THE LAND USE LAW REVISITED:
LAND USES OTHER THAN URBAN

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FOREWORD

Senate Resolution 295, S.D. 1, the text of which is set out in Appendix 1 of this report, requested that the Legislative Reference Bureau "study the feasibility of amending the land use law to provide greater protection for the lands that have been designated for other than urban uses." This report was prepared in compliance with that request.

While the report relies heavily upon the ideas proposed in four recent major land studies, the contributions of the time, thoughts and information of Robert M. Ota, Hawaii County Extension Service and Project Director for the Agricultural Coordinating Committee's report "Opportunities for Hawaiian Agriculture", and Ramon Duran, Executive Officer of the Land Use Commission, are gratefully acknowledged. The courtesies extended by Mr. Ah Sung Leong, Planner with the Land Use Commission and by the Land Study Bureau in providing data for use in this report are also acknowledged. Finally, the data gathering and assemblage performed by Bina M. Chun of the Bureau and the information, cooperation and counsel given by Dr. George K. Ikeda, formerly with the Bureau, cannot be overlooked without a word of sincere appreciation.

Through the years, the Bureau has issued many studies dealing with Hawaii's land situation and the attendant problems. It is hoped that this report will add a little more to the store of information on the subject.

Henry N. Kitamura
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Chapter I

BACKGROUND OF THE LAND USE LAW

Historical Framework of the Land Use Law

Need for a Land Use Law. As stated in the findings of the First State Legislature in its regular session of 1961, the lack of land use controls then extant caused many of Hawaii's limited and valuable lands to be used for purposes detrimental to the long-term income and growth potential of Hawaii's economy. This was evidenced by scattered subdivisions with inadequate public services, shifting of prime agricultural lands into nonrevenue producing residential uses and non-utilization of available lands to its highest and best use for the general welfare. Land speculation was rife. For example, on the Island of Hawaii, despite a declining population trend with approximately 61,000 residents in 1960, nearly 60,000 lots were plotted on about 57,000 acres just in the Puna District alone, within a two-year period between May 1958 and 1960.

It was evident that two goals had to be achieved in order to conserve the land resources of the State. One, having a negative aspect, was to discourage land speculation. The other, using a positive approach, was to encourage the utilization and development of land to its most appropriate use consonant with the community's welfare and general good. The attainment of these goals was translated into a mandate for action by the First State Legislature in 1961 with the passage of Act 187,[1] the State's first comprehensive Land Use Law.

Legislative History - A Brief Survey. An antecedent to what finally evolved as the State's first comprehensive Land Use Law is found in Act 234 passed by the 1957 Territorial Legislature. That act, relating to the establishment of forest and water reserve zones, the creation of subzones and the establishing and

enforcing of regulations relating to uses within these subzones, through its definition of the boundaries of forest and water reserve areas, furnished the initial base for the areas later classified as Conservation Districts under the Land Use Act. The concept, too, of preempting the zoning powers of the counties with respect to land designated as conservation finds its origin in Act 234.[2]

One of the major recommendations of the first State General Plan, submitted to the Governor in January of 1961, proposed that zoning controls on a state-wide basis be instituted. This proposal found ready acceptance by the State Legislature in the enactment of Act 187 in July of the same year.

Act 187 of the First State Legislature has been amended in four separate legislative sessions by five different acts. Of these amendments, three may be considered as major, and two as minor amendments. The major changes in the law were effected by Acts 205, 182 and 136 of the Regular Sessions of 1963, 1969 and 1970, respectively; minor amendments were made by Act 32 in the 1965 Legislative session and by Act 232 in the 1969 session.

Provisions of the Land Use Law

Land Use Classifications. The Land Use Law, as originally adopted, provided for three major classes of land use: urban, agricultural and conservation. These three classes were expanded in 1963 by the creation of a fourth class of land, designated as "rural". Act 187 utilized a definitions section to set the limits of the districts encompassed by the former use categories. However Act 205 discarded the definitional approach and broadened the coverage of the land use districts in two respects. First, it stated what the use districts may include. Second, by revising the scope of the urban district, restating its earlier definition in a negative manner and adding thereto further elaboration, the

subsequent act created a new "rural" district. The latter addition was introduced primarily to accommodate the needs and demands of the counties other than Honolulu.

As the districts now stand on the statute books:

Urban districts include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated. By this is meant lands then (June 17, 1963) in urban use, together with a sufficient reserve area for foreseeable urban growth.

Rural districts include activities or uses characterized by a density of one house per one-half acre in areas absent of "city-like" concentration of people, structures, streets and urban level of services and where there exists an intermixture of small farms with low density residential lots.

Agricultural districts include activities or uses characterized by crop, orchard, forage and forest cultivation; farming activities, animal husbandry and game and fish propagation; accessory uses and services such as living quarters and dwellings, mills, storage and processing facilities and roadside stands for the sale of products grown on the premises; and open area recreational facilities. Lands with a high capacity for intensive cultivation were singled out for particular protection in setting the agricultural district boundaries although areas not so suited or used by reason of topography, soil or other conditions could be put into the agricultural district.

Conservation districts include those areas encompassed within the forest reserve boundaries as established for the State on January 21, 1957.[3] They further include areas necessary for protecting watersheds and water sources; preserving scenic areas; providing park lands, wilderness, and beach reserves; conserving

endemic plant, fish and wild life; preventing floods and soil erosion; suited for forestry and other uses compatible with a multiple use conservation concept; and historic areas, open space areas whose existing openness, natural condition, or present state of use, if retained, would enhance the present or potential value of adjacent communities or would maintain or enhance the conservation of natural or scenic resources and areas for recreational purposes.[4]

Land Use Commission. Charged with the administration of the Land Use Law is the State Land Use Commission. Comprised of nine members, two of which are ex officio but entitled to vote, the commission is representative of the six senatorial districts with one member appointed at large. The ex officio members are the chairman of the board of land and natural resources and the director of the department of planning and economic development. A field officer is named as executive officer of the commission. Administratively, the commission is part of the department of planning and economic development. Its appointive members receive no compensation but are reimbursed for actual expenses incurred on commission business.

In summary form, the primary functions of the commission are outlined as follows:

1. District and classify lands into the four use categories, giving consideration to the master or general plan of the respective counties.

2. Prepare and adopt district classification maps after public hearing held in each county.[5]

3. Change district boundaries upon petition of state or county agencies, property owners or lessees, or on the commission's own motion.

4. Approve or deny, or approve with modifications, special permit uses within agricultural and rural districts granted by county planning commissions.

5. Prepare, adopt, and amend regulations relating to matters within its jurisdiction.

6. Review, comprehensively, the classification and districting of all lands and the commission's regulations pertaining thereto every five years.

7. Establish shoreline setbacks and the regulations applicable thereto. The county planning departments are to administer and enforce the same as established.[6]

1970 Amendments to the Land Use Law. Act 136, approved by the governor on June 22, 1970, amended the Land Use Law in two material respects. One part of the statute codified a practice of the Land Use Commission which, prior to the amendment, was without explicit statutory authorization. The commission, in order to promote the effectiveness and objectives of the special permit provisions of the Land Use Law, was imposing protective restrictions of various types such as time deadlines for commencement and completion of construction, controls requiring approved landscaping or the preservation of scenic and historic features on the site, building setback lines, parking standards and ingress and egress locations. While the imposition of these conditions had not been challenged heretofore, the legislature felt that the matter should be clarified by legislation.

In 1967, the Fourth State Legislature requested the Department of Planning and Economic Development, in conjunction with the Planning and Beautification Committee of the Chamber of Commerce of Hawaii, to study the feasibility of establishing a state-wide shoreline setback. A report was submitted on March 1,

1968 to the Fourth State Legislature, Budget Session, in which there was concurrence by the State agency and the Beautification Committee of the Chamber of Commerce that a state-wide shoreline setback of a minimum magnitude of ten feet should be established. However, the Legislative Committee of the Chamber of Commerce, joined by its Board of Directors, dissented from the latter committee's recommendation and urged instead that the counties be requested by resolution of the Legislature to adopt shoreline setback regulations such as Honolulu had done in its Setback from Zone of Wave Action provisions of the Comprehensive Zoning Code. This position was founded on the belief that the many differences in shoreline characteristics and uses from county to county would best be handled on a local, rather than a state-wide, basis.

After finding that (1) growth in population and development led to increasing encroachment of structures along the shoreline and their consequent erosion, (2) unrestricted mining of sand, coral and rocks for commercial uses further contributed to the deterioration of shoreline areas, and (3) tsunamis and high wave action constituted dangers to residences and structures built too close to shoreline areas, a conference committee of the State House and Senate recommended to their respective houses, the passage of Senate Bill No. 1139-70 which incorporated provisions to regulate shorelines on a state-wide basis.

Aimed at the conservation and protection of shoreline areas and the furtherance of public safety, the second part of Act 136 mandated the Land Use Commission to establish by June 22, 1971, shoreline setbacks to be located from between twenty to forty feet inland from the upper reaches of the wash of waves other than storm and tidal waves. Upon the establishment of the setback lines by the Land Use Commission, the county planning depart-

ments are required to administer and enforce the setback requirements. The respective counties were also authorized by ordinance to establish setbacks at a distance greater than that established by the Land Use Commission. Nonconforming structures, activities or facilities could be allowed by the counties through variance procedures. Nonconforming structures in existence at the passage of the Act were "grandfathered" in, although cessation of the use for a year's time would lead to loss of the nonconforming use. A second "grandfather" provision permits the continuation of sand mining operations in effect at least two years prior to June 22, 1970, if not substantially increased, until July 1, 1975.

