



ARABIS ... *Helping People Manage Plantations*

ARABIS

Agri ▪ Research ▪ Advisory ▪ Biotech Services

◆ Agro Tech Services & Consulting ◆



Introducing ARABIS ...

ARABIS is a science and knowledge based research, development and consulting institution. Established in 1970, ARABIS is internationally known for its excellence in services, innovative products and patented technologies that have helped its partners and the agricultural and agro-forestry sectors at large all over the tropical regions of the world. ARABIS provides a unique science / technology platform and is geared towards the betterment / advancement of tropical agriculture and agro-forestry.

Our Role ...

SERVICES & RESEARCH



- to offer Technical Advice on various aspects of plantation agriculture and forestry with the aim of improving the profitability of the plantations.
- to provide Research, Technology, and Project / Plantation Management services to client plantations.
- to carry out Research on various tropical crops and plant species so as to be able to contribute to the progress of the agricultural and agro-forestry industries.
- to provide opportunities to plant scientists and professionals (agronomists, foresters, soil scientists etc) to develop and advance knowledge bases and to apply such knowledge and technologies for the benefit of the agricultural and agro-forestry industries.

ARABIS's *Offices, Laboratories and Greenhouses* are sited on a 10-hectare Field Experimental Station just outside of Kuala Lumpur in Malaysia. The building complex includes offices, analytical laboratories, quality control laboratories, resource centre, and library with computing facilities. The field experimental station is planted with over 15 species of tropical crops including Oil Palm, Rubber, Cocoa and various other fruit / food crops. We also work with some agro-forestry species such as *Acacia mangium*, *Acacia auriculiformis*, *Gmelina arborea* etc. With our total professional staff strength of over 25, we can provide clients with specialist services from a wide range of disciplines as it relates to the agricultural and agro-forestry sector.

ARABIS services *government bodies, private and public sector organizations* in various tropical regions / countries such as Malaysia, Indonesia, Papua New Guinea, Sri Lanka, India, Bangladesh, and some African countries (Cameroon, Ivory Coast etc.). With Operational Offices in Medan in Indonesia, we are well positioned to service oil palm and rubber growers, as well as growers of other crops in this part of the world.

ARABIS also has commercial interests in oil palm and rubber plantations and their associated processing units in Malaysia and PNG - which is managed through an associate company, Agriad Plantation Management.



Planning your **Investments in Plantations ...**

To aid plantation companies in planning the planting of new areas, ARABIS offers the following studies:

- **Agri Due Diligence** of Greenfield and Brownfield lands and plantations
- **Preparation of an Agricultural / Forestry Development Plans**
- **Soil Survey, Planting Surveys, Crop-Land Allocation and Feasibility Studies**
- **Project Financial & Economic Viability Analyses**



Optimizing your **Plantations' Operations ...**

To aid plantation companies in achieving greater profitability from the existing plantings and agro based concerns, ARABIS offers the following services:

- **Business Analysis of Plantation Operations**
- **Plantation Agronomy & Field Management Advisory Services**
 - Fertilizer Use Optimization - Soil & Plant Tissue Nutrient Survey & Fertilizer Use Recommendations
 - Optimization in use of other inputs (labour, management etc).
- **Other Agronomic Services ...**
 - Advice on Cultural Practices and Field Maintenance and Management
 - Advice on Pest & Disease Control Methods
 - Advice on Rubber Exploitation Systems including Tapping / Stimulation



- **Hypodermic Latex Extraction (HLE)**

A new patented technique for the extraction of latex from rubber trees, known as HLE was commercially implemented in 1990. HLE is a new and “physiologically efficient” method by which latex is extracted from rubber trees and has many benefits *vis-à-vis* conventional tapping systems.



- **Plantation Management Services (Inspection & Advisory)**

Field Upkeep	Labor Efficiency
Transportation Logistics	Road Maintenance
Monitoring & Evaluation Systems	
Rehabilitation	

- **Crop Processing Facility Management Services (Inspection & Advisory)**

- Capacity & Performance Evaluation
- Factory Layout & Design, Machinery Selection,
- Process Engineering

- **Agro Management Services of Plantations & Factory / Mills**

- **Engineering Services**

- **Civil Engineering** - including specifications and costings for roads, water and power supply, houses, factories (mainly for processing agricultural products) etc.
- **Town & Country Planning** - including infrastructure planning, determination and layout of towns, villages, hospitals, schools etc.
- **Agricultural Engineering** - including requirements of agricultural machinery, irrigation, processing facilities etc.

- **Marketing of Agricultural Commodities**

- **Environmental & Environmental Impact Assessment (EIA) Studies**

- Environmental Planning**

- Environmental Planning, Management & Monitoring
- Compliance with Environmental Legislation
- Environmental Impact Assessment



ARABIS Soil & Plant Laboratories offers various analytical, chemical, pathological services. The consulting division uses the lab for its technical requirements. To meet client's requirements of quality control our lab is also equipped to analyze and grade the various agricultural produce. The environmental lab is able to analyze effluent discharges from factories and mills processing agricultural produce.



