

Notes on summing-up by Quentin Cronk
at PlantNet conference on *Botanical Collections as Genetic Resources*
RBG Edinburgh May 2000

Quentin had been involved with botanic gardens at:

Cambridge on collection of plants from St Helena in University Botanic Garden, with Ernie Spong (Glasshouse Supervisor). Without help of Garden staff couldn't have done PhD

Trinity College Dublin

Oxford – educational role of BG in the University, using BG as teaching tool

Now Royal Botanic Garden Edinburgh and University of Edinburgh

i.e. these 3 BGs used to aid research and teaching

BGs all have completely different local agendas and different needs for survival, but global agendas are same for v. small and large BGs: conservation, education and links with industry; united by global agenda; cross-talk between local and global agendas; have to survive before can contribute to global strategy
world population expected to peak at 11.5 billion – greatest ever pressure on ecosystems

Up to us (next 2 generations) to pull back from brink

Peter WJ had given overview of value of BGs on global scale

No amount of money can be too much for what we are doing: making people environmentally aware to secure the future of the planet. Don't apologise, but ask for more money.

PlantNet comprised of 5 political units

e.g. Scotland has conservation agenda

PN can bring together **conservation** work on plants that cross borders, e.g. *Carex buchsbaumii* – sites in ??

Britain and Ireland could work together. PN is bringing together plant collections as one resource

Importance of documentation – primacy of accession details, e.g. provenance and tracking records at Brogdale

Provenance of plant resources in BGs and other collections must be known; PN can act as a catalyst to draw these together.

Documentation of collections on web – RBGE, Brogdale

PN could provide user-friendly interface for engines and browsers for all relevant web sites (not 1 huge central database)

Encourage uniformity and make use of collections easier

Regional genetic resource collections, e.g. apples, peas, herbage seeds, potatoes

Part of well-documented regional plant resource

BGs not in isolation, but as part of regional and national resources that include BGs, genetic and amateur (if properly documented) collections

The conference had provided an opportunity to compare genetic-resource collections with those of BGs

Genetic resources: many accessions, few species

BGs: few accessions, many species

Conifer Conservation Prog. middle way – species and accessions useful for conservation

David Rae had done a v.g. job in providing opportunity to look at BG collections in relation to genetic resource collections; and to consider techniques, methods and viewpoints of genet. Resources to use in our BG coll.

All the relevant committees should be encouraged to work together, to take a broader and wider view

Value-added problem

No point in assembling regional well-documented resources unless they are used

Nick Wray had given an example of building up a regional plant resource (plants from Southern Cape), looking at potential uses in S Africa and UK; v. useful potential model for role of smaller BGs and working within spirit of CBD

PWJ had shown that regional plant resources already have value; needs to be further explored and exploited

Geoff Dixon had explained that this must be related to wealth creation; enjoyment of plant resources depends on wealth in society

We should look to creating wealth through links with pharmaceutical (see Alan Harvey) and horticultural (Geoff Dixon) industries. It was high time for a brazen and open approach.

CBD conceived in spirit of optimism, but had stopped research in its tracks

In Edinburgh, there had been difficulties in working on material from the Philippines (material brought back was never to be used commercially)

But CBD had been conceived *to facilitate* use of resources in an equitable manner

Consult lawyers – but too difficult for smaller gardens

Need to find ways of working within context and spirit of CBD, e.g. as described by Alan Harvey

Case studies were needed of people who have worked successfully within CBD – could BGCI do this?

Would be v. helpful to see how BGs have successfully negotiated shoals (shallows??) of CBD

Use of BGs for research

In recent years, university departments had tended to cut loose from their BGs because could not see their current use

coming to end of genomic phase, could build research links between university molecular department and BGs

Soon, complete gene sequence of *Arabidopsis thaliana* would be known, then rice (Monsanto) and other plants

Next frontier is biodiversity – why is *Arabidopsis* different from oak?

Biodiversity collections will be v. important for this next phase of research

Studies of symmetry in floral development – bilateral in *Schizanthus*, radial in *Sinningia* (important in horticultural industry – and pollination mechanisms (by birds, bees etc.) e.g. in *Streptocarpus*)

For these studies, need access to biodiversity to understand control of these characters

Cannot cross *Schizanthus* and tobacco, but can insert genes. Study of how floral types arose, but may also lead to commercial exploitation

BGs have the biodiversity and genes needed to take this work forward

An EU group (ask Matthew Jebb?) was looking for successful CBD stories, e.g. Nick Wray's work

BGCI is preparing a handbook for BGs on CBD; examples of how BGs can contribute to it – best practice, case studies; elixir?? of use, TGCI India – working with indigenous people

CBD is *conservation* convention, not *access and benefit-sharing* convention

Don't want it hijacked by lawyers, but need policy guidelines for BGs

Emma-Jane Lamont had given example of model for linking web sites: European plant genetic resources

Aim for entire browser – 1 searchable database easy to query. Could develop through PlantNet homepage

Through their existing links, BGs can be honest brokers, because primary aim is not commercial

BGs, with their taxonomic expertise, could form links with others who do testing

e.g. Chelsea Physic Garden used as honest brokers by Glaxo Wellcome; benefit returned via the Garden

Gardens can provide taxonomically identified material, companies prepared to pay for taxonomic work

Screening quite loose, best to work with big collaborator

Mike Ambrose: opportunity to cross-link committees

Look to formalise and make stronger links between PlantNet and UK Plant Genetic Resources Group

He and others available to help with scientific work

Education

RBGE had developed successful pea displays w. UKPGRG

Would like to develop kits for peas and potatoes for schoolchildren?

PlantNet could bring together and provide links for this work

Notes by Judy Cheney (not yet verified by Quentin)

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