



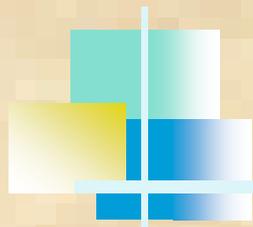
Modalities of conducting an agricultural mechanization strategy

Roundtable on Developing Environmentally Sustainable Agricultural Mechanization Strategies (SAMS) for Countries in the Asia-Pacific Region

8 - 9 December 2011

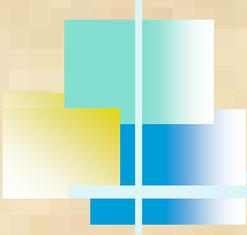
Bangkok , Thailand

(Pr. Houmy, IAV Hassan II, Morocco)



Outline

- Introduction
- Developing the information base
- Sustainable Agricultural Mechanization Strategy process
- ✚ Preparation
- ✚ Current Situation Analysis
- ✚ Strategy formulation



Introduction

- Unfortunately , governments and donors have adopted a piecemeal approach to encourage mechanization without reviewing the agricultural engineering sector in its entirety.
- While
- ✚ Sustainable Agricultural mechanization is a complex system
- ✚ Sustainable Agricultural mechanization development is a long term process
- The formulation of Sustainable Agricultural mechanization strategy is indispensable .

Strategy Is . . .

Strateg(os) — the art of the general.

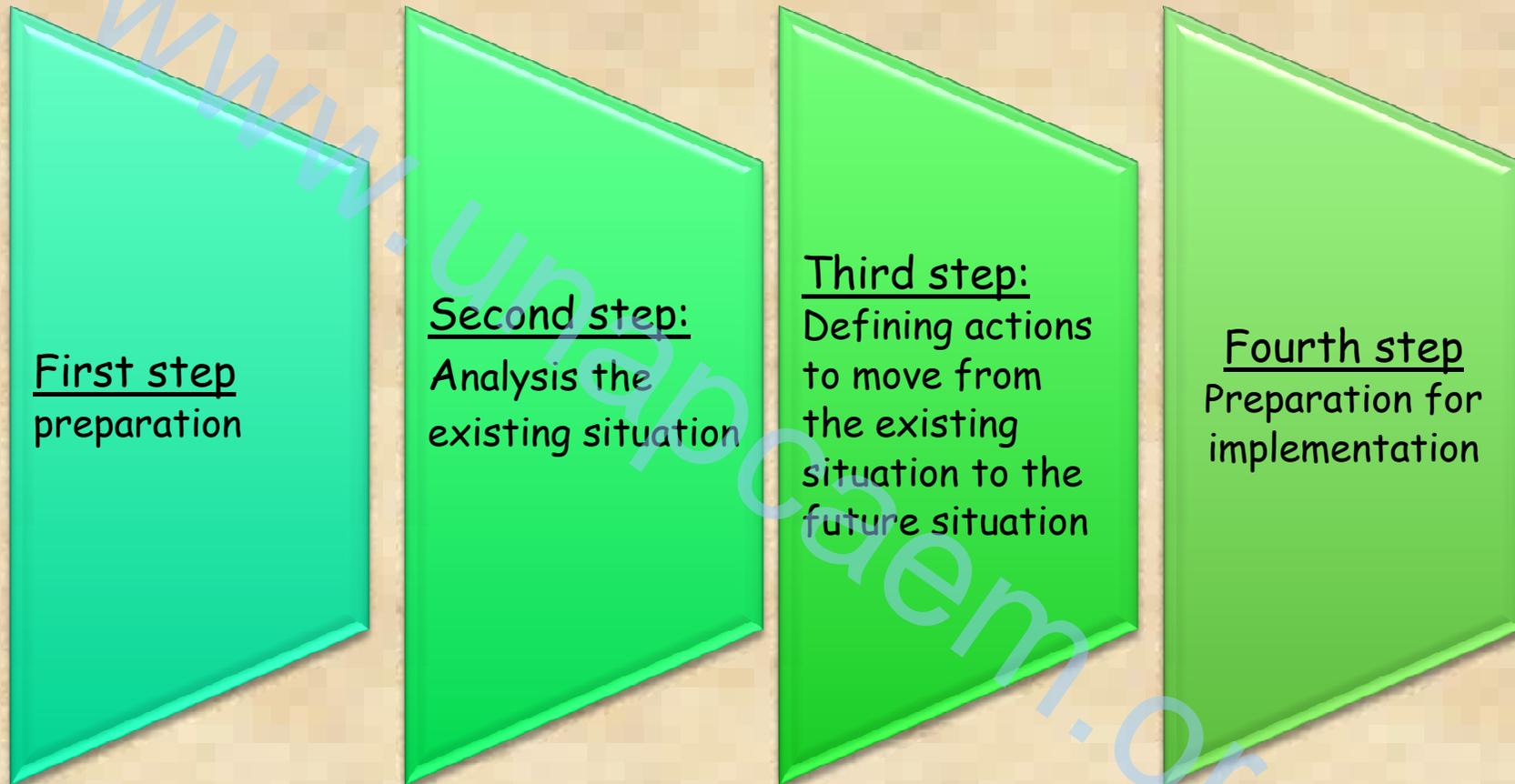
A process for making decisions and managing work to guide a sector towards its desired outcomes.

