

The Alternative Agriculture Vision 2025 for Yemen

The Agriculture Vision 2025 is based on the following guiding principles:

- Sustainability of agriculture and rural development
- Participation of stakeholders
- Exploitation of under-utilised resources and capabilities.

These guiding principles are no theoretical statements, but they are active real life principles, which interact positively and negatively with the surrounding environment and framework conditions. Several challenges exist within this environment, which represent obstacles in the way to achieve these principal objectives. These challenges are:

1. Water scarcity and unsustainable level of water management especially regarding water for irrigation purposes.

This is one of the major challenges, which stands as serious obstacle for the development of the country as a whole and for the agricultural sector in particular. This overriding problem may prevent achieving the Agriculture Vision 2025 objectives. This challenge has two facets, which cannot be separated one from the other – in fact both aspects have to be tackled simultaneously:

Reducing water consumption in irrigation agriculture through water saving technologies

At the same time maintaining or even increasing the productivity of irrigated crops.

To overcome this challenge, we must introduce water saving technologies and establish legal, institutional and managerial framework conditions necessary to control the utilisation of water. There must be strong co-ordination and interaction between these three pillars of a new water policy for agriculture.

2. Poverty and its effects on food security and livelihood in rural areas.

Poverty represents one of the most significant factors militating food security. Poverty is rapidly increasing in rural areas, which is not only evident but also corroborated by statistical data. Thus, efforts are actually more targeted towards immediate poverty alleviation rather than aiming at longer term efforts to increase and sustain agricultural production and productivity.

Low living standards in rural areas, for example substantiated by the absence of appropriate health care, education, drinking water supply, road access and transportation, as well as limited awareness of social and economical facts and conditions.

3. Extension of Qat plantations and the rural economy increasingly depending on qat marketing and profit making.

Qat planting areas increased during the last three decades from 8,000 hectares 1970 to 97,000 hectares in 1999. This increase negatively affects the cropping systems and, moreover, the food security. Large amounts of water are used in qat irrigation and the extension of qat plantations results in the development of a new framework of the rural economy, where nowadays the rural people increasingly depend on the income from qat production. Yemeni farmers used to plant food which were to secure their food demand and provide him with a

decent life, and farmers used to irrigate other important food crops with the available water.

4. **Low technology levels resulting in low productivity and low income**

Government investments in the agricultural sector during the last 30 years amounted to about \$ 600 Million. These investments were mostly aimed at developing and promoting agricultural production, which includes the following activities:

- Developing the infrastructure
- Expanding arable areas
- Improving the utilisation of natural resources
- Training of agricultural manpower at all levels
- Organising input supplies and agricultural mechanisation, . . .etc.

If we divide this investment amount by the number of hectares of agricultural land, the result is \$20 per ha / per year. Allocating this amount for the above listed activities shows a very low investment level for improving the production and introducing new technologies.

Therefore, the investment strategies for increasing the agricultural production starting from the existing low technology levels must be revised!

Opportunities that remain

The above picture, which reflects direct challenges to any development opportunities in the agricultural sector, is, however, only part of the difficulties the sector is facing. There is a lack of co-ordination between the different governmental and non-governmental actors, who participate in the development process. There are still some opportunities which help in more rational water utilisation, poverty alleviation, alternatives to qat production and increasing agricultural production, by pursuing the following:

Increase efforts on water resources management and rational water utilisation

- **Water conservation at farm level**
The application of modern crops production technology and advanced techniques of water utilisation at the farm level can be achieved - by developing and activating the extension and research capabilities and services; strengthening the co-operation between the farmers and extension and research services to identify future appropriate technologies for cropping and irrigation, as this will lead to improved water conservation and farm production.
- **Water conservation at basin level, which can be achieved by:**
 - Adopting regulations to eliminate random well drilling.
 - Working to find better methods of measuring water levels in the basins in order to determine sustainable water extracting rates.
 - Constructing water retention dams which could help surface water into basin ground water.
 - Protecting wadis and making better use of rainfall water.
 - Improving rain fed agriculture and related cropping techniques.

- **Water resources management**
Expanding rational water management in rural areas will be a significant factor in sustainable water resources development and in alleviating ground and surface water consumption.
- **Irrigation methods:**
The use of modern irrigation technologies and improvement of traditional irrigation methods, developing water resources and increasing its capacity. MAI experiences in this field have shown that the application of modern irrigation technology would result in a significantly better irrigation efficiency (30 – 50 %).
- **Promoting profitable off-farm businesses:**
Agriculture is described as multi-functional. Through food production, provision of industrial raw material and playing an important role in exporting agricultural produce, off-farm jobs can be created; such as:
 - Food processing (vegetables, oils, fruits, etc.)
 - Animal production (dairy industry and meat processing)
 - Non-food agricultural processing (leather, textile industry, traditional handicrafts)
 - Other service activities needed by farmers (such as veterinary services, credit, fertiliser supply, etc.)
- **Improving agricultural marketing:**
 - Developing marketing of agricultural produce is considered as another aspect of creating profitable off-farm activities.
 - Marketing includes several interacting processes providing jobs for different people.
 - Improving the marketing process is linked with the improvement of capabilities of people working in marketing.
 - Marketing improvement includes: grading and quality control, packaging, (local and international) transportation and storage techniques.
- **Alternative crop production to replace qat:**
The ability to replace alternative crops to replace qat will significantly contribute to the reduction of irrigation water consumption used for qat and in increasing farm incomes. Crops like coffee (*coffea arabica*) and potatoes can be planted as an alternative to qat. Coffee as well as potatoes can generate a considerable profit and can be exported.
- **Adapt alternative advanced production technology:**
 - Modern production technology provides promising opportunities developed by agricultural research in increasing productivity in various agricultural production sectors:

- Crop production: Crop varieties with high resistance to drought and plant diseases.
- Livestock production: More intensive production with less feed consumption and higher productivity of animals through breeding.
- Soil fertility management: Supplementary irrigation technology in rain fed crops, integrated cropping systems approach and application of advanced rainfall observation methods in rain fed areas.

The Vision

The mentioned guiding principles regarding sustainable agricultural and rural development, participation of stakeholders and exploitation of so far under-utilised opportunities, will provide a good chance to overcome the observed difficulties and obstacles in agricultural and rural development in order to ultimately reach the targets of the Agriculture Vision 2025.

These are:

- Improving production in rural areas and in response to the increasing demand for rural products and services.
- Diversifying the rural economy by mobilising the human and natural resources on a sustainable basis.
- Giving priority to farmers, both women and men, enabling them to realise their hopes and targets and improving the living standards in rural areas and allowing them and their families to reach a decent life.
- Ensuring a sustainable agricultural and rural environment.
- Effective and efficient government action with policy and regulatory tasks to remain centralised, but management of government services to become decentralised.