The **Lab Services** that are provided are as follows:-

- **Soil & Plant Tissue Analysis**

Both soil and plant tissue analytical results are used (together with other agronomic and non-agronomic parameters) when generating plant or site-specific fertilizer use recommendations.

Soil analysis is done to estimate soil nutrient reserves and nutrient quantum available for plant uptake. The determination of a soils pH and plant available nutrients (Avail. P, Exch. K, Ca, Mg); as well as a soils reserve nutrient levels (C, N and acid extractable P, K, Ca, Mg) and nutrient holding capacity (CEC) can be made at the lab.

In addition, the mechanical and structural compositions of soils (soil texture profile) can be determined to estimate a soils water holding capacity.

Analysis of plant tissues for assessment of the nutritional status of a plant species is also done at the lab for all plant macro (N, P, K, Ca, Mg, S) and micro nutrients (B, Cu, Zn, Fe, Mn).



- **Effluent Analysis**

This includes the analysis of pH, COD, BOD, Total Solids, Volatile Solids, Suspended Solids, Settleable Solids, Phosphates, Total Nitrogen and Ammoniacal Nitrogen.



- **Analyses and Quality Control of Agricultural Products / Commodities:**

- Rubber (TSR Testing & Certification),
- Palm Oil
- Fertilizer

- **Food Testing Analyses**



Information Technology in Agriculture ...

ARABIS's *computer services* department has designed and engineered software systems to optimize agricultural operations of the plantation companies as well as to aid the management and operations of large scale agro and agro-forestry based development projects. These solutions are tuned to perform individual business and operations functions.

- **Plantation Agriculture eXpert SYStem - PAXSYS™**

ARABIS develops and implements intelligent decision making and support information systems which can help our Agronomists and plantations technically and economically justify decisions for plantation management and operations. It does this by embedding crop-specific growth and physiological models, agro-climatic models, and plant nutrition models into PAXSYS - a software system designed to meet these goals.

- **Geographic Information Systems (GIS)**

ARABIS utilizes and deploys the latest in GIS technology and satellite imagery to aid large scale agro and agro-forestry development projects on a project / province / state / nationwide basis for the management of land, climatic and labour resources and other capital assets.

- **Remote Sensing in Agriculture**

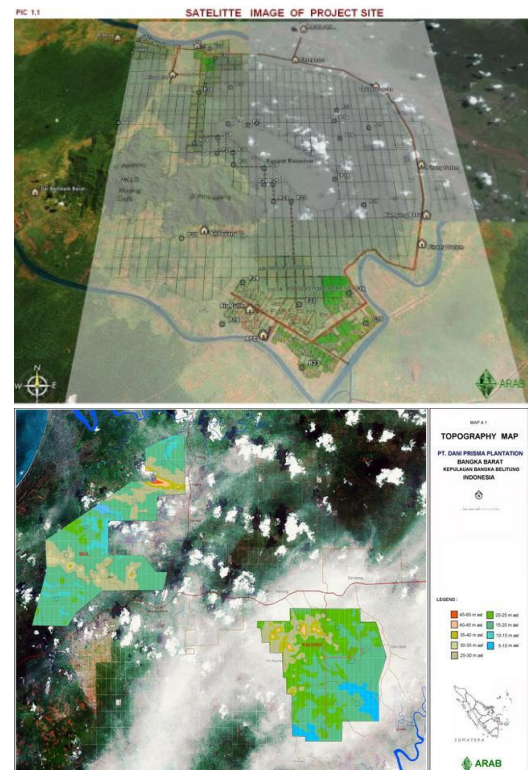
Satellite imagery is also often used in conjunction with GIS applications to monitor actual progress and development of agro and agro-forestry based projects, environmental planning & assessment, site suitability selection etc.

- **Cartography and Mapping Services**

ARABIS's drawing office is equipped with computer aided drawing and mapping facilities. Our survey teams use Global Position System (GPS) tools and satellite imagery with GIS software for data interpretation. These states of the art mapping equipment are used to prepare soil maps, land-use maps, topography maps and field maps to complement the field activities as well as to meet specific client requirements.

- **Software Solutions for Agricultural Project Monitoring & Management**

ARABIS has developed custom application systems that will effectively and accurately produce the information you need, when you need it, and in the form you need it. These solutions involve agro activities, planning requirements, financial management, socio-economic monitoring etc.



AGRO-TECH SERVICES & CONSULTING



NEW IDEAS FOR AGRICULTURE



ARABIS

Agri ■ Research ■ Advisory ■ Biotech Services

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