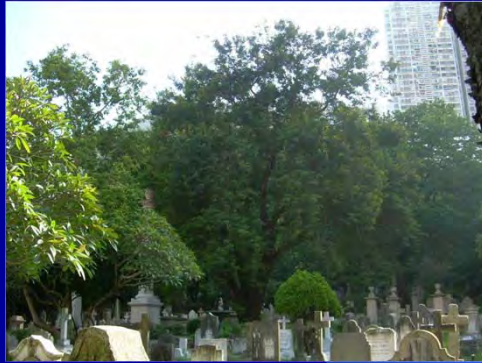


Building Tree Management Capacity in Hong Kong



A Pathway to Success

Kevin K. Eckert
President & Managing Director
Arbor Global Hong Kong Ltd.
ISA Board Certified Master Arborist WE-1785 BU



Goal

Healthy, safe trees
&
Benefits they provide



Are We Successful?

Yes, in many ways we are!

And, in some ways we have challenges

- Some trees create conflicts
 - Infrastructure
 - People
- Inadequate crown cover in certain areas
- Some trees in poor health and condition
- Some trees and tree parts are falling upon friends and relatives



Why Not?

Profession of Arboriculture still very young in Hong Kong

- Growing
- Suffering from effects of previous work
 - Predecessors did not possess current knowledge
 - Inadequate resources, which still continues
- Continues to be inadequate work



Why Not?

Change takes time, especially with long-lived trees

- Many very good professionals in Hong Kong
- Key components missing
- Do not yet possess capacity to fully attain goals



How to Succeed?

Success in arboriculture, or any project, requires:

- Competent professionals who know what to do, when and how
- Resources to conduct the required work at the proper time
 - Knowledge of location and scope of the work
 - Financial, administrative and mechanical
 - Enforcement authority



Today's Discussion

Identify key capacity topics

- Where are we now?
- Where do we need to be?
- How do we get there?



Competent Professionals



Qualified Arborists

1. Education
2. Training
3. Experience



Qualified Tree Workers



Qualified Definition

1. Education

- Theory
- Technical knowledge
- Provides framework for successful application



Qualified Arborist Education

Possess working understanding of a broad range of technical topics

- Anatomy
- Physiology
- Identification and characteristics
- Site selection
- Benefits and values
- Laws and regulatory issues
- Environment
- Installation and establishment
- Tree work safety (all phases)
- Pruning
- Tree health care
- Protection and preservation
- Risk management



Qualified Tree Worker Education

Possess working understanding of a broad range of technical topics:

- Anatomy
- Physiology
- Identification and characteristics
- Installation and establishment
- Tree work safety (all phases)
- Pruning
- Rigging
- Felling
- Tree health care



Education Sources

- Arboricultural College
- ISA Certification
- Vocational schools
 - Certificate/Diploma
- On-the-Job/Independent study
 - Organized programs
 - Must include 3rd party validation.



Qualified Definition

2. Training - How to conduct work/use equipment

- Practices
- Procedures
- Tools and equipment
- Sources
 - Manufacturers
 - Training schools
 - Qualified, independent trainers
 - OTJ.



Qualified Definition

3. Experience – Practice and mastery

- Performance according to accepted standards and practices
- Successful conduct of tasks within work type
- Demonstrate
 - Understanding of basic knowledge
 - Ability to apply knowledge and training



Experience

Proof of competency

- Defined number of projects
- 3rd party field checks



Experience

Proof of competency

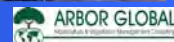
- Years of active work directly within tree care industry
 - Number of years and % of time each year
 - Minimum time period (apprenticeship)
 - QA - 1, 3, 5, 10 years
 - QTW- 6 months to 3 years
 - Time frame dependent on
 - Complexity of work
 - Scope of experience required to master skill/equipment.



Current Status

Education

- Formal educational infrastructure not developed
- CA and CTW programs conducted periodically
 - CTW not adequately available
- CAs ~ 150 & increasing number
 - Diverse group
 - LAs, landscape maintenance workers, arborists and managers
- CA and CTW are minimum levels of education and experience



Current Status

Training

- Numerous training programmes conducted
- Inadequate programme frequency
- No cohesive programme development
- Availability restricted
 - Especially Tree Worker.



Current Status

Experience - inadequate

- Low numbers of qualified professionals
 - Lack of time and opportunity
- Complex work - TRA, diagnosis and construction mgt
 - Extensive experience required
 - Touching many trees, many years within various conditions.



How to Get There?

Education

- Support overseas study at accredited Arboricultural institutions
- Develop programmes at HK educational institutions
 - Study successful programs at Arboricultural institutions
 - Structure programmes
 - Hire qualified instructors



How to Get There

Training - urgent

- Identify gaps
 - Government and contractor
- Coordinate and schedule programmes
 - Professional associations
 - Government agencies
- Open up sites where tree climbers can practice



How to Get There

Experience

- Urgent: Define and enforce appropriate standards
 - Especially for complex, high exposure work
- As required, retain overseas professions
 - Provide immediate expertise
 - Include local professionals to gain valuable experience
- Grace period
 - Provide opportunities for experience
 - Clearly define performance standard
 - Assess penalties for non-conformance



How to Get There

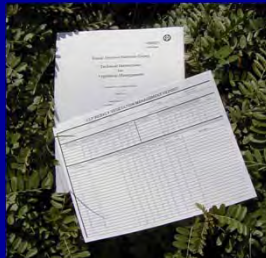
Incentive:

- Establish a career path in arboriculture
 - Opportunities to advance to top management
 - \$ for performance within the profession
- Stop loss of trained, experienced staff
 - Increased job satisfaction
 - Advancement rotation.