Chapter II

LAND USES, OTHER THAN URBAN, AND FUTURE IMPLICATIONS

In order to gain some insight into the issues relevant to land uses, other than urban, four recent major research efforts were reviewed. These studies date back over a period of three years, the oldest work having been completed in mid-1967, two in 1969 and the most recent in 1970.

We have endeavored to relate this body of research to the present study by briefly describing each work and indicating its scope. This is followed by a summary of those facts, observations, conclusions and recommendations contained in the respective reports which, in our opinion, have a bearing upon the land use classifications under study. Finally, we have attempted to compile some implications for future action based upon what is indicated by the studies taken as a whole.

Review of Land Use Districts and Regulations

Of the four major studies under review, the study prepared for the Land Use Commission of the State of Hawaii in August 1969 by Eckbo, Dean, Austin and Williams entitled, "State of Hawaii Land Use Districts and Regulations Review" most directly addresses itself to the subject matter considered in this report. The scope of the Eckbo report encompasses a comprehensive examination of the various aspects of Hawaii's Land Use Law and includes the following:

1. Analysis of studies prepared by public and private sectors regarding resources, urbanization, transportation, population, economics and tourism;

2. Analysis of the State General Plan Revision Program and County General Plans, ordinances and regulations;

3. Gathering and analysis of personal opinions about land use and the Land Use Law;

4. Analysis of previous petitions for boundary changes, special permit applications in Agriculture and Rural Districts, and use applications in the Conservation Districts;

5. Analysis of legal opinions and law suits that have been filed in relation to the Land Use Law;

6. Analysis of Regulation No. 4 of the Department of Land and Natural Resources which is used to guide land uses in the Conservation Districts;

7. A review of the effectiveness of the Land Use Law and its administration;

8. A review of the Law together with amendments to it, related legislative resolutions and unsuccessful amendments proposed in the past;

9. Analysis of the interrelationship between the Real Property Tax Law and land use; and

10. Review of the Land Use Regulations and District Boundaries.

Summary of the Eckbo Report - Matters Relating to Land Use

Agriculture District Issues

1. The validity for preferential treatment of agriculture can be established from three different standpoints:

   a. Economic benefits. Agriculture is the third major source of income for the State, superceded only by visitor and military expenditures. It, therefore, plays a critical role in achieving a well balanced and adequately diversified economy. Dollar output of the agricultural industry is not the sole measure of its economic value since each dollar of revenue has a multiplier effect derived by the expenditures

of workers from the industry in the local economy. In addition, the preferential treatment of agriculture through zoning is a means for directing development to areas of non-productive uses, which in turn, leads to further benefits such as:

(1) Conversion of waste or marginal lands to urban uses instead of productive agricultural lands;

(2) Taxes realized from the conversion of marginal waste lands to urban uses constitute virtually total gains to tax revenues of the State;

(3) Uncontrolled urban enroachment leads to increased taxes on adjacent agricultural lands which would then result in uneconomical agricultural operations.

b. Advantages of a self-sustained agricultural market. In "A Plan for Agricultural Development in Hawaii",[1] an estimate of 52,674 acres was given as being the total land needed for a reasonably self-sustaining local market. This market, however, relates to those crops which can reasonably be grown in Hawaii. In terms only of those commodities which can reasonably be considered, the acreage required is relatively small and could be accomplished within the existing Agriculture District by a change in the production emphasis.

c. Amenity value. Agriculture provides amenity values in terms of open space or the mere beauty of well managed farm lands. In addition, Hawaii's history is so steeped in its agricultural stages of development that agriculture has a significant contribution to make to the visitor industry.

2. Adequacy of existing regulations in achieving the objective of preserving prime agricultural land.

a. Minimum lot sizes. Under existing law, the minimum lot size within the Agricultural District is one acre unless county regulations impose greater minima. If Agricultural Districts are freely subdivided into one acre lots and used for residential purposes, the objective of preserving prime agricultural

land will not be fulfilled. Since the average size of a diversified crop enterprise is 5.8 acres,[2] a minimum lot size of five acres in Agricultural Districts would not cause substantial hardship to small farmers and would probably approximate the minimum acreage at which any agricultural practice can economically function.

b. Incompatible permitted uses.

(1) Public institutions, buildings and utilities. Uses such as schools, universities and churches are primarily urban in character. When permitted, they not only in themselves remove agricultural land from production but also generate a potential for urbanizing surrounding areas. Only those public institutions, buildings and utilities necessary for carrying on agricultural practices should be permitted in the Agricultural District. Uses not related to agricultural practices should be allowed only after specific consideration of each case.

(2) Recreation uses. "Open area recreational facilities", which are permitted in agricultural districts, can cover a multitude of uses depending upon the interpretation given to the term. It could include both uses compatible and incompatible with preservation of prime agricultural land. For example, golf course use would remove from agricultural use, sizeable--150 to 200 acres--acreage. Secondly, golf course and related accessory uses tend to generate need for additional urban acreage. The law should be clarified, if such is the intent, to exclude certain recreational activities as permitted uses.

Conservation District Issues

1. Conflict between State and county. Since the Conservation District is the only district in which the counties exercise no zoning powers whatsoever, actions of the Department of Land and Natural Resources, under whose

jurisdiction such districts fall, comprise a continual source of irritation between the administration of county planning agencies and the State agency. Inasmuch as large portions of each county are within Conservation Districts--approximately 34.8 per cent, 40.6 per cent, 47.2 per cent and 48.4 per cent for Honolulu, Maui, Hawaii and Kauai, respectively--the bones of contention are very real and substantial. Two solutions are suggested to lessen the friction that may exist or may arise in the future.

a. Require that certain land uses be by special permit only and considered by the Board of Land and Natural Resources only after county approval. A similar procedure now exists with respect to Agriculture and Rural Districts and the relationship between the Land Use Commission and County Planning agencies.

b. Prepare a comprehensive general plan for Conservation Districts to include a range of subzones requiring extreme to moderate restrictions. Areas of moderate restriction could be given over to local control subject to predetermined permitted uses by the State agency. Thus, unless a special permit situation were involved, detailed day-to-day administration would be carried on at the local level.

2. Conflict between Agriculture and Conservation District designations. In designating original land areas into either Agriculture or Conservation classifications, many areas fit either both or neither of the criteria established for those districts. For example, lava land with little or no grazing potential have been classified Agriculture and areas suitable for urban development have been classified Conservation. Another basis for improper classification arises out of the problem of "choice" of controlling agency. Judgments of landowners and officials as to what classification to put a particular tract of land have been colored by what was thought to be the potentials of land development under a particular agency and not what proper land uses were in actuality.

3. Need for planning. Since Conservation Districts comprise approximately 45 per cent of the land area of the State, it is imperative that land uses within these

districts be based on a comprehensive plan and a related land use policy statement. Heretofore, the administration of land uses in these districts--primarily Regulation No. 4 adopted by the Board of Land and Natural Resources in 1964,[3] including the subzones established under it--can be characterized as stop-gap methods of dealing with an unplanned situation. Regulation No. 4 may be likened to an interim zoning ordinance, a device for regulating land use while a more permanent ordinance based on comprehensive planning can be prepared. Rather than subzones combining generalized and specific use areas,[4] as now exists, subzones embodying the five resource categories[5] cited in the Land Use Law should be established.

4. Need for public hearings under Regulation No. 4. While the Land Use Law specifically requires public hearings for the establishment of subzones and regulations, the same are not required for use applications for permitted uses. The argument has been advanced that the Board of Land and Natural Resources has granted "non-permitted" uses in instances where the outcome might have been different had the public been heard. Since Regulation No. 4 provides broad discretionary powers, the public should be given an opportunity of a forum on all use applications.

Rural District Issues

1. Compatibility of mixed uses. The definition of "rural district" visualizes a mixture of uses to permit residential development and agricultural pursuits. However, these two types of uses are not always compatible. The burning of cane creates smoke nuisance. Pig and chicken farming produces an environment that may be offensive to everyday living. If those types of permitted agricultural uses which might be compatible with desirable residential conditions were narrowed down to exclude noxious agricultural uses in defining a rural district, the result would be to define a district almost similar to the urban district. In actuality, where a rural district adjoins an urban district, utility services are often at identical levels, thus, to all intents and purposes, the environmental composition of the area is urban. Conversely, where the land is predominantly agricultural in

character, the area should be classified as agriculture. Only in areas where there is truly an intermixing of residential and agricultural uses should the rural district be retained.

2. Tendency towards sprawl. To permit widespread residential development in areas built up according to agricultural standards subverts a basic purpose behind the enactment of the Land Use Law; namely, to prevent urban sprawl. Intensive residential use on one-half acre lots with no mixed agricultural uses will undermine achievement of the goal of preserving open space. Since adoption of permanent boundaries in 1964, 567.2 acres of land have been designated "Rural" from some other classification. The standard reason given by the applicant in each case was for "low density residential development". Such disclosures indicate that the "Rural" designation is not being sought for developing mixed uses but rather for urban development.

Urban District Issues

While the main focus of this report is directed towards Land Use Districts designated "Conservation", "Agriculture" and "Rural", a certain amount of the discussion contained in the Eckbo report in the section dealing with "Urban District Issues" has relevance for purposes of this study and merits consideration here. Specifically, the section is entitled "Incremental Zoning, Performance Time and Control of Proposed Developments".