- Making decisions with an awareness of the future and an awareness of the implications of each future-minded decision.
- Organizing the actions of work areas, teams, and individuals to carry out these future-minded decisions.
- Measuring the results of these actions and decisions towards expectations.

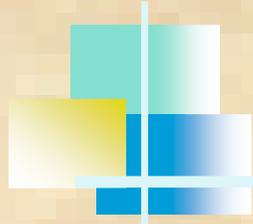
Strategic issues



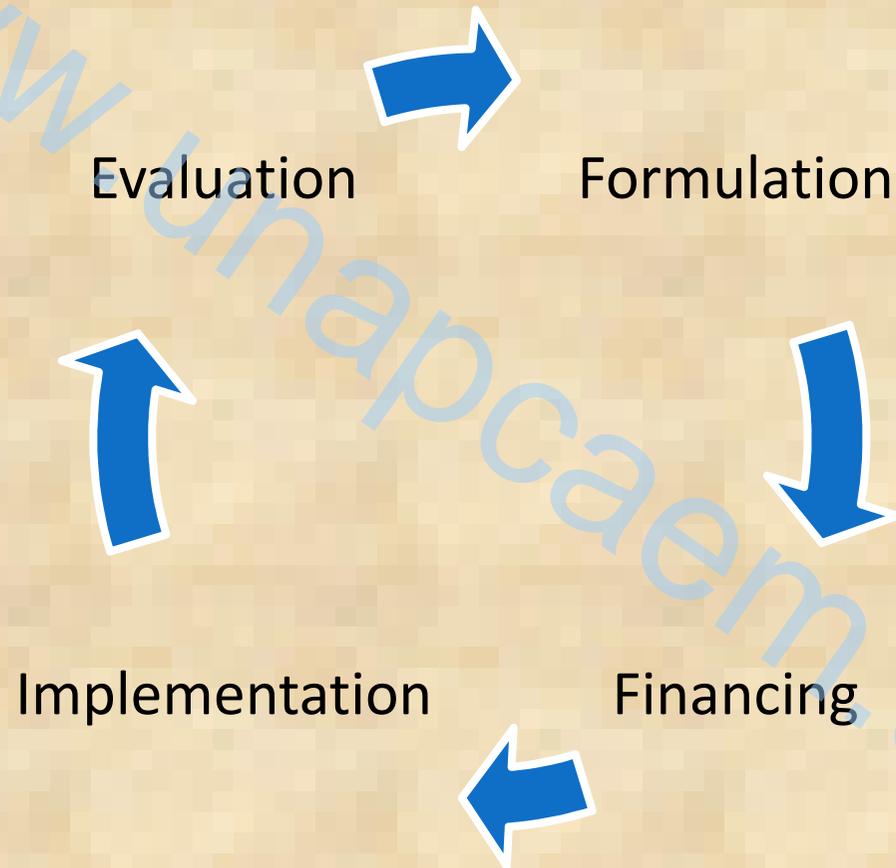
Main steps

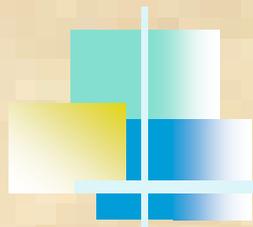


A typical time frame for the complete process is from 12 to 18 months



The strategy cycle





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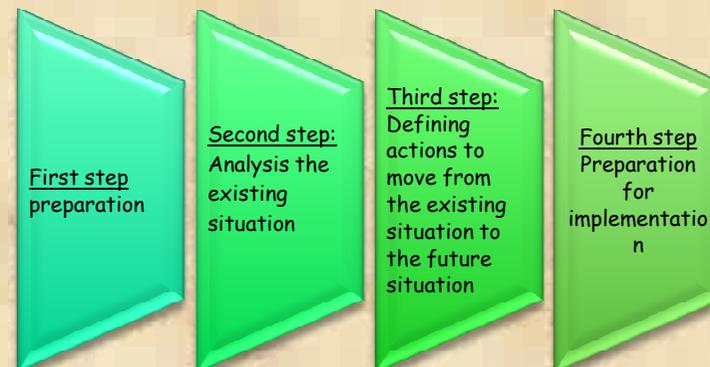
Developing the information base

