undertaken & in geographic regions
- **Adequate arrangements** (e.g. insurance or reserves) to **cover liabilities** arising from its activities
- **Financial stability** with **adequate resources to operate** Scheme
- **Full responsibility** for objectives, content & integrity of scheme
- **Capacity to maintain scheme & provide guidance** as required

Roles & Responsibilities of the SO

- **Establishment of Governing Structure and decision making mechanism** for implementing – Steering/ Technical/, Certification Committee
- **Development, review, maintenance and updating the Scheme;**
- Adopt a “**GAP Certification Mark**”/Logo and its registration
- **Approve AB/ CBs** to accredit/certify under scheme
- **Supervision** – including monitoring, evaluation – ABs, CBs, certified farmers/ groups – surveillance plan –Integrity audits
- **Organise regular meetings of Committees**
- **Safeguarding confidentiality**
- **Complaints and appeals handling** – as per ISO 10002
- **Capacity Building** of resources
- **Publicise/ promote scheme** - transparency, understanding and acceptance
- **Updating information** to the SO website.

Governing Structure

□ Composition and Terms Of Reference of Committees – Steering, Technical, Certification:

General Principles :

- **Quorum:** at least “50”% members of the Committee to constitute the quorum for a meeting.
- **Representation** of a balance of interests - no single interest predominates
- **Key interests** includes rep. of regulatory bodies/other government agencies, NSB, user/producers/ industry associations, AB & CB, laboratories, academic/ research bodies, consumer organisations etc.
- **Individual experts** – care to avoid any conflict of interest.
- Desirable to have **Principal/ Alternate** members - attendance & continuity

Meetings : frequency at least once in every six months.

Logo or Certification Mark and its Usage

- The GAP certification mark or logo is a **protected mark** owned by the SO.
- There **may be more than one Mark(s)** approved by SO - distinct for each standard/ criteria used by SO for certification
- All certified producer or producer groups approved by SO of a country are eligible to use the Scheme Certification Mark – **need formal approval by SO.**
- The Mark to be used in a manner that implies that farm produce has been produced using good practices. It shall not imply that the produce itself is certified i.e. **not be applied on produce.**
- SO shall frame the rules for use of certification mark

GAP CERTIFICATION & ACCREDITATION

Certification (ISO definition)

- Third-party **attestation** related to product/ process, systems or persons
 - *NOTE 1 Certification of a management system is sometimes also called registration.*
 - *NOTE 2 Certification is applicable to all objects of conformity assessment (CA) except for CABs themselves, to which accreditation is applicable.*
- **“Attestation”** - the issuance of a statement based on a decision following review that fulfilment of specified requirements has been demonstrated.

Certification (Codex definition)

Certification is the procedure by which **official or officially recognized certification bodies** provide written or equivalent **assurance** that foods or food control systems **conform to requirements**.

Certification of food may be, as appropriate, based on a range of inspection activities which may include continuous on-line inspection, auditing of quality assurance systems, and examination of finished products

Principles of Certification

- Impartiality
- Competence
- Confidentiality and openness
- Access to information
- Responsiveness to complaints and appeals
- Responsibility

Annex A of ISO/IEC 17000:2004

Certification Criteria

- The requirements stipulated in the Standard, certification process and requirements for CBs that an individual producer or a group of producers is required to implement.
- In the certification context, the criteria or requirements are also known as control points (covered under conformity criteria).

Certification Body

- A **third-party conformity assessment body** operating certification schemes.
- An **independent** entity to evaluate the compliance of producer/ producer group's GAP to the requirements of GAP standard and certification requirements and to issue a registration certificate.
- **Can be private/ governmental / NGO** - proprietorship, partnership, society, private or public limited – profit or non profit– credibility important
- Compliance with **ISO/IEC 17065:2012** for credibility of certification

ISO 17065

1 Scope

2 Normative references

3 Terms and definitions

4 General requirements

- 4.1 Legal and contractual matters
- 4.2 Management of impartiality
- 4.3 Liability and financing
- 4.4 Non-discriminatory conditions
- 4.5 Confidentiality
- 4.6 Publicly available information

5 Structural requirements

- 5.1 Organizational structure and top management
- 5.2 Mechanism for safeguarding impartiality

6 Resource requirements

- 6.1 Certification body personnel
- 6.2 Resources for evaluation

7 Process requirements

- 7.1 General
- 7.2 Application
- 7.3 Application review
- 7.4 Evaluation
- 7.5 Review
- 7.6 Certification decision
- 7.7 Certification documentation
- 7.8 Directory of certified products
- 7.9 Surveillance
- 7.10 Changes affecting certification
- 7.11 Termination, reduction, suspension or withdrawal of certification
- 7.12 Records
- 7.13 Complaints and appeals