One of the primary purposes behind the enactment of the Land Use Law is to prevent speculation by subdividers, who upon receiving urban designation of their lands from some lesser land use classification, thereupon sit back and wait until land values increase before developing and making the land available in marketable units. Another speculative device occurs where the developer, having once had his lands reclassified to an urban designation, turns around and sells the entire package at the increased value.

Under existing law, there is little the Land Use Commission can do to insure that a proposed development once designated "Urban" will be so developed in accordance with the plan submitted to obtain its approval.

Greater control by the Land Use Commission over performance and implementation of large developments requiring rezoning can be achieved by a concept of incremental zoning.[6] That is, approval may be given in whole or in part of a development concept for projects exceeding a certain number of acres, with granting of a boundary change for the initial incremental development. The first increment can then be tied in to sufficient acreage which can be developed in a given period of time, say, not to exceed five years. Approval of subsequent increments will be given if the developer substantially implements his project as presented and approved.

State of Hawaii, General Plan Revision Program

In January of 1961, the General Plan of the State of Hawaii was published and Hawaii became the first state in the nation to possess a comprehensive general plan for future development. Formulated along traditional approaches to planning, the first General Plan attempted to prescribe a land and facility development scheme for the State. Missing from the initial effort, however, were an articulation of the basic underlying assumptions for the plan and adequate proposals on how the plan was to be implemented. In other words, the plan did not clearly spell out who would do the planning, what would be planned and for whom the planning was to be done. Static in character, the major shortcoming of the first General Plan was that it did not take into sufficient account the dynamics of economic growth, shifts in population, advancing technology and changes in values of the populace.

Completed in mid-1967, the first General Plan Revision Program using a systems approach, attempted to apply innovative methods in solving the age-old problem of directing the growth of the State. Six volumes documented the following areas of consideration:

1. Elements of the State Planning Process: A Summary Volume;

2. Goals for Planning;

3. Patterns of Economic Growth: The State Economic Model;

4. Population Projections;

5. Land Use, Transportation and Public Facilities; and

6. Planning for Recreation: A Methodology for Functional Planning.

Emphasis in the new study has shifted its focus on the planning process rather than on the preparation of an end product consisting of a traditional master plan. Consequently, instead of a set plan which is subject to periodic updating, the General Plan is visualized as a viable instrument wherein tentatives goals are set, translated into attainable objectives with recognized alternative courses of action, refined through continuous feedback and input of relevant data and which utimately will result in the selection of the most effective means of achieving objectives proposed. Thus, basic to the successful functioning of this approach is the formulation of goals or objectives. In this study, the goals recommended were the result of a concensus of Citizen Advisory Groups throughout the State. Broadly, they include:

1. Preservation and enhancement of an environment of beauty;

2. Conservation of natural resources;

3. Improvement of the economic status of all citizens;

4. Improvement of the mental and physical health of all citizens;

5. Improved parks and recreation facilities in all counties;

6. Higher standards of design for public and private areas and structures;

7. Improved State and County planning methods;

8. Enrichment of the cultural life of citizens;

9. Improved local and state-wide transportation systems; and

10. Fostering of international relations with the aim of giving Hawaii a leadership role in Pacific affairs.

The ten goals for planning enumerated above were condensed from a total of sixteen objectives discussed in greater detail in volume two of the General Plan Revision Program. Of these sixteen goals, four, or one-fourth of the total, were concerned with the areas of planning and land use. A closer consideration of the specific content of these four goals follows:

1. Goal: Create a program for all natural resources so that they are used productively now, and at the same time, provide for prudent conservation throughout the long-range future.

   Hawaii's conservation program must not stop at protection but must provide for progressive conservation, including restoration, innovation and anticipation of the future. Multiple use of State lands in conservation districts should be permitted and encouraged where there is no conflict with the primary purposes of conservation. Certain scenic areas of special significance, e.g., Diamond Head, Punchbowl and Mauna Kea, must be given special protection to insure that they will remain a permanent part of the Hawaiian heritage. If required by law, compensation should be made to landowners affected by the regulations imposed by

government to protect these areas from despoiliation.

Lands highly susceptible to serious flooding, tidal wave or lava damage should be put into conservation and slated for possible government acquisition or for diversion into uses not posing a danger to life and property.

Lands now in conservation districts should be classified into subzones, with certain subzones by virtue of their nature, e.g., to protect native flora and fauna, historic sites, watershed areas, ineligible for re-zoning for other than conservation use.

2. Goal: Increase the capacity of the State to anticipate emergent problems. Improve facilities and methods of data collection and storage. Improve distribution of information about new developments to those who can best make use of it.

   The State should maintain and expand its basic statistical series in order to keep the State economic model up-to-date and to provide essential data for use by the counties and business. A state-wide annual report should be prepared which should include data on land use, social change and population movements.

3. Goal: Maintain the General Plan as an active adjunct to the making of new government decisions consistent with the basic goals for Hawaii. Harmonize State and County planning.

   The State planning process should allow for each County General Plan to be developed by the people closest to the local problems with the Counties to be given a free hand in filling in specific details within broad policies established by the State.

   To insure coordination of planning activities, a system should be devised for bringing together County planning officials and State officials involved in the General Plan and the Capital Improvement Program on a continuous basis.

4. Goal: Maintain the State Land Use Law as an active instrument of state zoning.

Implementation procedures in the Land Use Law should be clarified and areas of conflict between State and County responsibilities eliminated.

Agricultural lands with high potential for successful agricultural uses should be preserved and use of these lands for urban development avoided. Irrigation projects which will promote fuller use of lands for agricultural uses should be encouraged.

State Land Use regulations and boundaries should be revised so as to reduce the need for areas classed as Rural Districts.

Agriculture Coordinating Committee Study

Pursuant to a mandate by the Fourth State Legislature, 1968 Budget Session, the State of Hawaii's Agriculture Coordinating Committee in 1970 prepared a State Agricultural Development Plan which was released as a study entitled, "Opportunities for Hawaiian Agriculture". Chaired by Myron Thompson, the Governor's Administrative Director and with Robert M. Ota as Project Director, the Committee counted in its membership, Drs. Kenneth Otagaki, Shelley Mark and Fujio Matsuda, Dean C. Peairs Wilson and Mssrs. Abraham Piianaia and Sunao Kido. The study had as its objectives, the following:

1. To evaluate the present position and future potential of agriculture and agri-business in Hawaii;

2. To identify problems, and opportunities for change, in agriculture;

3. To explore means for more efficient use of Hawaii's resources (land, labor, water and capital);

4. To investigate social implications brought about by rapidly changing rural conditions;

5. To reassess the agricultural activities and programs of various State agencies to improve coordination and programming.

The land use aspects of the study are understandably agriculture oriented. Despite this inclination, the report does contain observations and recommendations worthy of note and which are summarized as follows:

1. General Recommendations

   a. Broad consideration should be given to long-range land-use planning and zoning during the next ten years.

   b. Serious attention should also be given to reserving good agricultural land for agricultural uses, rather than indiscriminately for urban expansion.

2. Specific Recommendations

   a. The quality of land according to its productivity must be taken into consideration in making plans and formulating decisions.

   b. Because future needs cannot always be foreseen in their entirety, land policy calls strongly for protection and also for the creation, or preservation, of agricultural land reserves.

   c. State-wide planning agencies should maintain up-to-date inventories of land use, trends, and future needs for agricultural, residential, commercial, industrial and recreational development. In particular, they should:

      (1) Develop a balanced program for agricultural and non-agricultural land use to keep agricultural land in production.

      (2) Provide groundwork for the development of future land-use plans and ordinances to promote agriculture, as well as the total economy of the State.

   d. Information on soil properties, behavior and use should be widely disseminated through periodical reports. These reports should be made available

to planners, property developers, and people in the agricultural industry.

e. Proper action should be taken to study and eventually modify the present policies, together with their provisions and practices.

f. The recommendation of the Eckbo Report[7] to expand the membership of the Land Use Commission to 14 members should be given serious consideration. This change will make for a stronger, more representative Commission, by increasing its membership and by giving greater voice to County views. It will also allow the professional non-voting members from the principal agencies involved in planning and land use to perform a greater function in giving technical advice.

g. If the competition for prime, irrigable, agricultural land for urban-industrial development becomes very pressing, a comprehensive research to investigate the voluntary sale and acquisition of these lands through conservation easements may be desirable.

Economics Research Associates Study

In 1967, Economics Research Associates, a private consulting firm, was retained by a group of landowners to undertake a comprehensive study that would bring together an evaluation of all interrelated factors that bore on economic growth and which related to existing and prospective Hawaiian land tenure. The resultant report entitled, "Hawaii Land Study, Study of Land Tenure, Land Cost and Future Land Use in Hawaii" was published on April 25, 1969. Although almost entirely oriented towards urban land uses, the study also touches upon, in general terms, the economic forces affecting agriculture in Hawaii and the possible ramifications upon agriculture from future urban expansion.