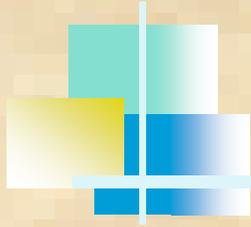
The objectives of information collection are aimed at understanding:

the present situation in respect of what is being done, why it is done in a particular way and what results are being obtained;

the potential and desire for improving the present situation, based on the project team knowledge of what others in similar circumstances are achieving and what the respondent sees as a development goal; and

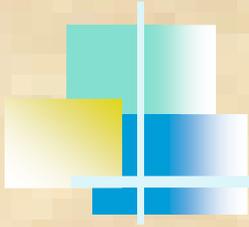
the constraints on achieving potential improvement as seen by the people directly involved in the activity, by the members of the project team, or as related to factors outside the respondent's control.





Developing the information base

- The purpose of strategy formulation is not to collect (detailed) statistical information
- The need for data collection must stay in relation to the problem and the complexity of the possible solutions to solve the problem.



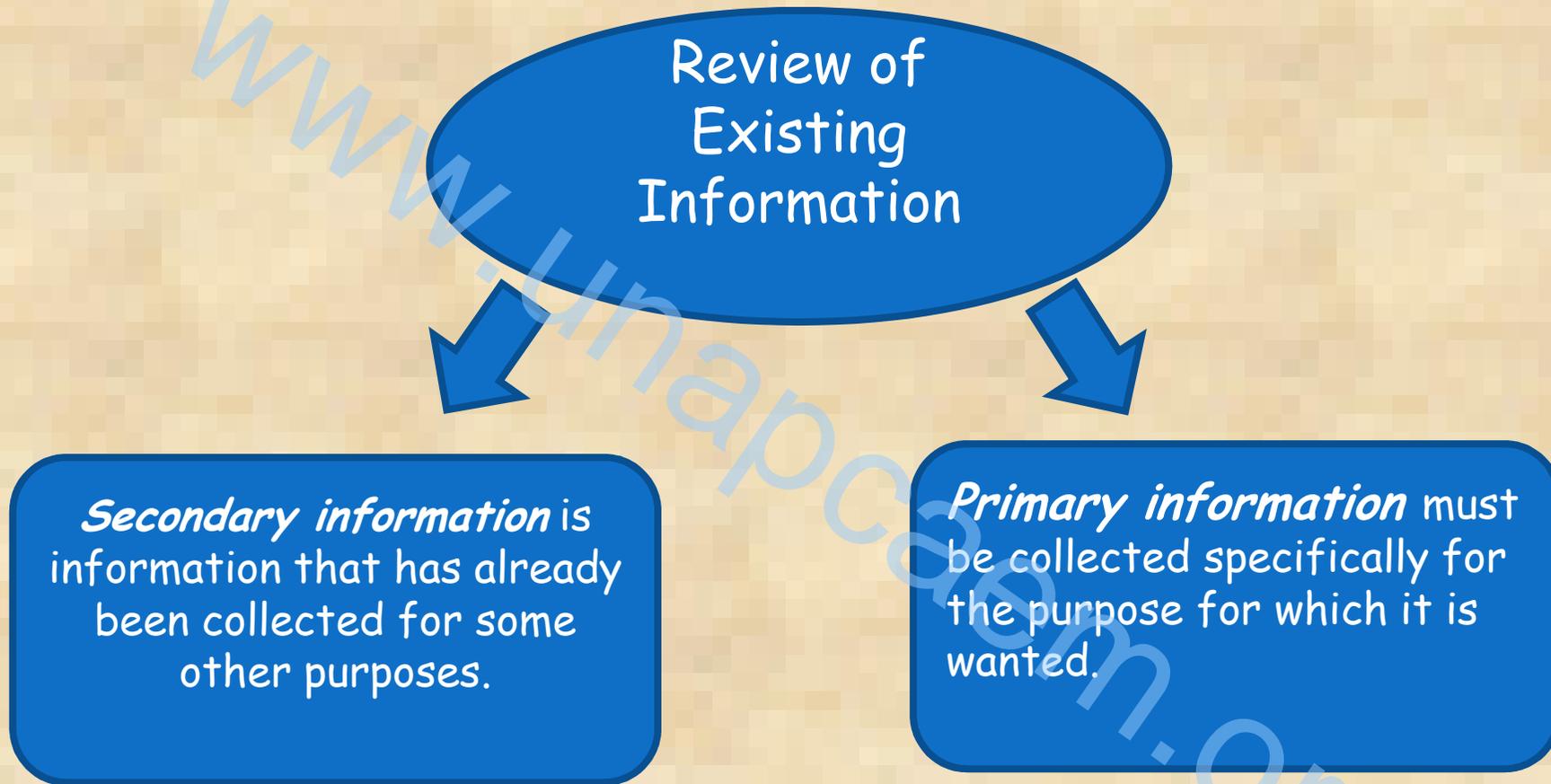
Collecting information

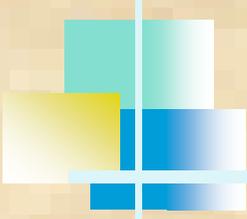
Review of Existing Information

Secondary information is information that has already been collected for some other purposes. It may be available from internal sources, or may have been collected and published by another organization. Secondary data is cheaper and more quickly available than primary data, but is likely to need processing before it is useful

Primary information must be collected specifically for the purpose for which it is wanted.