Resources

- Policies/procedures/specifications
- Inventory
- Planting stock



Policies/Procedures/Specifications

- Clear
- Comprehensive
- Technically correct.



1.0 INTRODUCTION

The purpose of this document is to provide Professional Arborists, Contractors and Company employees with a description of Company vegetation management operations procedures and specifications.

This document, including all of the procedures and specifications within, is included as part of the Company's contract with its vegetation management Contractors.

2.0 CONTRACTOR DUTIES AND RESPONSIBILITIES

The Company is a customer-oriented utility, and Contractors shall recognize this as they fulfill their vegetation management duties and responsibilities. Contractors shall treat members of the public in a fair, polite manner and remember that his or her actions and attitude reflect upon the Company.

All vegetation management operations must be conducted according to the Contract, which includes this document and, when warranted, according to the written directions of the System Forester or their designee. The Contractor must ensure that all of their personnel read and understand this document. Failure to comply with any part of this document is grounds for financial penalty and/or the immediate removal of the Contractor crew from the site at the sole discretion of the System Forester or their designee, and/or termination of the Contractor's contract with the Company.

2.1 Personnel Qualifications - The following are minimum qualifications for Contractor personnel positions:

- #### 2.1.1 Foremen shall:
- Hold a valid certificate as an ISA Certified Tree Worker or ISA Certified Arborist.
 - Have completed the safety program specified in the Safety section.
 - Have the ability to safely and effectively use all appropriate equipment and tools.
 - Have a sound knowledge and understanding of this document and the Company's procedures and specifications covering the work assigned.
 - Have the ability to consistently, clearly and professionally communicate both verbally and in writing with the public and Company personnel.
- #### 2.1.2 Climbers shall:
- Have completed the safety program specified in the Safety section.
 - Have the ability to safely and effectively use all appropriate equipment and tools.



Current Status

Advancing and improving – inconsistent

- Continued use of outdated standards and old practices
 - Poor pruning
 - Improper planting practices
 - Poor tree selection
 - Resistance to appropriate felling/replacement.



Goal

Standard, technically based policy, procedure and specifications

- Application by all who are working on or near trees
- Flexible to change with technology and research.



How to Get There

1. Convene a team of highly technically qualified arborists

- Overseas
- Local

2. Prepare document based on best mgt. practices

- ANSI
- ISA guidance
- Local considerations

3. Enforce



Inventory

Must understand work

- Where trees are located
- What is required
- How much required
- When



Current Status

- OVTs and some properties well documented
- Many public trees documented, but not a cohesive system
 - In practice, no good inventory beyond OVTs
- Not good info on condition and requirements of most trees



Goal

Comprehensive, accurate inventory of all public trees

- Location
- Condition
- Maintenance needs
- Planting spaces
 - Location
 - Restrictions.



How to Get There

Develop and implement system - urgent

- Land-based
- Required data identified
- Develop or procure automated system
 - User friendly
 - Ensure easy access, input, and data management
 - Migrate current data into new system



How to Get There

Conduct field data collection

- Initially: ID critical trees and collect data
- Collect data on other trees during first work process
- Update and maintain data through automated program.



Planting stock

Current status

- Condition is often very poor
 - Some exceptions – good trees
 - Inadequate root balls
 - Over-pruned.



Goal

Planting stock condition according to international standards

- Proper establishment
- Long life
- Low maintenance



How to Get There

Publication and application of nursery standards

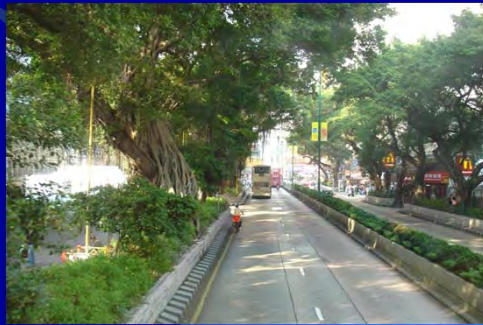
- Standards exist, just need to organize for HK and publish
- Education of growers and suppliers
- Development and enforcement of specifications based on standards.



Professional Arboricultural Capacity

Provides required resources for tree success

- Safe trees
- Healthy trees
- Achieve tree benefits
- Valuable public assets that can be measured in \$\$\$\$\$.



Questions?



Kevin K. Eckert
Arbor Global Hong Kong Ltd.
PO Box 1343
Kailua, HI 96734
Email: keckert@arborglobal.com

Proper Tools and Equipment

Planting stock

- Proper species
- Proper form and condition

Tools and Equipment

- State-of-the-art
- Selection, care and use

Qualified Arborist Education

Sources

- Arboricultural University
 - Award of degree
- ISA Certified Arborist
- Independent study
 - Must include 3rd party validation

Current Status

Tools and Equipment

- State-of-the-art
 - Relatively good knowledge of most small tools
 - Poor access to most tools
 - Some tools non-standard and maybe unsafe
 - Key equipment absent
 - Chippers
- Selection, care and use
 - Relatively good knowledge of most small tools