The major objectives of the E. R. A. study were:

1. Study of major land ownership in Hawaii, including utilization and current land use characteristics;

2. Analysis of the cost basis of urban (commercial, industrial and residential) land in Hawaii;

3. Analysis of present land use requirements, by island, and development of appropriate land use projection relationships;

4. Development of economic and market support factors affecting land use requirements through 1985, including an economic base analysis of the major sectors of the Hawaiian economy;

5. Projection of future land use requirements by island through 1985;

6. Bibliography of the history of land tenure in Hawaii.

Summary of Economics Research Associate Study - Matters Relating to Agricultural Land Use

1. Conclusion: There are not enough urban lands in the right location. Of 71,692 acres of land on Oahu classified urban, 21,248 acres are unused. While it appears that sufficient land is currently available for urban use through 1985, sufficiency of land for future urban growth is not only measured in terms of quantity, but also, and more importantly, in terms of suitable and adequate locations, as dictated by demand. Demand is most predominant for land in the Honolulu area, with pressures greatest on the city's fringes. In these areas, urban districts are insufficient to meet projected demand, although more than sufficient and apparently suitable lands are being used for agriculture in the areas of most evident demand pressures. Thus in speaking of inadequacy of supply of urban land, inadequateness relates to location rather than amount.

2. Conclusion: An inadequate supply of land for agricultural use can exist even before total acreage in agricultural production becomes insignificant in terms of numerical quantity.

Rising agricultural wage rates and greater mechanization in the factors of production increase the basic cost of agricultural output in Hawaii. Particularly on Oahu, where land is in short supply for agricultural use and subjected to the increasing demands for home sites, large plantation capital investments can be profitable only if sufficient acreage is under production to achieve economies of scale. Such economies of scale require, for example with respect to the sugar industry, that acreage be adequate to provide enough cane for grinding to operate enough days per year to result in competitive costs. Withdrawal of lands from cane production could lead to uneconomical operations even before total agricultural acreage available becomes insignificant.

3. Conclusion: Urbanization's effect on agricultural land use on Oahu is dependent on the interplay of factors involving both governmental and private decision making.

   On Oahu, the trend of converting agricultural land to urban uses creates pressures on land values that, were it not for zoning restrictions, require that sugar cane and pineapple, for example, be produced in competition with more intensive urban uses. These economic pressures, which will continue as long as immigration and tourism continue, will increase or diminish depending on how the "greenbelt" (Land Use) law is administered, how zoning decisions are made by the City and County of Honolulu, the outcome of bargaining between large landowners and their lessees and the operating principles governed by economies of scale. However, as urban land requirements over the next twenty years are small (approximately 20,150 acres)[8] relative to the approximately 93,000 acres now in agricultural use on Oahu, it seems likely that urban land use requirements can be accommodated without seriously affecting agricultural needs.

Recommendations for Future Action From the Major Studies

The recommendations for future action discussed in this section have been compiled from the propositions reflecting agreement of opinion among two or more studies. Since concensus may be an

indication of the reliability of the point urged, the degree of concurrence of each proposition is given.

1. Retain prime agricultural lands in agricultural use; avoid use of these lands for urban development.

   The stated proposition is the only one receiving unanimous agreement since three studies directly and one inferentially espouse this concept. Of these, the Eckbo study presents the most comprehensive and detailed discussion as to the need for, and advantages of, a policy of protection of prime agricultural lands while the E. R. A. Study stands alone in not making an emphatic and clear-cut statement of the urgency of the need to preserve prime agricultural land.

2. Create subzones in conservation districts.

   Both the Eckbo study and the General Plan Revision Program urge the adoption of a subzone classification in Conservation Districts more closely associated with the resource categories enumerated in the Land Use Law than a classification, as now exists, that mingles generalized and specific use areas.

3. Resolve conflicts between State and County Planning agencies.

   Although differing in the approaches and methods to better coordinate the efforts of State and County Planning agencies in regulating land uses, the Eckbo report and the General Plan Revision Program are in implicit agreement that County planning agencies should be permitted greater involvement in the administration of land use control programs now solely handled by the State.

4. Institute improved methods of data collection, data keeping and data dissemination.

   Taking together, the General Plan Revision Program and the Agricultural Coordinating Committee Study emphasize the need for constant and up-to-date gathering of data and statistics basic to an informed approach to planning for land uses. The information collected

should not be kept in-house but should be circulated widely through periodic reports to interested parties such as planners, developers and people in agriculture so that intelligent land use planning will result.

5. Give further study as to the necessity for a "Rural District" classification.

   While the General Plan Revision Program has urged that lands classed as "Rural Districts" be kept to a minimum, the Eckbo report goes one step further and urges the elimination of this classification. That two studies of such stature urge changes of this nature suggests that further study into this district classification may be warranted.

6. Increase the membership of the Land Use Commission.

   The Agricultural Coordinating Committee Study[9] proposes that the membership of the Land Use Commission be expanded to 14 members, two from each senatorial district and two at-large. In addition, six ex officio non-voting members, being the chairman of the land board, the director of the department of planning and economic development and the four county planning directors, are to be added. This suggestion is based upon a recommendation of Eckbo, Dean, Austin and Williams.[10]

7. Adopt the concept of incremental zoning.

   As recommended by the Eckbo report, adoption by the Land Use Commission of the concept of incremental zoning will give that body greater control over implementation of development proposals advanced by developers in order to obtain reclassification of their lands to an urban designation.

Chapter III

ASSESSMENT OF THE EFFECTIVENESS OF THE LAND USE LAW IN MEETING ITS OBJECTIVE

The Land Use Law has been in existence for nearly ten years. During this period of time, well over 200 petitions for boundary changes were considered by the Land Use Commission. It is appropriate therefore to examine these transactions to see if any generalizations could be drawn as to the impact exerted by the disposition of these petitions upon the attainment of the objectives set forth in the preamble to the original act (Act 187, First State Legislature, 1961 Regular Session).

In an effort to derive some statistical data documenting the manner in which the Land Use Commission has functioned, summary data was obtained from the Land Use Commission. This summary data listed all petitions for boundary changes for the four counties. The period examined covered the time of initial Land Use Commission processing of peitions with a cut-off date established at the end of 1970. From the data studies, three basic tables were prepared, being boundary changes to urban classification from agricultural, conservation and rural districts. The figures cited in the tables are substantially accurate. However, there are certain items which may give rise to discrepancies if the basic data were analyzed and classified for other purposes. These discrepancies may occur because of the following methodology employed by the researcher:

1. On partially approved acreage, where the actual acreage partially approved was available, this figure was used. Where the actual acreage figure was not given, the total acreage being petitioned for change was used.
2. In some instances, no acreage figures were given at all for a petition. Thus, although that petition is counted as a case, no corresponding acreage figure was added to the total. This results in an understatement of the acreage figures for that category.
3. The practice was adopted in counting the number of cases denied by the Land Use Commission to include a petition as being denied when such was the indicated action of that body even though the petitioner may have subsequently withdrawn his petition. Correspondingly, a case counted as withdrawn is one where no action was taken at all on the part of the Land Use Commission.
4. In some instances, one petition involved zoning changes for two different categories of use districts. Where the acreage was capable of being clearly identified for each, they were segregated and, in effect, counted as two cases. Where acreage was not clearly identifiable, the discretion of the researcher was exercised in classifying the category into one of the two districts.

Subject to these qualifications, the following section discusses the data derived from the statistics of the Land Use Commission.

Land Use Boundary Changes: 1962-1970

The first area of consideration is that of changes from Agriculture to Urban classification. Of the 167 cases processed, a total of 16,847.67 acres were approved or partially approved for boundary changes, while 5,441.95 acres were denied. The breakdown by counties indicates that Maui had the largest acreage totally approved and Oahu had the largest acreage denied. A total of 822.04 acres was withdrawn from consideration for one reason or another.

Table 1

Boundary Changes from Agricultural Districts to Urban Districts
1962-1970

	Approved		Partially Approved		Withdrawn		Denied		Pending	
County	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres
OAHU	15	862.38	8	3483	5	295.7	6	3355	1	690
HAWAII	36	1053.09	11	4991.66	4	49.37	16	1730.95	3	655
MAUI	22	1425.65	6	4673	4	97	2	284	2	15
KAUAI	14	271.09	6	87.8	3	342	3	72	-	-
STATE TOTAL	87	3612.21	31	13235.46	16	822.04	27	5441.95	6	1360

Source: Land Use Commission records.

In the field study conducted for the State of Hawaii Land Districts and Regulations Review[1] encompassing the relationship of actual use to proposed use from 1964 to 1969, the key to approval for proposed changes appears to be the use of adjacent lands. For example, in Hawaii county, land was usually either being used agriculturally or was vacant at the time of application. Whenever the adjacent land was being used as lower density residential, the proposed change to a similar status was approved by the commission. The same was true for the county of Kauai and substantially true for Maui and Oahu.

The Land Use Commission used several criteria in their decisions on classification. Among those used in 176 of their cases were:

1. Contiguity to urban land.
2. Satisfactory topography.
3. Economic feasibility and proximity to service.
4. Appropriate location and plans.
5. Availability of reserve for urban growth.
6. Agricultural capacity but need justifies urban use.
7. Doesn't contribute to scatterization.

Review indicated that the commission followed staff recommendation in 66 per cent of the cases, disregarded them in 18 per cent of the cases and partially followed them in 3 per cent of the cases.[2] The remaining cases were either withdrawn or had incomplete data.

The second area of consideration involved boundary changes from Rural to Urban (Table 2). In this category, only 50 acres were approved or partially approved while 238 acres were denied. Oahu and Hawaii counties had no petitions in this category. Maui

county had both the largest acreage approved and denied. The total number of cases, eight, was considerably less than the previous group of 167 cases.

