

Mini Series: Sequel to “Designing Roots”

Part 1: Progress after the Workshop

As we mentioned in AAI News Vol. 12, we organized a workshop titled “ Designing roots” in the summer of 1997. In the morning session of the workshop, we introduced the notion of “Designing roots” using a photographic database. In the afternoon we had a practical session using actual tools. The combination of theory and practice was very well received by a large number of participants. There were many requests by academic journals and TV programmes for contributions.

We introduced the idea of “Designing roots” and actual activities in arid regions in the journals and symposiums listed in the table below. In addition, recently, a book titled “Root Design: food and environment created by roots,” was published by Japanese publishing named Yokendou, and this includes a section called “Greening of desert and root system growth” which summarizes our activities. Furthermore, our activities were broadcasted to the world through NHK’s satellite broadcasting.

Journal/TV Programme etc	Timing	Summary
“Root Research” Issue 6, Vol.3 Japanese Society for Root Research	Sept. 1997	Introduced the idea of designing roots, with the theme “new approach for tree planting in arid land.”
“Journal of the Japanese Society of Revegetation Technology, Issue 23, Vol 1 Technology Materials	Sept. 1997	Introduced AAI activities in the UAE, with the theme of introducing water saving tree planting techniques in arid area using long root cultivation.
“Green Age” Spring 1998, Japanese Greenery Research and Development Centre	Jan. 1998	With the theme of root system of trees for planting and nursing techniques, introduced nursing and planting technologies for long root saplings.
The Japanese Society of Revegetation Technology: Research Summary	April, 1998	Introduced our activities regarding long root cultivation and dew pit irrigation at a “sustainable tree planting” research committee meeting
NHK BS 2: Japan This Week	May, 1999	With a variety of footage, introduced “Sahel-no-mori (Forest of Sahel)” activities in Mali and applications of long root cultivation techniques.
Forest Consultant No 80, Society of Forestry Technicians	Jan. 2000	Introduced tree planting techniques in arid areas, focusing on the reality of many areas with highly limited materials.
Homepage of “Designing Roots”	Oct. 2001	“Living in arid area”, “Basics of thinking”, “From seeds to nature” at http://www.open-resource.org/rootdesign/index.html
Poster exhibition at the 6th Symposium of the International Society of Root Research	Nov. 2001	Introduced our activities and achievements at the poster exhibition “Root: Dynamic Interface Between Plant and the Earth.”
Root Design: Food and Environment Created by Roots, Yokendou	Nov. 2003	Root design: food and environment created by roots

As shown above, we have been widely introducing the concept of “Designing roots” making the most of various opportunities, while continuing with activities that aim to devise practical applications of this concept. What has become clear through these activities is that with normal saplings, one can achieve the same effect as long-rooted saplings, as long as there are the right conditions for roots to grow. In other words, if one plants normal saplings in the soil which allows their roots to grow to a certain depth, the same results can be obtained as with long-root saplings. In addition, we now have the possibility of planting very young saplings. When nursing long-rooted saplings, germination stimulated seeds are planted in plastic pots and then small saplings are transplanted to pipe-shaped pots. Even small saplings can be directly planted, as long as the selection of the planting location, pre-planting treatment and post-planting management are adequate and one can expect quite a high rate of survival.

Since the workshop, we continued to learn a significant amount through nursing long-rooted saplings and developing planting techniques, applying the techniques to afforestation activities in the field and dissemination of the results, as well as through trials and errors. In this new series, we will introduce a number of experiences in the field in development and dissemination of appropriate technology following planting of long-root saplings. We will also investigate the possibilities of application for afforestation activities in degraded lands around the world.