

Contents

<i>Chapter</i>	<i>Page</i>
I. Introduction	3
II. Breeding Beans and Cowpeas for Drought Resistance and Heat Tolerance	9
Summary	9
Introduction	9
Collaborative Research Support Program	10
Bean CRSP—Guatemala	10
Bean CRSP--Mexico	11
Cowpea CRSP--Senegal	11
Technology Transfer Considerations	12
111. Game Ranching in Africa	17
Summary	17
Introduction	17
Experiments in Game Ranching	18
The Hopcraft Project	19
Discussion of Findings	21
Technology Transfer Considerations	24
Game Ranches	24
Native Herd Management	25
IV. Managing Water on Farms in Pakistan	29
Summary	29
Introduction	29
AID Project in Pakistan	30
Background	30
Collecting and Evaluating Data	31
Project Actions	31
Project Evaluation	34
Other Projects as Outgrowth of Pakistan Project	34
Project in Egypt	34
Water Management Synthesis Project	35
Technology Transfer Considerations	35
Interactive Field Research	35
Integration of Research Results With Government Policy	35
Multidisciplinary Approach	36
Information Dissemination	36
V. Developing Guayule (Natural Rubber) as a Commercial Crop	41
Summary	41
Introduction	41
Sources of Rubber	42
Advantages and Disadvantages of Developing Guayule	42
Research on Guayule in Australia	44
Background	44
Current Research	45
Future Research	46
U.S. Guayule Production and Research	46
U.S. Cooperation With Other Countries	48
Technology Transfer Considerations	49
VI. Israel's Water Policy: A National Commitment	53
Summary	53
Introduction	53

	<i>Page</i>
Water Use Programs DO..... .. DO.....	54
State Control of Water Resources	55
Supply and Distribution	55
Demand Management	55
Technical Assistance	57
Selected Irrigation Technology Applications	57
Wastewater for Reuse	58
Drip (or Trickle) and Sprinkler Irrigation	59
Computer-Controlled Irrigation	61
Irrigation With Saline Water	62
Technology Transfer Considerations	63
Appendix A: Contacts List (by chapter)	67
Appendix B: Preliminary Inventory of Materials Available for Improving Irrigation Water Management in Asia	71
Appendix C: The Economics of the Commercialization of Guayule in New South Wales	75
Appendix D: BARD Abstracts	78
 Tables	
<i>Table No.</i>	<i>Page</i>
1. Estimates of Drylands Population by Region and Livelihood Group	4
2. CGIAR-Sponsored International Agricultural Research Centers and Programs	6
3. Fiscal Year 1981 U.S. Financial Commitments to Bean/Cowpea CRSP Projects	10
4. Common and Scientific Names of Animals Cited in Text	18
5. Characteristics of Cropped Game Animals	22
6. Monthly Deliveries to Nairobi and Revenues	23
7. Potential Domestic Crops and Uses	41
8. Components of Harvested Guayule Shrub	43
9. Facts About Israel, 1979-80	53
10. Average Yearly Rates of Change in Percentages in the Major Components of the Agriculture Sector Account, 1968-78	58
11. Production Comparisons for Various Crops Under Different Irrigation Systems	61
12. Effect of Irrigation Methods on the Yield of Tomatoes and Cucumbers	61
B-1. Preliminary Inventory of Materials Available for Improving Irrigation Water Management in Asia.	71
C-1. Estimated Costs of Producing One Acre of Dryland Guayule in New South Wales, Australia	76
C-Z. Per Acre Income Above Costs	76
 Figures	
<i>Figure No.</i>	<i>Page</i>
1. Dry Climates of the World	4
Z. Precast Concrete Slab Installation for Panel Turnouts	32
3. Natural Rubber Prices per Metric Ton	44
4. Australia	44
5. Test Sites, Western Slopes, and Plains of New South Wales	45
6. Efficient Use of Water	58
7. Trickle Irrigation System	59
8. Typical Types of Sprinkler Irrigation Systems	60