Table 2

Boundary Changes from Rural Districts to Urban Districts
1962-1970

	Approved		Partially Approved		Withdrawn		Denied		Pending	
County	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres
OAHU	-	-	-	-	-	-	-	-	-	-
HAWAII	-	-	-	-	-	-	-	-	-	-
MAUI	1	39	-	-	-	-	3	238	1	3.5
KAUAI	1	4.3	1	6.5	-	-	1	.76	-	-
STATE TOTAL	2	43.3	1	6.5	-	-	4	238.76	1	3.5

Source: Land Use Commission records.

Conservation to Urban boundary changes constitutes the third area of study - thirty-two cases totalling 3,485.04 acres were involved in these transactions. Hawaii county had, by far, the greatest acreage approved and denied. These petitions dealt with large parcels since only a total of six cases accounted for the total acreage involved. Oahu had the most cases, twenty-four, but as shown by the figures, involved many small lots. Table 3 depicts the land transactions in this category.

Table 3

Boundary Changes from Conservation Districts to Urban Districts
1962-1970

County	Approved Number of Cases	Acres	Partially Approved Number of Cases	Acres	Withdrawn Number of Cases	Acres	Denied Number of Cases	Acres	Pending Number of Cases	Acres
OAHU	8	46.12	6	34.29	2	814	5	79.18	3	28.7
HAWAII	3	290.5	2	1536	-	-	1	570	-	-
MAUI	-	-	1	85	-	-	-	-	-	-
KAUAI	1	1.25	-	-	-	-	-	-	-	-
STATE TOTAL	12	337.87	9	1655.29	2	814	6	649.18	3	28.7

Source: Land Use Commission records.

Other data was obtained with reference to changes in land use districts not involving sufficient cases to put into tabular form. These involved changes from Agricultural to Rural designations and from Conservation to Agricultural and Rural designations. In the former category, 1,039 acres covered by twelve petitions, equally divided between Kauai and Maui, were approved. Maui's six petitions, however, encompassed 924.8 acres while Kauai's six involved 114.2 acres. Hawaii county's seven petitions resulted in denial in five cases involving 25.1 acres and in withdrawal of two petitions involving 42.8 acres. Kauai had one petition withdrawn (2.3 acres) and two denied (39.3 acres). Maui had four petitions denied involving 109.9 acres.

In the case of changes from Conservation to Agricultural designation, four petitions submitted, one each from Hawaii and Kauai and two from Maui, were approved for a total acreage of 2,166.5,

broken down as follows: Hawaii: 284.5, Kauai: 850 and Maui: 1,032. Maui alone had petitions for change of district from Conservation to Rural. It involved the same parcel of land which comprise .34 acre and which finally obtained approval after once being denied redesignation.

A summary of the three basic table was compiled in Table 4. Of the 204 petitions entertained, Hawaii county accounted for the largest number, 73, followed by Oahu, 59, Maui, 42 and Kauai, 30. Hawaii had the largest acreage approved and partially approved and Oahu had the largest acreage denied.

Table 4

Summary of Boundary Changes to Urban Districts
1962-1970

	Approved		Partially Approved		Withdrawn		Denied		Pending	
County	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres	Number of Cases	Acres
OAHU	23	908.5	14	3517.29	7	1109.7	11	3434.18	4	718.7
HAWAII	36	1343.59	13	6527.66	4	49.37	17	2300.95	3	655
MAUI	23	1464.65	7	4758	4	97	5	522	3	18.5
KAUAI	16	276.64	7	94.3	3	342	4	72.76	-	-
STATE TOTAL	98	3993.38	41	14897.25	18	1598.07	37	6329.89	10	1392.2

Source: Land Use Commission records.

Of the changes to Urban, Agricultural to Urban had the greatest activity while the Rural to Urban category had minimal changes (See Table 5). It is probable, then, that agricultural lands most often meet the criteria for change than do the areas designated rural and conservation.

Table 5

Summary of Boundary Changes Statewide
1962-1970

County	Agriculture to Urban	Rural to Urban	Conservation to Urban	Total Denied	Total Withdrawn	Total Pending
	Total Approved and Partially Approved					
OAHU	C=23 4,345.38 acres	-	C=14 80.14 acres	C=11 3,434.18 acres	C=7 1,109.7 acres	C=4 718.7 acres
HAWAII	C=47 6,044.75 acres	-	C=5 1,826.5 acres	C=17 2,300.95 acres	C=4 49.37 acres	C=3 655 acres
MAUI	C=28 6,098.65 acres	C=1 39 acres	C=1 85 acres	C=5 522 acres	C=4 97 acres	C=3 18.5 acres
KAUAI	C=20 358.89 acres	C=2 10.80 acres	C=1 1.25 acres	C=4 72.76 acres	C=3 342 acres	-
STATE TOTAL	C=118 16,847.67 acres	C=3 49.8 acres	C=21 1,993.16 acres	C=37 6,329.89 acres	C=18 1,598.07 acres	C=10 1,392.2 acres

Source: Land Use Commission records C=number of cases

Tax Aspects of Boundary Changes and Dedication

Since the effective operation of the Land Use Law is closely connected with taxation policies,[3] particularly real property taxation, an attempt was made to correlate the data from the Land Use Commission with assessed values for lands given boundary changes. For this purpose, the valuation for tax purposes were examined for the same parcels as designated by tax map key numbers for the years 1964 and 1970.[4] The parcels selected were those which had been classified agriculture in 1964 but were redesignated at sometime in the urban period by 1964-1970. The results are shown in Table 6. These figures should not be relied on as being definitive since all parcels were not included because some parcels by tax map key, and consequently their assessed values, could not be found for the later date.[5] This is probably due to the fact that the original parcel was subdivided between the dates of our inquiry and no data was available as to portions of tracts. Thus the table should be taken only as an indication of the general influence exerted by an upzoning upon tax assessed values. Within the confines of the sample taken, Oahu, which had the third largest change in acreage from agricultural to urban (see Table 5), showed the greatest increase in assessed values. Maui, which in comparison to Hawaii, had approximately the same acreage converted from agriculture to urban, had a far smaller increase than the latter, being $255,484 and $1,526,838 respectively. Probably, the lack of complete information on many Maui parcels accounts for this discrepancy. Generally, Table 6 indicates that a reclassification of lands from agriculture to urban results in an increase in assessed values.

Table 6

Assessed Values of Parcels Reclassified From Agriculture to Urban Assessed Values 1964-1970

	Agriculture 1964	Urban 1970	Difference
Oahu	$ 402,293	$2,602,820	$2,200,527
Hawaii	$ 396,973	$1,923,811	$1,526,838
Maui	$ 497,672	$ 753,156	$ 255,484
Kauai	$ 297,194	$ 522,881	$ 225,687
State Total	$1,594,132	$5,802,668	$4,208,536

The second area of taxation with relation to land use explored was the effect of the dedicated lands provision of the tax statute (section 246-12, Hawaii Revised Statutes). The purpose of this provision is to preserve agricultural lands and to prevent speculative gains.[6] The law attempts to require the assessment of lands dedicated to agricultural use at this specific use and to remove from consideration the possible highest and best use in some other category higher than agriculture. Tables 7 and 8 relate to the agricultural dedication law. Table 7 shows the differences in assessed valuations before and after dedications for the period 1963-1969. Table 8 relates land values before dedication to total assessed agricultural land values for each county and for the state as a whole for the same period.

Table 7

Assessed Valuation of Dedicated Lands for Agriculture Use
Before and After Dedication (In Thousands $)

State Total	1963	1964	1965	1966	1967	1968	1969	Accumulated Totals
Total Acres Dedicated	8,770.3	425.3	1,506.1	2,003.2	2,356.7	2,132.1	519.7	17,713.4
Total Value Before Dedication	$4,507.1	$406.3	$ 862.6	$1,897.9	$2,166.2	$ 980.3	$ 882.7	$11,703.2
Total Value After Dedication	3,242.4	242.3	364.9	619.0	838.3	424.2	313.0	6,044.0
Difference in Valuation	$1,264.7	164.0	497.7	1,278.9	1,327.9	556.1	569.7	$ 5,659.2
Percent Reduction in Valuation	28.0%	40.4%	57.7%	67.4%	61.3%	56.7%	64.5%	48.4%
Tax Liability Before Dedication	$ 67.167	6.003	14.236	35.892	35.939	16.757	14.997	$150.988
Tax Liability After Dedication	48.087	3.567	6.024	11.450	14.698	7.433	5.555	96.819
Difference in Tax Liability	$ 19.079	2.435	8.211	24.441	21.240	8.323	9.382	$ 93.115
Percent Reduction in Tax Liability	28.4%	40.6%	57.7%	68.1%	59.1%	49.7%	62.8%	61.7%
Number of Petitions	285	25	59	124	148	69	50	760

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Table 8

Assessed Land Valuation Before Dedication to Total Net Taxable Assessed Value in Agriculture (In Thousand $)