8 Management system requirements

- 8.1 Options – A or B (establishes & maintains a MS as per ISO 9001)
- 8.2 General MS documentation(A)
- 8.3 Control of documents
- 8.4 Control of records
- 8.5 Management review
- 8.6 Internal audits
- 8.7 Corrective actions
- 8.8 Preventive actions (Option A)

Additional Requirements

- **Authority for decision making**
- **Inspector competence** – degree or post secondary education in related subject – 5 years work experience in agriculture; 2 years in quality assurance – training in auditing, GAP criteria – 12 days of inspections as trainee
- No **outsourcing** other than testing – use of external personnel not outsourcing
- **Certification Mark rules**
- **Website** – information publicly available on CB website.
- **Impartiality committee** - Assigned specific responsibility for safeguarding the CB's impartiality in its certification
- **Market intelligence** to ensure no misuse or misinterpretation

Certification Bodies – Documents to be maintained:

- 1. QUALITY MANAGEMENT SYSTEM MANUAL**
- 2. ASSOCIATED DOCUMENTS**
- 3. CONTRACTS**
- 4. PROCEDURES**
- 5. WORK INSTRUCTIONS**
- 6. FORMS AND FORMATS**
- 7. EXTERNAL DOCUMENTS**
- 8. RECORDS**

Certification Process of GAP

Certification Process

Certification criteria

ISO/IEC 17065
GAP Certification scheme

Application

Application Review

Pre-evaluation

Preparation & planning

Farm evaluation Assessment

Decision on Certification

Certificate (3yrs)

Post certification actions (Surveillance/ Reassessment for renewal)

Directory of Certified Producers

ACCREDITATION

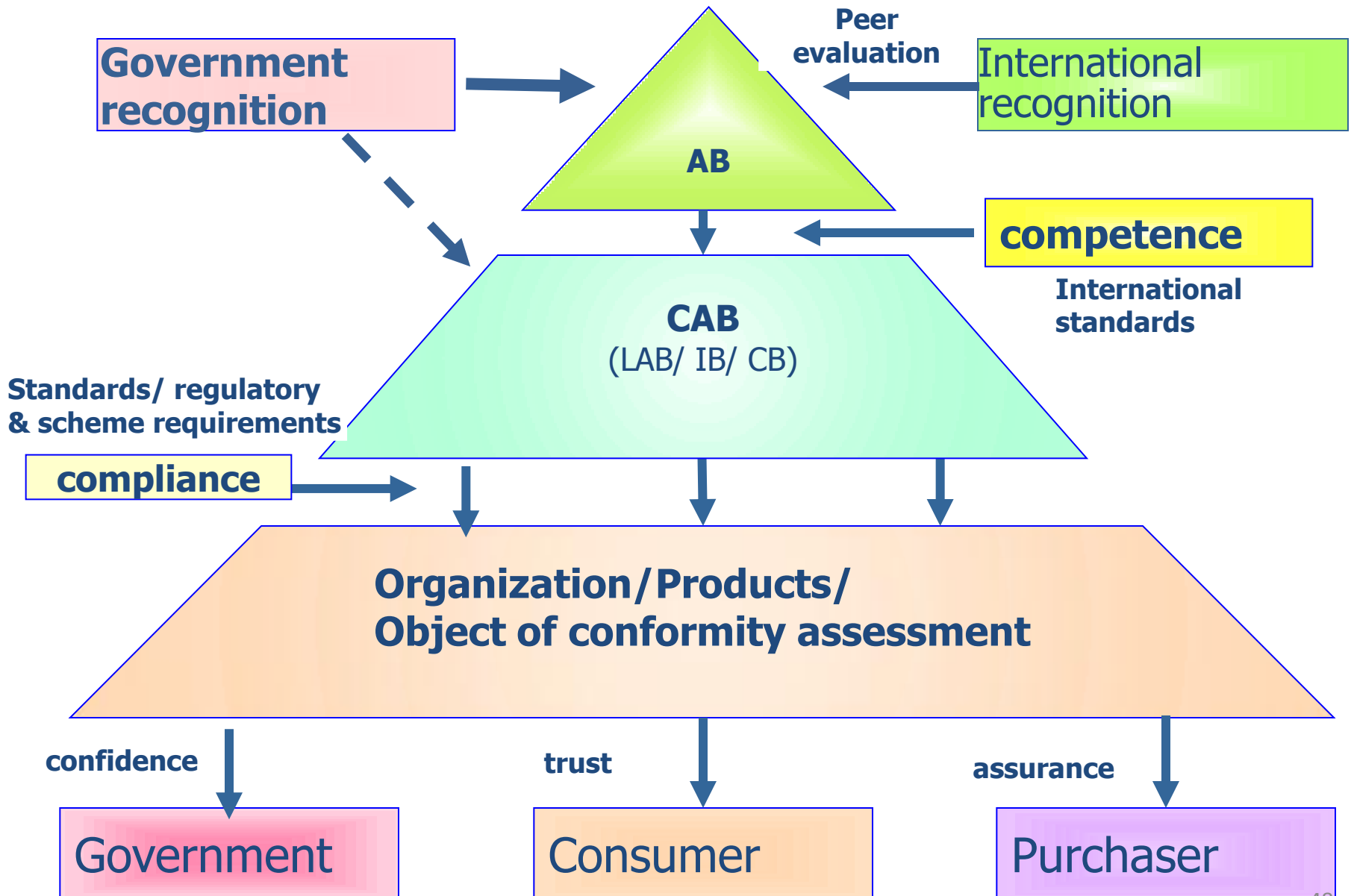
- **Third-party attestation related to a CAB** (CB and lab) conveying formal demonstration of its competence to carry out specific conformity assessment tasks (ISO 17011)
- Accreditation process ensures that **CB certification practices are acceptable**, ie they are **competent to test & certify** third parties, behave **ethically** & employ suitable QA
- Ensure recognition of certification in other countries
- Accreditation enhances the confidence of consumers by ensuring consistent application of standards
- Basis of accreditation – generally international standards on conformity assessment developed by ISO/ IAF or ILAC guidance documents – ISO 17065/ ISO 17020/ ISO 17025
- Primary purpose – facilitate trade by acceptance of certification/inspection/testing worldwide