Collecting information





Collecting information

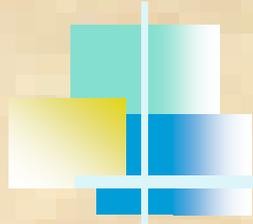
Field Visit

Delineation of zones. This means the division of a country, region or area into smaller units which have similar characteristics. Field visits should be carried out as an 'Exploratory Diagnosis' :

- Direct observation and measurement
- Informal interviews

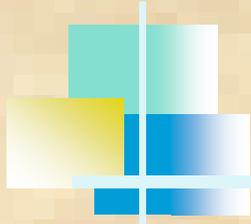
Focus group

Focus group discussions are considered a tool for strategy formulators not only to seek the views and opinions of stakeholders but also to generate data and contribute to the final findings of the strategy.



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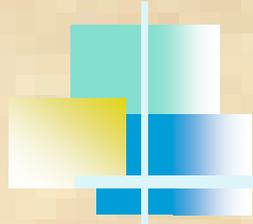


Step 1 Preparation

- Under which government institution should the exercise be based? (Is there a sector-planning unit within the MOA?)
- Have sufficient funds been allocated?
 - The formulation could be locally funded or supported with technical assistance from FAO/UN
 - FAO has supported such exercises in many countries through Tech. Coop. Projects (TCP)

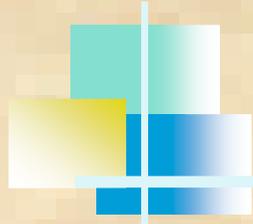
Step 1 Preparation

- Project Coordinator : he will play a very vital role in the success of the SAMS project and in implementation
- Steering Committee : to be established with the responsibility for overseeing strategy preparation. Committee members would include senior representatives from relevant ministries, such as agriculture and industry, and the private sector. The committee can also provide the vital link between strategy preparation and the on-going activities of implementation
- Project Team : a SAMS needs a multidisciplinary team with analytical skills and experience in macro and micro economics, farming systems, agricultural engineering, manufacturing, business and enterprise development, policy and institutional reviews, and the private sector



Step 2 Existing Situation analysis

- Stakeholders analysis
- Preliminary Study
- SWOT analysis



Stakeholders analysis

▪ Smallholder farmers

▪ Farming organizations

▪ Commercial farmers

▪ Irrigation groups

▪ Crop processors

▪ Machinery support services

▪ Rural transporters

▪ Importers

▪ Government and NGOs:

▪ Distributors

▪ Financiers

▪ Contractors

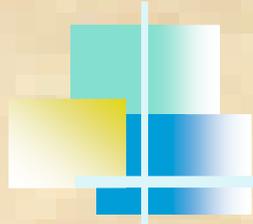
▪ Researchers
▪ trainers

▪ Blacksmiths

▪ Extension workers

▪ Manufacturers

▪ Policy makers



Stakeholders analysis

Mechanization demand

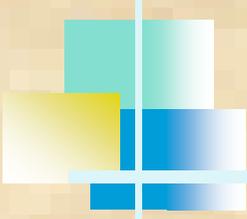
- Smallholder farmers
- Commercial farmers
- Farming organizations
- Irrigation groups
- Crop processors
- Rural transporters

Mechanization supply

- Importers
- Manufacturers
- Blacksmiths
- Distributors
- Machinery support services
- Contractors

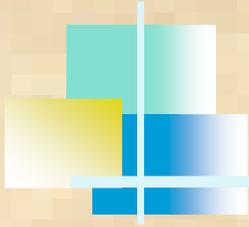
Institutional support

- Financiers
- Government and NGOs:
- Extension workers
- Researchers
- trainers
- Policy makers



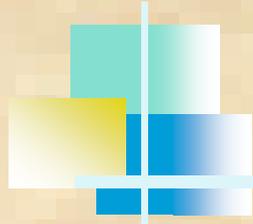
Stakeholder analysis

- Identify all stakeholders
- Identify each stakeholder's needs
- Identify how each stakeholder group may influence the strategy
- Identify the relative importance of each group to the strategy as a resource
- Identify how stakeholders will evaluate the strategy success
- ...