	State	Oahu	Maui	Hawaii	Kauai
1963					
Total Valuation Before Dedication	$ 4,507	$ 3,378	$ 173	$ 385	$ 571
Total Net Tax Assmt. Land Value	176,688	75,003	41,041	42,718	17,926
Percent of Value Before Dedication	2.55%	4.04%	0.42%	0.90%	3.19%
1964					
Total Valuation Before Dedication	$ 406	$ 302	$ 80	$ -	$ 24
Total Net Tax Assmt. Land Value	188,065	83,413	42,503	44,082	18,067
Percent of Value Before Dedication	0.22%	0.36%	0.19%	-	0.13%
1965					
Total Valuation Before Dedication	$ 863	$ 50	$ 39	$ -	$ 744
Total Net Tax Assmt. Land Value	178,022	59,634	44,465	51,511	22,411
Percent of Value Before Dedication	0.49%	0.09%	0.09%	-	3.53%
1966					
Total Valuation Before Dedication	$ 1,898	$ 1,336	$ 149	$ 63	$ 349
Total Net Tax Assmt. Land Value	196,919	62,582	45,637	66,531	22,169
Percent of Value Before Dedication	0.96%	2.14%	0.33%	.10%	1.57%
1967					
Total Valuation Before Dedication	$ 2,166	$ 645	$ 1,191	$ 168	$ 161
Total Net Tax Assmt. Land Value	208,075	65,730	50,536	68,575	23,234
Percent of Value Before Dedication	1.04%	0.98%	0.24%	0.24%	0.69%
1968					
Total Valuation Before Dedication	$ 980	$ 407	$ 436	$ 109	$ 35
Total Net Tax Assmt. Land Value	212,359	66,935	49,896	71,972	23,556
Percent of Value Before Dedication	0.46%	0.60%	0.87%	0.15%	0.15%

Table 8 (continued)

	State	Oahu	Maui	Hawaii	Kauai
1969					
Total Valuation Before Dedication	$ 883	$ 247	$ 268	$ 76	$ 291
Total Net Tax Assmt. Land Value	228,917	68,902	49,202	82,638	28,175
Percent of Value Before Dedication	0.39%	0.36%	0.54%	0.92%	1.03%
CUMULATIVE 1963-1969					
Total Value Before Dedication	$ 11,703	$ 6,360	$ 2,336	$ 802	$ 2,205
Total Net Tax Assmt. Land Value	1,389,051	482,199	371,280	428,027	155,538
Percent of Value Before Dedication	0.84%	1.32%	0.72%	0.19%	1.42%

Property Technical Office
June 6, 1969

Table 7 indicates that there is approximately a 50 per cent reduction in assessed valuation for specific properties dedicated. Table 8 indicates that, as a class, the effect of the reduction of the lands dedicated to agricultural use has a minimal impact of the total assessed value of all lands classed agriculture since the cumulative totals of before dedication assessed values amount to less than one per cent of the total valuation of agricultural lands. Stated in another way, Tables 7 and 8 indicate that land dedications have little effect on the assessed land valuation of that land class state-wide although, with respect to individual parcels dedicated, substantial tax assessed valuation reductions result.

Summary

Based upon the discussions contained in this chapter, the following general observations can be made as to the effectiveness of the Land Use Law in meeting its objectives insofar as land use categories other than urban are concerned.

1. If the preservation of agricultural lands is a prime objective of the Land Use Law, data indicates that this purpose is not being achieved since a substantial part of lands reclassified to a higher use come from agricultural districts. This result may be because agricultural lands, more than any other classification, meets the criteria established by the Land Use Commission for reclassification.

2. The relatively small number of conservation district changes within the eight year span from 1962-1970 indicates that the lines drawn to preserve conservation areas are being held.

3. Generally, reclassification to a higher use results in increased tax assessed values. This result is to be expected. However, whether this increase is in proper proportion cannot be ascertained due to unavailability of data.

4. Dedication of agricultural lands, when it occurs does result in a substantial reduction of the specific lands so dedicated without appreciable effect on the total tax assessed valuation of the class. The former result is desired since one of the purposes of the dedication law is to encourage preservation of agricultural lands.

Chapter IV

CHANGES IN THE LAND USE LAW

The materials presented and the studies reviewed and discussed in the previous chapters of this report are pointed towards the object of the study; namely, to "study the feasibility of amending the land use law to provide greater protection for the lands that have been designated for other than urban uses."

While in the sections to follow, adherence to the legislative direction quoted was the goal, it was found that consideration had to be given to matters beyond legislative changes. Accordingly, the discussion contained in this chapter include suggestions not necessarily involving the enactment of amendatory legislation.

Legislative Changes in the Land Use Law

1. Increased membership of the Land Use Commission.

The recommendation has been made that the Land Use Commission membership be increased from its present nine members to some larger number. The rationale behind this proposal is to relieve the members from "tremendous local pressures", and to make the commission more representative and stronger in numbers. In line with this suggestion, the following alternatives may be considered:

1. At the least, the membership should be increased to eleven members. The present membership was established when the State senatorial districts numbered six. After the Constitutional Convention of 1968 and the election of November 5, 1968, the senatorial districts were increased to eight. Accordingly, if the statutory pattern of the original make-up of the commission is continued,

the law should be amended to increase the membership to eleven, one from each senatorial district, one at large plus the two ex officio voting members.

2. If the recommendation of the Agricultural Coordinating Committee is adopted, the membership of the commission would be more than doubled from nine to twenty.

3. A third possibility is based on the discussions in the Eckbo report and the General Plan Revision Program. In order to allow the counties greater participation in the statewide planning process, the proposal would add the heads of the planning departments of the four counties as ex officio members, thus raising total membership to fifteen.

4. Another possibility is to add the directors of the Departments of Agriculture and Taxation as ex officio members of the commission since the activities within their respective departments have substantial interrelationships with the Land Use Law and its operation.

2. Retain prime agricultural land in agricultural use.

Statistics indicate that roughly five per cent or about 200,000 acres of the State's total land area of approximately 3.9 million acres is well or moderately suited for intensive agriculture.[1] In terms of percentage of a particular island's total area, this acreage accounts for 15 per cent of the land area on Oahu, 11 per cent on Kauai and Maui and less than 2 per cent on Hawaii. In view of these figures, it is not surprising that the four studies reviewed recommend retention of prime agricultural lands for such use and withholding the same from urban development.

While the Eckbo report offers the strongest brief for the preservation of agricultural land, the question ultimately is to be resolved by a legislative determination based upon a weighing of the desired goals to be achieved, i.e. retention of prime agricultural lands versus opening up of more lands for residential and urban development.

A problem similar to that being faced in Hawaii is found in California. Articulating the problem of the necessity of conserving California's prime irrigable land, S. V. Ciriacy-Wantrup wrote:

> ... a continuing or, more likely, accelerating disappearance of prime irrigable land will lead to an avoidable social loss -- or benefit foregone -- which would seriously affect the economy of the state. The loss consists of the direct and indirect social net product of California's irrigation economy. A valid quantitative estimate of this loss, decade by decade, until a saturation point of urbanization and industrialization has been reached, would be rather difficult. But, in accordance with our reformulation of the objectives of land policy, we are mainly interested in the order of magnitude of maximum possible losses as compared with that of the "insurance premium" that must be paid to guard against them. There can be little doubt that the maximum possible losses are high.
>
> The insurance premium consists of the higher construction costs necessitated if urban-industrial development is diverted from the alluvial plains to the benches, to the foothills, and to rocky and otherwise inferior soils.[3]

There is much in the foregoing excerpt applicable to the agricultural land situation in Hawaii.

Under the Land Use Law as presently written, there is no guarantee that prime agricultural land shall be

preserved now or in the future. The language of section 205-2, Hawaii Revised Statutes, states in part: "In the establishment of the boundaries of agricultural districts the greatest possible protection shall be given to those lands with a high capacity for intensive cultivation ...." The fate of prime agricultural land depends upon the policy determination of the Land Use Commission, absent a stronger statement of direction by the legislature.

From the third chapter of this report, (Table 1), we have seen that by far, boundary changes into urban districts have come from agricultural districts. If the legislature desires to halt or slow down this process, the following alternatives, for example, are available.

1. Insert into the Land Use Law a flat statement that no prime agricultural lands in the State shall be converted to urban use.

2. Allow change of use of prime agricultural lands only after comprehensive study of the statewide impact of such action. Thus, reclassification could be entertained only in conjunction with one of the five year periodic reviews of district classifications (section 205-11, Hawaii Revised Statutes).

3. Provide for the condemnation of development rights to retain prime agricultural lands in agriculture.[4]

3. Adopt subzone classifications in conservation districts more closely associated with resource categories in the Land Use Law.

The use of subzone categories in the Land Use Law was originally designed to implement the concept of permitting multiple uses compatible with conservation practices. In its endorsement of the concept in principle, the Department of Land and Natural Resources in a report entitled, "A Multiple Use Program for the State Forest Lands of Hawaii"[5] stated:

> "Multiple use means the management of forest and related land in a manner that will conserve the basic soil resource while at the same time producing high-level sustained yields of water, timber, forage, recreation and wildlife, harmoniously blended for the use and benefit of the greatest number of people."

The kinds of recreational uses envisaged as being consistent with conservation include hunting and fishing, motor drives through the forests, visiting historical sites and vista points or lookouts, photography, picnicking, camping, hiking, horseback riding, mountain climbing, swimming in fresh water streams and ponds, and study of natural areas.

In the management of conservation lands, however, through the vehicle of subzones, the board of land and natural resources has expanded upon the kinds of uses permitted in the conservation districts. Subzones have been established for education use,[6] cemetery use[7] and nursing or convalescent home use.[8] The Keahole Airport in Hawaii is also an example of an urban type use in a conservation subzone.

These examples of urban oriented uses suggest that the kinds of uses being allowed in conservation subzones may be approaching a permissiveness not contemplated in the Land Use

Law as originally enacted. Accordingly, some of the alternatives that have been suggested to reverse this trend, if unwanted, are:

1. Adopt legislation specifically prohibiting urban oriented uses, such as schools, cemeteries, rest homes and airports, from conservation zones. If there is actual need for such uses in a conservation area, the land should be redesignated to the appropriate use category.

