

transport and many other services required by efficient farming in the area, a considerable infrastructure will be developed. Obviously, such an infrastructure can also serve other industries requiring skilled workers but little heavy transport for great distances.

Each of the businesses, including farms, should have good outputs for the investments and operating costs. Further, as a producing factory, farm, or other business is successful, it employs people. People spend money, and this employs more people.

Thus the income from a producing enterprise may be increased several times within the trade area. This is known as the multiplier effect, as suggested by Lord Keynes. In planning new businesses, such multiplier effects are important and should be evaluated. They can be very large.

To have success in any trade area, there must be employment at reasonably good wages. The town-and-country plan should account for all the local unemployed or underemployed people who are able to take jobs. It also should attract many young people from the old cities who are looking for good opportunities and pleasant places to live.

Our aim should be to have these new cities as culturally attractive as the old ones and with good income prospects for a wide range of skills. A rural city should also have all these attributes of a good environment and open space that make for pleasant living. This means good opportunities for youth, better health, and much lower crime rates.

Town-and-country planning must be done mainly within the authorities of States and counties. People with many different skills are needed. Soil scientists have an important role, but so do geologists, hydrologists, geographers, economists, architects, businessmen, lawyers, educators, and many others.

We want to see the kind of town where many sorts of people should like to live. For those interested in art

and literature, this means libraries and other cultural facilities. For businessmen to see a future for themselves it means a brokerage office with a ticker tape. And so we might go through a long list.

Some present rural areas are as lacking in cultural facilities as crowded parts of big cities are lacking in clean air and space. We want trade areas where all children and young people can enjoy living and learning. All sorts of cultural clubs are possible. Young people need many choices.

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## Growing With Nature

ROBERT H. TWISS and  
LOUISE PARKER

**I**N THE MARIN COUNTY HILLS just 25 miles north of San Francisco, Calif., the small town of Nicasio looks much like it did a century ago... a quiet community of some 500 people, surrounded by rolling grass-covered hills and wooded canyons.

To local residents, Nicasio represents a special way of life. Some families have lived in the valley for several generations, gaining their living mainly from dairying. Others, although relative newcomers, also cherish its rural village character.

It probably won't be that way forever. Like many other parts of scenic rural America, Nicasio is on the threshold of more intensive use and development. Highways proposed to provide access to Point Reyes National Seashore would merge at Nicasio, putting the valley within easy com-

muting distance of San Francisco. Even without the highways, the valley is close enough to other major population centers that growth is likely.

If land speculation and development proceed in typical fashion, the almost certain result is that Nicasio will be covered with roads, small lots and houses, and the valley's key scenic areas and its natural vegetation destroyed.

Landowners face a difficult dilemma. On the one hand, they want to keep the beauty of the landscape and the rural character of the town. But it is virtually impossible for dairying and ranching to compete in today's urban land market. Land values go up. Taxes go up. Owners have to do something, and the usual answer is sell . . . in small parcels without regard for preserving environmental and social values.

But for Nicasio, there may be a better way out. In 1962, landowners faced up to the problem and took the first positive steps to protect the countryside from uncontrolled growth. They organized the Nicasio Landowners Association with the specific purpose of working to preserve the natural beauty of the valley and promote well-planned development.

In 1967, they went to the Marin County Planning Department and asked that a master plan be drawn up for the valley. County planners Paul Zucker and Al Solnit felt that saving Nicasio would be a real challenge, but that something more than the typical master plan would be needed.

In an unusual first step, the County Planning Department sought help from the Department of Landscape Architecture at the University of Cali-

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fornia and from the U.S. Forest Service's Pacific Southwest Forest and Range Experiment Station. They put together a study team, including landscape architects, an engineering geologist, and a research forester to conduct a complete analysis of the Nicasio landscape.

The result was two years of study and a 50-page report, "Nicasio: Hidden Valley in Transition." This study was financed principally by the Forest Service, U.S. Department of Agriculture, by a grant from the America the Beautiful Fund, and the County Planning Department's contributed services. Many others, including the Soil Conservation Service, cooperated and contributed their time and effort.