Current Situation Analysis : Preliminary Study

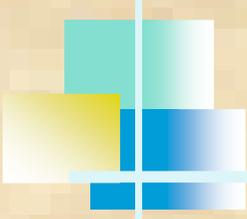
- General data on the country
- Agricultural production system and agricultural mechanization,
- Agricultural mechanization supply,
- Institutional support



Current Situation Analysis : General data on the country

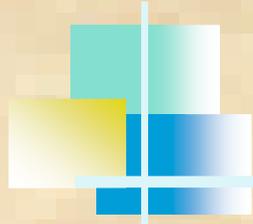
- Physical and Demographic Data,
- Infrastructure,
- National Economy,
- Policy Environment,
- Role of Agriculture,...

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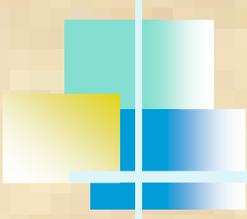
Current Situation Analysis : Agricultural Machinery Demand

- Holdings in each farming system:** Number
- Average farm size:** total area, area cultivated, length of fallow
- Dominant crop/livestock production systems:** types of crops/livestock and production methods
- Use of inputs:** traditional, alternative (e.g. seeds, organic and inorganic fertilizers, agro-chemicals)
- Use of farm power and equipment:** inventories of farm tools and equipment by power source
- Labor:** family, hired, exchange, tasks performed by age and gender, labor costs
- Crop and livestock budgets:** gross margins per enterprise
- Machinery and equipment costs:** purchase price, replacement rate, repair and maintenance costs, hire charges, contractor charges, government schemes
- Land tenure:** owner, tenant, communal, state
- Household characteristics:** family size, composition by age and sex, labor availability, migration, goals, preferences, decision making, traditions
- Performance of tasks by family members:** household duties, subsistence food crops, cash crops, livestock, storage, marketing, off-farm activities
- Household income:** farm and non-farm sources, average farm income, average household income



Current Situation Analysis: Agricultural Machinery Supply

- **Importers:** volume of imports of finished goods and raw materials
- **Manufacturers:** range, quality and quantity of hand tools, machinery, equipment and spare parts produced by blacksmiths, local craftsmen, commercial manufacturers, joint ventures, technical skills of manufacturers and employees
- **Maintenance and repair services:** number and location of facilities, links with manufacturers, source of spare parts, adequacy of service
- **Fuel and lubricants:** availability, quality
- **Draught animals:** breeders, trainers, veterinary services, animal feed



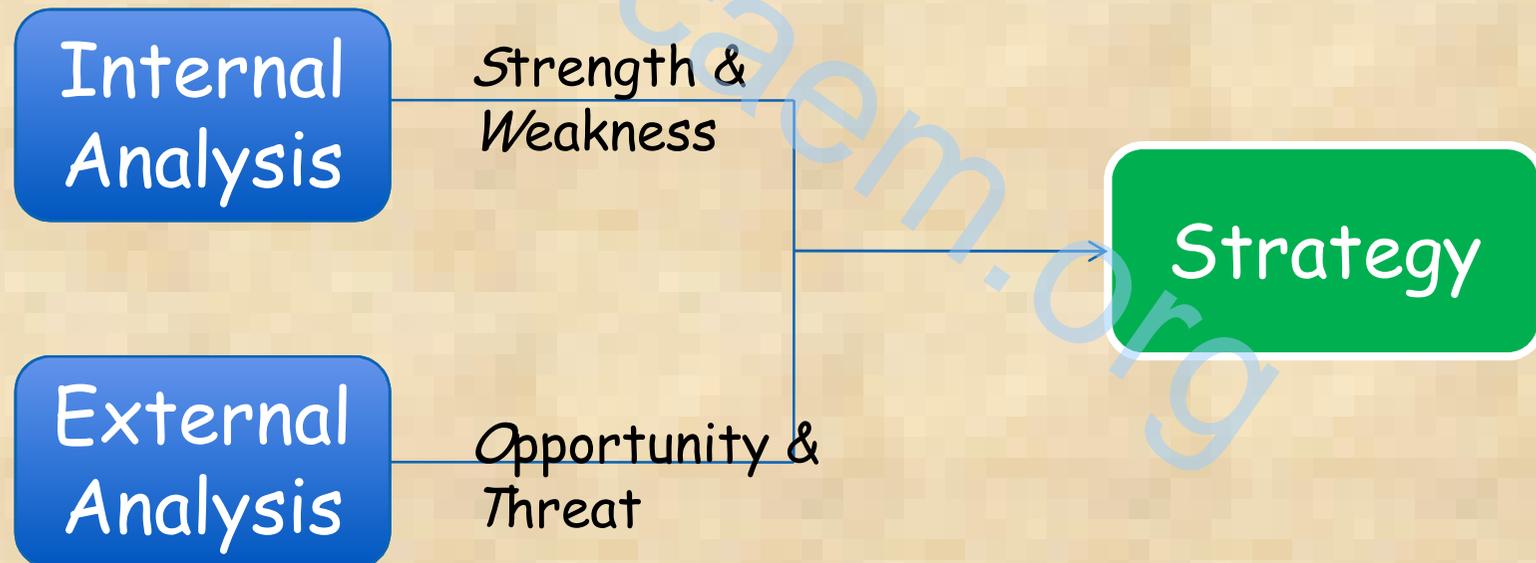
Current Situation Analysis: Institutional Support