WTO/TBT Agreement

Article 6

“Members shall ensure, whenever possible, that results of **conformity assessment procedures** in other Members are accepted even when those procedures differ from their own, provided they are satisfied that those procedures offer an assurance of conformity with applicable technical regulations or standards equivalent to their own procedures and technical competence of the relevant conformity assessment bodies in the exporting Member, in this regard, has been verified, for instance through **accreditation**, with relevant guides or recommendations issued by international standardizing bodies so that confidence in the continued reliability of their conformity assessment results can exist.

Conformity Assessment Framework



Criteria for Selection of AB

- First preference to AB of own country.
- If AB not in a position to set up accreditation for GAP, the SO may either approve the CB (based on ISO 17065/ additional requirements) **OR** engage foreign AB
- Factors to be considered by SO in selecting AB:
 - The AB needs to be a member of IAF
 - Signatory to the MLA for product certification
 - The service delivery of the AB (time availability, reputation)
- The SO may maintain a list of ABs that meet above requirements.
- Change in AB - If the country has established its own AB or the SO has delivery/ other issues with AB, it may change AB but with due consultation/ as per stated policy of the AB and IAF system

PROJECT OUTPUTS ON GAP

Outputs Delivered

- A **Scheme and training manual** on Good Agriculture Practices (GAP) for Fruits and Vegetables in 2 volumes finalized
 - Volume 1 The Scheme
 - Volume 2 Training manual
- **GAP System developed in identified countries** (Bhutan, Bangladesh, Maldives and Nepal + Sri Lanka) – standards and certification
- Scheme owner, certification body staff and others **trained** and stakeholders made **aware** of system

Structure of GAP Scheme

❑ **Part I** - GAP standard for fruits and vegetables in relation to food safety, quality, environmental management and workers health, safety and welfare

❑ **Part II** Establishing a national implementation structure for GAP in a country

- Section 1 – Options and structure for implementing GAP in a country
- Section 2 - Guidance for establishing a Scheme Owner (SO)
- Section 3 – Rules for the use of a certification mark.

❑ **Part III** Certification and accreditation for GAP

- Section 1– Certification criteria (detailing requirements for on-farm production of fruits & vegetable based on both standards & CB requirements)
- Section 2– Certification Process
- Section 3– Requirements for Certification Bodies (CBs)
- Section 4 - Rules for Accreditation Bodies for GAP.