2. Adopt legislation giving county planning commissions a say before unusual uses are permitted in subzones. This could be effectuated through a special permit device such as now exists for agricultural and rural districts.[9]

4. Adopt the concept of incremental zoning by statute.

Much has been said of the variance between actual development of land redesignated to a higher use and the development proposals advanced by petitioners at the time they sought redesignation. To discourage speculation in having more land reclassified than could be reasonably developed in accordance with proposed plans, the Land Use Commission duly adopted Rules 2.32 through 2.36 which provide for zoning in increments when land is rezoned to urban use. Under this concept, only such amounts of land will be rezoned as can reasonably be developed within five years after commission approval. Successive increments of land developable within a five year time span will then be granted. Sanction for non-compliance with performance requirements is possible down-zoning.

There is nothing wrong with the regulations pertaining to incremental zoning, as such, within the framework of the rules of the Land Use Commission. However, as with any rule of an administrative board, it may be altered or done away with by going through the procedures set forth in chapter 91, Hawaii Revised Statutes

(Administrative Procedures Act). In this respect, codification of the incremental zoning regulation would strengthen the concept of incremental zoning by furnishing a legislative statement affirming its application by the Land Use Commission and by making the requirement more difficult of being amended or repealed.

If incremental zoning is considered for enactment by statute, it may be well also to consider adoption of provisions (1) requiring substantial performance of construction plans, i.e., the developer should construct improvements substantially as represented in the plans presented while seeking rezoning, and (2) mandating institution of down zoning action if substantial performance has not occurred within the time limits set.

Other Improvements in the Land Use Law

Based on the discussion in the previous chapter with respect to the Rural district designation and upon the actions of the Land Use Commission (see Table 2 and discussion thereafter) in denying the majority of petitions of changes to rural from other classifications, it appears that the commission should consider and determine whether the "Rural" designation in practice serve any useful function as a part of the Land Use Law. If the law can be simplified by eliminating this classification and by reclassifying the districts presently in Rural to either an Urban or Agricultural designation, amendatory legislation should be proposed.

Finally, it is suggested that State agencies involved in the implementation of the Land Use Law record their raw data in a more easily accessible form so as to permit the public, as well as the Legislature, easy access thereto. The suggestion is based upon the

experiences encountered in data gathering during the preparation of this report, as for example, the inability to trace the assessed valuation of lands by tax map key after it had been redesignated urban. Data in better form will aid in the production of reports and studies designed to provide the Legislature with the tools needed to make intelligent decisions on land use policy. The State is at a stage of making detailed refinements to a basically excellent land use control vehicle. To the extent that legislation will now be primarily directed towards making sophisticated adjustments to the Land Use Law, the nature and easy accessibility of the data required will, of necessity, have to be more refined.

FOOTNOTES

Chapter I

1. Sometimes commonly referred to as the "Greenbelt Law".

2. Eckbo, Dean, Austin and Williams, State of Hawaii Land Use Districts and Regulations Review, August 15, 1969, p. 2 and 85.

3. See Section 183-41, Hawaii Revised Statutes.

4. Added, Act 182, Fifth State Legislature, 1969 Regular Session.

5. Permanent boundaries for the land use districts were adopted in August 1964.

6. Added, Act 136, Fifth State Legislature, 1970 Regular Session.

Chapter II

1. Prepared by the Department of Agriculture in 1966.

2. A Plan for Agricultural Development in Hawaii, Department of Agriculture, 1966.

3. As authorized by Act 234, 1957 Territorial Legislature.

4. Generalized subzones: (GU) General Use; (RW) Restricted Watershed. Specific use subzones: Educational use, cemetery and nursery or convalescent home.

5. "It is recommended that the following subzones be established by analysis of the Conservation Districts: Class A: Lands for preservation and protection of native flora and fauna, and scenic, historic or archaeologic values. Class B: Lands for conservation of water and timber resources and game. Class C: Lands for conservation and protection of certain individual water sources and water supply areas. Class D: Lans susceptible to serious flooding or tsunami damage. Class E: Lands allowing more general use (primarily conservation uses)." Ecko, et. al. State of Hawaii Land Use Districts and Regulations Review at pages 88-89.

6. The concept of incremental zoning has been adopted as Rule 2.32 of the Land Use Commission.

7. Technical Report, State of Hawaii, Land Use District Boundary and Regulations Review Program, January 1970.

8. Based on E. R. A. projections, p. VIII-30.

9. At page 82.

10. Technical Report, State of Hawaii, Land Use District Boundary and Regulations Review Program, January 1970.

Chapter III

1. Eckbo, Chapter 17.

2. Eckbo, page 159.

3. The Eckbo report, for example, devotes an entire Chapter, 15, to taxation as a planning tool.

4. 1964 is used because it is the year in which the final boundaries of use districts were adopted.

5. Data on only 37 cases out of 103 cases were obtained.

6. Eckbo, at page 132.

Chapter IV

1. Lands classified as A and B in table 9 (Appendix 3).

2. Professor of Agricultural Economics and Agricultural Economist in the Experiment Station and on the Giannini Foundation, University of California, Berkeley.

3. "The 'New' Competition for Land and Some Implications for Public Policy, Natural Resources Journal, October 1964. Vol. 4, No. 2, pp. 252-267.

4. Op. cit. For a discussion of the conservation easement concept, see Appendix 4.

5. January, 1962.

6. Section 2.A(3), Regulation No. 4 - Hawaii Loa College Special Subzone, Educational Use.

7. Section 2.A(4), Regulation No. 4 - Haka Site Special Subzone, Cemetery Use.

8. Section 2.A(5), Regulation No. 4 - Kapakahi Ridge Special Subzone, Nursing or Convalescent Home Use.

9. Section 205-6, Hawaii Revised Statutes.

(To be made one and eight copies)
FIFTH LEGISLATURE, 1970
STATE OF HAWAII

S.R. NO. 295
S.D. 1

SENATE RESOLUTION

REQUESTING THE LAND USE COMMISSION TO ADMINISTER THE LAND USE LAW TO PREVENT LAND SPECULATION.

WHEREAS, the land use law was established as a means to preserve and protect Hawaii's land from untimely and improperly planned development; and

WHEREAS, our limited land resources are an asset we must husband with extreme care; and

WHEREAS, grants of urban use designation should generally be made only where development is needed and with such safeguards against land speculation as may be necessary to insure that properly planned development into needed urvan units will occur; and

WHEREAS, premature designation of urban use may actually hinder proper residential development by encouraging urban sprawl and land speculation thus raising costs rather than economical utilization of existing urban land; now, therefore,

BE IT RESOLVED by the Senate of the Fifth Legislature of the State of Hawaii, Regular Session of 1970, that the Land Use Commission be, and hereby is requested to utilize its powers under Section 205-6, H.R.S., as amended by any Act of the 1970 Legislature including S.B. 1139-70, H.D. 1, C.D. 1 or its other lawful authority, so as to prevent land speculation by making it a condition to resetting of land use boundaries for residential purposes that such planned residential developments be constructed within a specified reasonable time after change of land use boundaries, or that such land use change be revoked; and

BE IT FURTHER RESOLVED that the Legislative Reference Bureau study the feasibility of amending the land use law to provide greater protection for the lands that have been designated for other

S.R.NO.

than urban uses and report back to the legislature prior to the opening of the 1971 legislative session; and

BE IT FURTHER RESOLVED that duly certified copies of this Resolution be transmitted to the Honorable John A. Burns, Governor of Hawaii and to Mr. Wilbert Choy, Chairman of the Land Use Commission.

OFFERED BY: _____

Appendix 2

1970 AMENDMENTS TO CHAPTER 205

ACT 136 S.B. NO. 1139-70

A Bill for an Act Relating to the Land Use Law.

Be It Enacted by the Legislature of the State of Hawaii:

SECTION 1. Section 205-6, Hawaii Revised Statutes, is amended to read as follows:

"Sec. 205-6 Special permit. The county planning commission may permit certain unusual and reasonable uses within agricultural and rural districts other than those for which the district is classified. Any person who desires to use his land within an agricultural or rural district other than for an agricultural or rural use, as the case may be, may petition the planning commission of the county within which his land is located for permission to use his land in the manner desired.

The planning commission shall conduct a hearing within a period of not less than thirty nor more than one hundred twenty days from the receipt of the petition. The planning commission shall notify the land use commission and such persons and agencies that may have an interest in the subject matter of the time and place of the hearing.

The planning commission may under such protective restrictions as may be deemed necessary, permit the desired use, but only when the use would promote the effectiveness and objectives of this chapter. The planning commission shall act on the petition not earlier than fifteen days after the public hearing. A decision in favor of the applicant shall require a majority vote of the total membership of the planning commission which shall be subject to the approval of the land use commission, provided that the land use commission may impose additional restrictions as may be necessary or appropriate in granting such approval, including the adherence to representations made by the applicant. A copy of the decision together with the findings shall be transmitted to the commission within ten days after the decision is rendered. Within forty-five days after the receipt of the county agency's decision, the commission shall act to approve, approve with modification, or deny the petition. A denial either by the county agency or by the commission, or a modification by the commission, as the case

may be, of the desired use shall be appealable to the circuit court of the circuit in which the land is situated and shall be made pursuant to the Hawaii Rules of Civil Procedure."