- **Research and development institutions:** including universities, regional centres, national centres and international centres; programmes, staffing, facilities, and budgets; crop and livestock conditions, practices, production performance, and research; agricultural engineering research, development, testing and evaluation.
- **Education and training programmes:** courses, student numbers, curricula, staff, facilities, student follow-up, budgets, and development plans. Matching education and training facilities to the number of trained people required by government and industry, dissemination methods, links with beneficiary groups.
- **Agricultural and industrial extension public and private sector:** activities, services provided, structure of systems, staff numbers and qualifications, contacts with target groups (farmers, manufacturers, distributors, blacksmiths), budgets and development plans, effectiveness.

Analysis of the Current Situation : SWOT analysis

What is a SWOT analysis ?

A SWOT analysis guides you to identify the positives and negatives inside your organization (*Strength & Weakness*) and outside of it, in the external environment (*Opportunity & Threat*). Developing a full awareness of your situation can help with both strategic formulating and decision -making



What is a SWOT analysis ?

A SWOT analysis guides you to identify the positives and negatives inside your sector (*Strength & Weakness*) and outside of it, in the external environment (*Opportunity & Threat*). Developing a full awareness of your situation can help with both strategic formulating and decision -making.

Strength's – Those things that you do well, the high value or performance points

Weaknesses – Those things that prevent you from doing what you really need to do

Opportunities – Potential areas for growth and higher performance

Threats – Challenges confronting the organization, external in nature

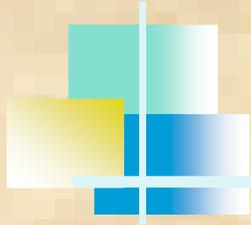
What is the inside and what is the outside?

- Does it affect my system?
- Can I control it ?

		Level		
		International	External	Oriented towards the country
Oriented towards the sector	External	country	Internal	
	Internal	sector		

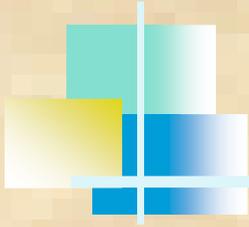
Step 3 Formulating the strategy

	Opportunities: 1. 2. 3.	Threats: 1. 2. 3.
Strengths: 1. 2. 3.	SO Use strengths to take advantage of opportunities	ST Take advantage of Strengths to avoid threats
Weaknesses: 1. 2. 3.	WO Use Opportunities to overcome weaknesses	WT Defensive strategy to minimize weaknesses and avoid threats