❑ **Annexes** – Documentation needed under the GAP scheme

- Annex 1 – Producer and producer group documentation;
- Annex 2 – Scheme owner documentation;
- Annex 3 – Certification body documentation
- Annex 4 – Accreditation body documentation

Structure of the Manual (5 Modules, 18 Sessions)

Module I Introduction to GAP

- Session 1 Background to food safety and introduction to GAP
- Session 2 Different GAP standards – GlobalG.A.P./ other GAPs

Module II The GAP standards/requirements

- Session 3 An overview of GAP standard - structure, requirements and conformity criteria
- Session 4 Food safety module
- Session 5 Environmental management module
- Session 6 Workers' health, safety and welfare module
- Session 7 Produce quality module
- Session 8 General requirements module (incl. group controls)
- Session 9 GAP verification criteria, control points & checklists

Module III Establishment of national implementation systems

- Session 10 Options & structure for implementing GAP in a country
- Session 11 Guidelines for establishing a Scheme Owner

Module IV GAP certification and accreditation

- Session 12 Importance of GAP certification and accreditation
- Session 13 Criteria for selection of an AB for GAP
- Session 14 Establishment of a CB for GAP
- Session 15 GAP certification process
- Session 16 Auditing and auditing techniques

Module V Preparing a farmer/producer or producer group for GAP

- Session 17 Preparing the farmer/ farmer groups for implementing GAP
- Session 18 The application and approval process

Good Practices

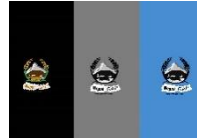
1. **Ensure the independence** - separate the role of SO and CB, if possible under different ministries so that no “conflict of interest”
2. **Exchange visits** by countries for information-sharing/ understanding each others’ GAP systems for uniformity/ learning from each other.
3. CPs that are regulatory requirements to necessarily be categorised as ‘Critical’/ ‘major’
4. **Logo application on produce and package**, if backed by testing possibly through county level NRCPs. Alternatively statement on produce indicating that from a gap certified farm.
5. **Multi-ministerial stakeholder Committee, at policy level** - ensure buy-in & involvement of related ministries/ departments
6. **Single national GAP standard** in a country-developed through consensus approach and multi-level consultation process, preferably with involvement of the NSB (not duplicate efforts).

Good Practices

7. **Initial approval by SOs** – followed by formal accreditations
8. **Demonstration farms** – supported by SO
9. **Registry of resource persons** maintained by SO
10. **Incentivization** by government to popularize the country GAP (examples are preference in government procurements, advertisement and awareness campaign, preference in farm loans, food processing parks/zones giving preference to GAP produce)
11. **Aim towards harmonization** with regional and international standards – In the first instance, food safety and control points related to environment and labour mandated under national regulations harmonized - aim that no major difference for domestic markets and exports

GAP in SAARC Countries

NepalGAP
(2010)



BhutanGAP
(2010)

Bangladesh
GAP (2016)



INDGAP
(2016)

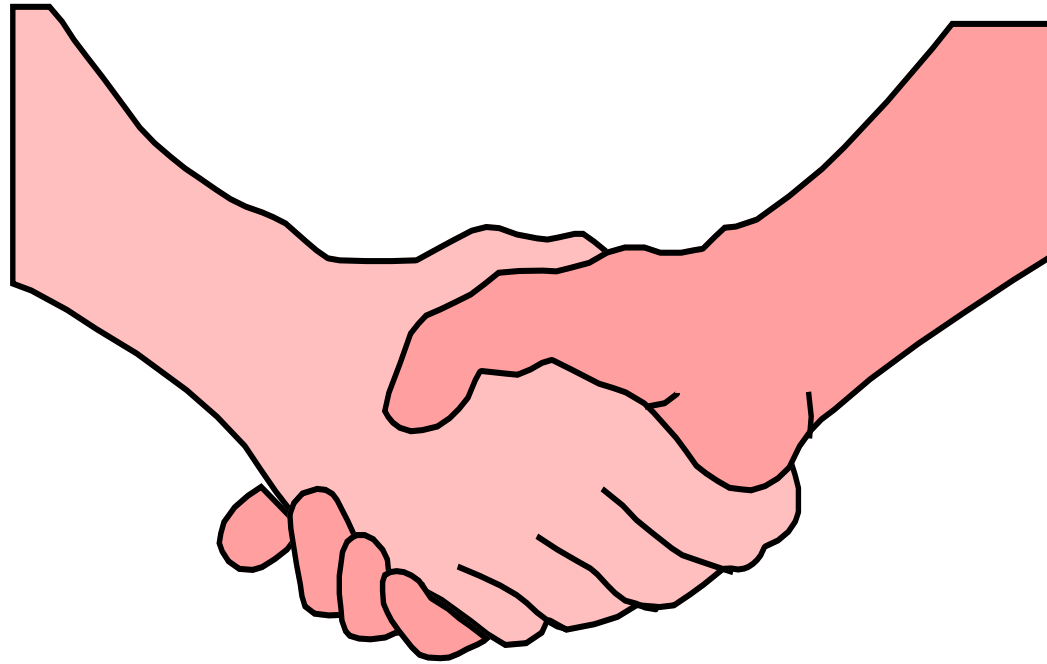
MGAP (2016)



SLGAP
(2016)



THANK YOU



Any Questions?