SECTION 2. Chapter 205, Hawaii Revised Statutes, is amended by adding a new part to be appropriately designated and to read as follows:

"PART . SHORELINE SETBACKS

Sec. 205- Definitions. As used in this part, unless the context otherwise requires:

(1) 'Agency' means the planning department of each county.

(2) 'Shoreline' means the upper reaches of the wash of waves, other than storm and tidal waves, usually evidenced by the edge of vegetation growth, the upper line of debris left by the wash of waves.

(3) 'Shoreline setback' means all of the land area between the shoreline and the shoreline setback line.

(4) 'Shoreline setback area' means all the land area seaward of the shoreline setback line.

(5) 'Shoreline setback line' means that line established by the State land use commission or the county running inland from and parallel to the shoreline at a horizontal plane.

Sec. 205- Duties and powers of the commission and agency. The commission shall establish setbacks along shorelines of not less than twenty feet and not more than forty feet inland from the upper reaches of the wash of waves other than storm and tidal waves. The agency shall promulgate rules and regulations within a period of one year after the effective date of this Act, pursuant to chapter 91, and shall enforce the shoreline setbacks and rules and regulations pertaining thereto.

Sec. 205- Prohibitions. (a) It shall be unlawful to remove sand, coral, rocks, soil, or other beach compositions for any purpose, except for reasonable domestic, non-commercial use, within the shoreline setback area, except that any sand mining

operation which has been legally in operation for a period of at least two years immediately prior to the effective date of this Act, may be continued for a period not to extend beyond July 1, 1975. However, if during the period prior to July 1, 1975, the sand mining operation is substantially increased, it shall be unlawful to further continue such mining operation.

(b) Except as otherwise provided in this part, no structure or any portion thereof, including but not limited to seawalls, groins, and revetments, shall be permitted within the shoreline setback area; provided that any lawful nonconforming structure existing on the effective date of this Act shall be permitted; provided further that any structure which is necessary for safety reasons or to protect the property from erosion or wave damages shall be permitted. A structure not conforming to this section but for which a building permit application has been filed on or before the effective date of this Act, shall also be permitted as a nonconforming structure, subject to the ordinances and regulations of the particular county.

(c) Any nonconforming structure, including but not limited to residential dwellings, agricultural structures, seawalls, groins, and revetments may be replaced or reconstructured within the shoreline setback area; provided that no nonconforming structure shall be substantially enlarged or changed to another nonconforming use within the shoreline setback area. If the use of any nonconforming structure is discontinued or held in abeyance for a period of one year, the further continuation of such use shall be prohibited.

Sec. 205- Shoreline setback lines established by county. The several counties through ordinances may require that shoreline setback lines be established at a distance greater than that established by the commission.

Sec. 205- Functions of agency. (a) The agency shall administer the provisions of this part. It shall review the plans of all applicants who propose any structure, activity, or facility which otherwise would be prohibited by this part.

The agency may require that the plans be supplemented by accurately mapped data showing natural conditions and topography relating to all existing and proposed structures, buildings and facilities.

The agency may also require reasonable changes in the submitted plans in order to obtain optimum compliance practicable.

(b) After reviewing the plans, the agency shall transmit the plans with its recommendations to the governmental body of the county authorized to grant variances from zoning requirements. Such governmental body shall grant a variance for such structure, activity, or facility if, after a hearing pursuant to chapter 91, it finds in writing, based on the record presented either: (1) that such structure, activity, or facility is in the public interest; or (2) that hardship will be caused to the applicant if the proposed structure, activity, or facility is not allowed on that portion of the land within the shoreline setback. Any variance granted may be subject to such conditions as will cause the structure, activity, or facility to result in a minimum interference with natural shoreline processes. Such governmental body shall render written approval or disapproval within 45 days after the hearing on the applicant's plans, unless such period is extended by written agreement between the governmental body and the applicant.

Sec. 205- Exemptions. Tunnels, canals, basins, and ditches, together with associated structures used by public utilities as the term is defined in section 269-1, wharves, docks, piers and other harbor and water front improvements and any other maritime facility and water sport recreational facilities may be permitted within the shoreline setback area; provided that the plans therefor are submitted for review and are approved by the agency after a public hearing has been held and that the appropriate State body has found that the proposed structures will result only in a minimum interference with natural shoreline processes; provided further than any such structure constructed by a governmental body shall be exempt from the provisions of this part except as to the requirement that two public hearings shall be held by the governmental body charged with such construction, once when the project is first conceived and again when the project is substantially designed and planned, but prior to the letting of the contract.

Sec. 205- Conflict of other laws. In case of a conflict between the requirements of any other State law or county ordinance

regarding shoreline setbacks, the more restrictive requirements shall apply in furthering the purposes of this part. Nothing herein contained shall be construed to diminish the jurisdiction of the State department of transportation over wharves, airports, docks, piers, small boat, or other harbors, and any other maritime or water sports recreational facilities to be constructed on State land by the State; provided that such plans are submitted for the review and information of the officer of the respective agency charged with the administration of the county zoning laws, and found not to conflict with any county ordinances, zoning laws, and building code."

SECTION 3. If any provision of this Act, or the application thereof to any person or circumstances is held invalid, the invalidity does not affect other provisions or applications of the Act which can be given effect without the invalid provisions or application, and to this end the provisions of this Act are severable.

SECTION 4. Statutory material to be repealed is bracketed. New material is underscored. In printing this Act, the revisor of statutes need not include the brackets, the bracketed material, or the underscoring.

SECTION 5. This Act shall take effect upon its approval.

Appendix 3

Table 9

DISTRIBUTION OF LAND BY CLASS OF AGRICULTURAL PRODUCTIVITY, BY MAJOR ISLANDS OF HAWAII, 1968

Productivity Ratings	Oahu		Kauai		Maui		Molokai	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
A	24,438	6.3	10,068	2.8	32,678	7.0	702	0.4
B	32,096	8.3	30,371	8.6	20,045	4.3	-	-
C	21,931	5.7	28,542	8.0	38,425	8.2	4,079	2.4
D	19,533	5.1	30,618	8.6	99,694	21.4	40,842	24.5
E	226,865	58.6	250,044	70.4	268,427	57.7	120,293	72.0
Total								
Urban + Water	324,863		349,643		459,269		165,916	
	61,757	16.0	5,557	1.6	6,651	1.4	1,169	0.7
Grand Total	386,620	100.0	355,200	100.0	465,920	100.0	167,085	100.0

Table 9 (continued)

Productivity Ratings	Lanai Acres	Lanai Percent	Hawaii Acres	Hawaii Percent	State Acres	State Percent
A	-	-	-	-	67,886	1.7
B	-	-	46,113	1.8	128,625	3.2
C	4,901	5.4	213,860	8.3	311,738	7.7
D	20,436	22.6	571,995	22.2	783,118	19.4
E	64,463	71.5	1,733,939	67.2	2,664,021	65.8
Total Urban + Water	89,800		2,565,897		3,955,388	
	400	0.5	13,303	0.5	88,877	2.2
Grand Total	90,240	100.0	2,579,200	100.0	4,044,265	100.0

Source: Land Study Bureau - (Provisional figures)

Appendix 4

EXCERPT FROM "THE 'NEW' COMPETITION FOR LAND AND SOME IMPLICATIONS FOR PUBLIC POLICY"

Use of easements in connection with communication systems, airports, and public utilities is well established. Easements for open space, parks, and highways are common. Some states, especially Wisconsin, have pioneered with recreational easements for hunting and fishing. Conservation easements are mentioned in the literature in connection with open-space easements. But, so far as I am aware, such easements have not been used for the conservation of large blocks of prime irrigable land. Such easements may be acquired by the state or by local governments under state enabling laws. For the purpose under discussion, the planning and guidance of acquisition are best undertaken on the state level.

Conservation easements may be acquired through voluntary sale or through eminent domain. In California, voluntary sale is open to challenge because the constitution prohibits the legislature from making gifts of public funds. In both cases, therefore, a public interest exists if the purpose of land policy is the conservation of prime irrigable land for agricultural uses.

It is sometimes suggested by urban planners that the acquisition of the fee-simple right is less complicated, of greater advantage to the public later on, and not much more expensive than the acquisition of easements. This is quite true if the acquisition concerns permanent open space without much private development (green belts) or space to be developed later under public control. In the latter case, the fee-simple acquisition would assure effective control and simplify the problem of compensation. Futhermore, the increase in land value due to the development would accrue to

the public. In the present case, however, important private uses will continue. High land values are created and supported by these uses. In our case, therefore, it is more economical for the public to acquire easement rather than fee-simple rights.

For the objective of land policy under discussion, easements must be purchased in perpetuity. Experience tends to indicate that the purchase price per acre of a perpetual easement is not significantly higher than that for a twenty-year easement.

Conservation easements would go a long way to solve the tax problem for individual irrigation enterprises when land values are affected by potential urbanization. Since development rights would be no longer vested in the private owner, he could not constitutionally be assessed for them. This, in itself, will constitute a strong inducement toward voluntary sale of conservation easements.

Voluntary sale would, of course, be influenced by the economic value placed on the development rights which are given up. This is the most crucial problem of conservation easements. It poses a real challenge to economics as an academic discipline to the legal profession, and to the practical administrator.

Appraisal of individual strands of the bundle of private property rights that relate to an acre of land is not uncommon. Special problems, however, are created by the fact that conservation easements must be acquired simultaneously for large blocks of irrigable land.