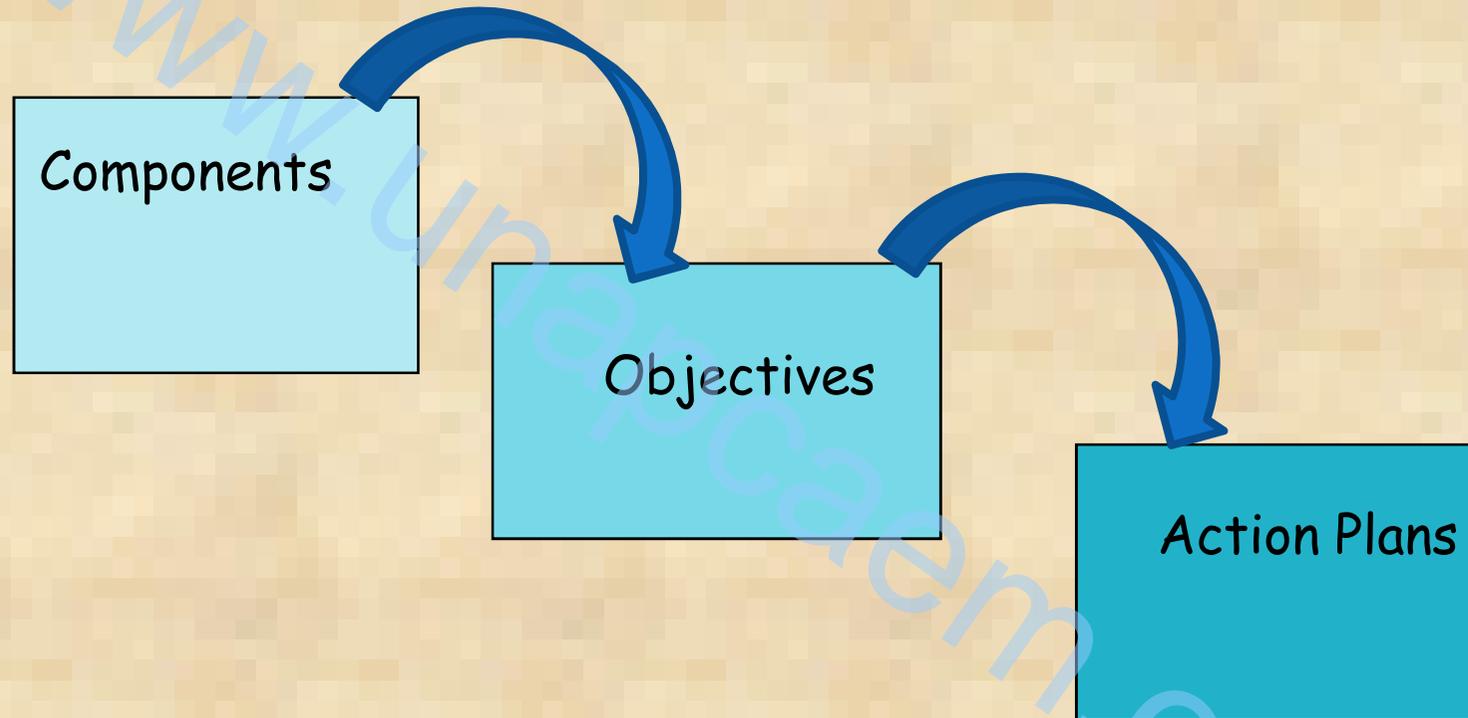


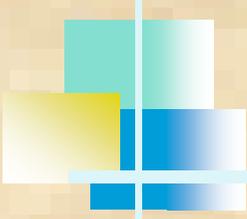
SWOT Analysis

	Strengths - - -	Weaknesses - - -
Opportunities - - -	Strategy elements for <u>short term</u>	Strategy elements for <u>medium term</u>
Threads - - -	Strategy elements for <u>medium term</u>	Strategy elements for <u>long term</u>



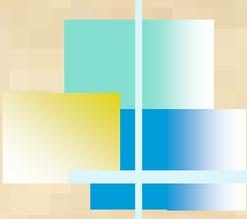
Formulating the strategy





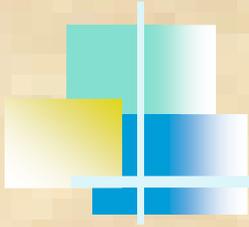
What is the Action Plan?

- The Action Plan identifies the specific steps that will be taken to achieve the objectives and strategic goals
- Each objective has a supporting Action Plan attached to it
- Action Plans are prepared towards operations, procedures, and processes
- They describe who does what, when it will be completed, and how the organization knows when steps are completed
- Like objectives, Action Plan requires the monitoring of progress, for which measures are needed



A checklist prior to completion of strategy formulation comprises the following points:

- Has there been the opportunity for the views from all key players in the agricultural engineering sector to be heard during strategy formulation?
- Have key players had the opportunity to express their opinions regarding the future scenarios identified and recommendations of strategy formulation?
- Has the interpretation of the policy environment been discussed with the appropriate authorities?
- Have policy makers been party to the preparation of the strategy? Are they willing and committed to act on the recommendations?
- Who is perceived to own the strategy document?
- Will implementation of SAMS require complementary activities in other sectors and, if so, will they be likely to be forthcoming?



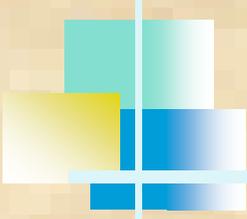
A checklist prior to completion of strategy formulation comprises the following points (continue):

Who is perceived to own the strategy document?

Will implementation of SAMS require complementary activities in other sectors and, if so, will they be likely to be forthcoming?

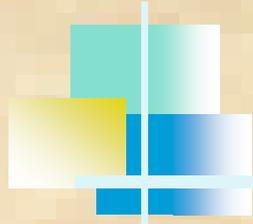
Have linkages been identified with other development or planning initiatives?

Has a mechanism been set in place to see through strategy implementation, including provision for monitoring and any revisions?



Qualities of a Good SAMS

- Challenging
- Change-oriented and creative
- Clear and simple to understand
- Analytical
- Prioritized
- Participatory with Ownership
- Flexible.



Group work: break-out session 1

Divide the participants in two groups :



Question 1.

A Sustainable Agricultural Mechanization Strategy should be developed because:

-
-
- ...



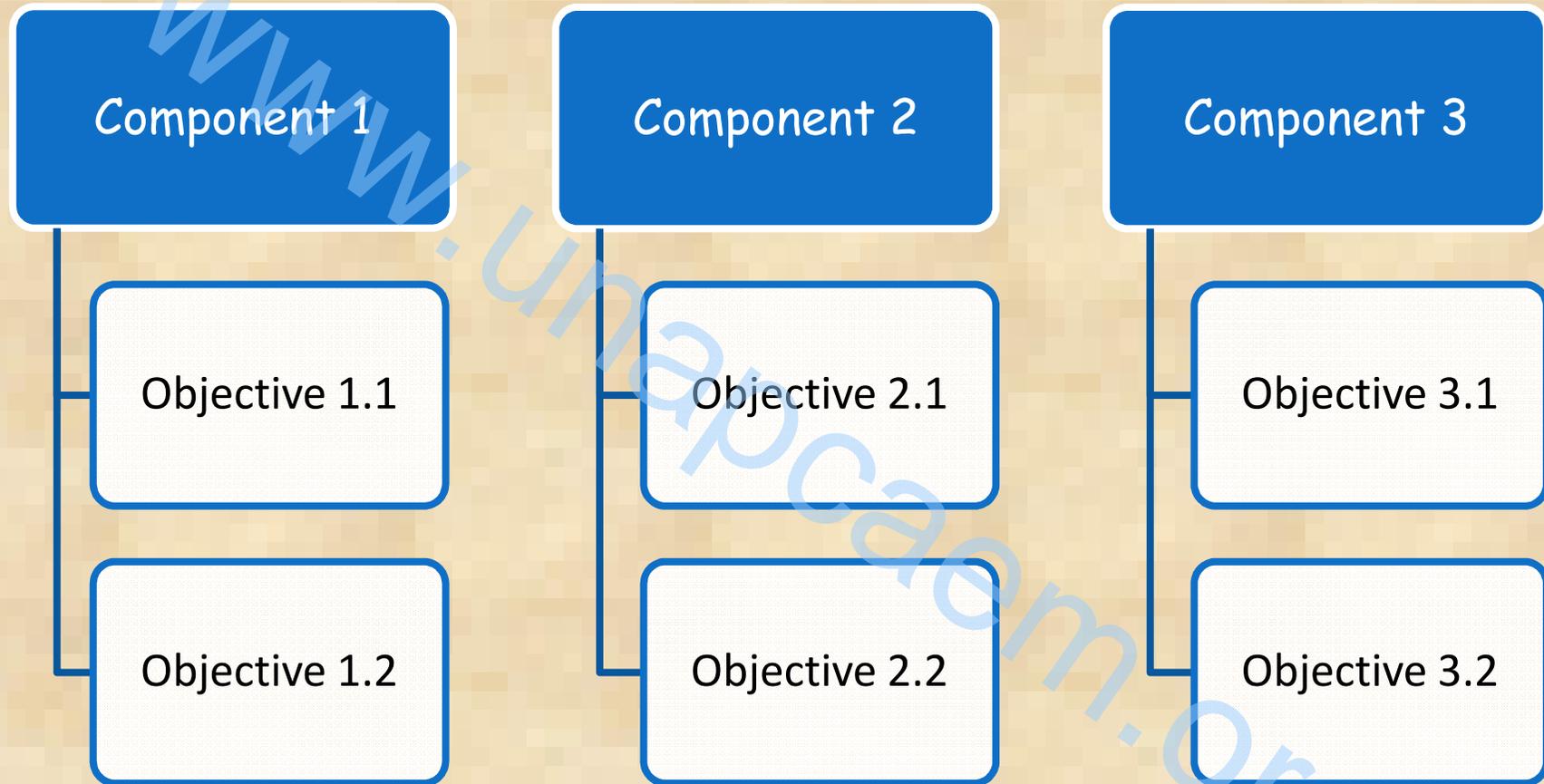
Question 2.

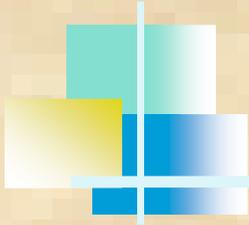
A Sustainable Agricultural Mechanization Strategy should not be developed because:

-
-
- ...

Answer 1	Answer 2
-	-
-	-
-	-

Elaborate a regional framework for SAMS





SMART objectives

- **Specific**: Objectives are precise, describing particular behaviors and outcomes.
- **Measurable**: Desired results can be quantified.
- **Attainable (but challenging)**: Objectives can be achieved, but challenging.
- **Relevant**: Contribute to the organization's overall mission and be consistent with its values, including ethical standards.
- **Time-bound**: Specify a target date for completion.