The study is based on the premise that development should proceed with respect for the existing character of the landscape and the natural ecological patterns—a rather new approach to land use planning. Researchers believe they have developed an approach which will allow Nicasio to grow, not in rampant disregard for the land, but in harmony with nature.

Essentially the study is a "landscape analysis" with much emphasis on the area's scenic values. But the research group also studied the archaeology and cultural history of the valley, its topographic patterns, geology and soil, vegetation, wildlife, climate . . . everything that would affect, or be affected by, land use.

As a first step, team members walked and drove over much of the valley's 36 square miles. Landscape features were noted and "seen area" maps drawn up. These special maps pinpoint areas visible from a given set of viewpoints, and will help planners with the location and design of highways, high-rise buildings, or other prominent features which may some day be part of the landscape.

"Nicasio is a kind of pioneering effort," according to County Planner Al Solnit. "We couldn't look to the next valley over for solutions."

Similar studies have been undertaken by the University of California

for its Santa Cruz campus, by landscape planner Ian McHarg in Pennsylvania, and in a few other areas of the country. Yet such a detailed study has never been attempted before as a part of county master planning on such a large scale in an area having many landowners.

But perhaps the most significant thing about Nicasio is that for the very first time in the Western United States, a landscape analysis has been prepared for an area before development begins. Credit must go to the landowners for their foresight, and for their concern with the land and the quality of their own environment.

It is one thing to promote the preservation of open space and parks in forest or mountain regions far from

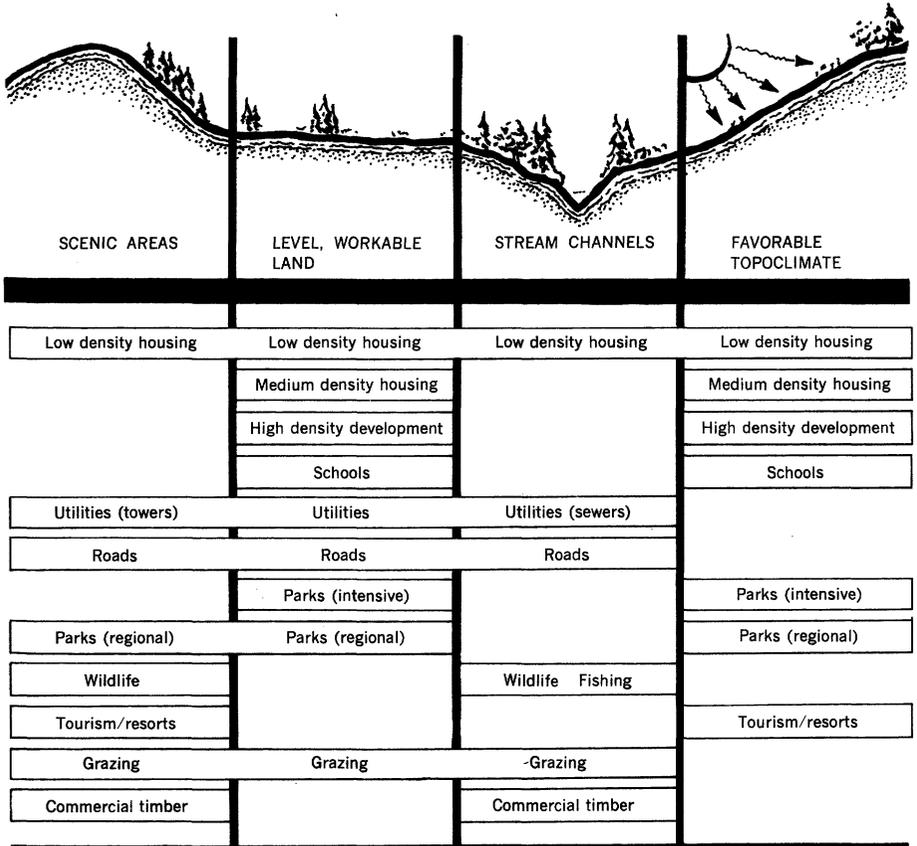
home; it is altogether another to submit voluntarily to the self-discipline of community planning in your own backyard.

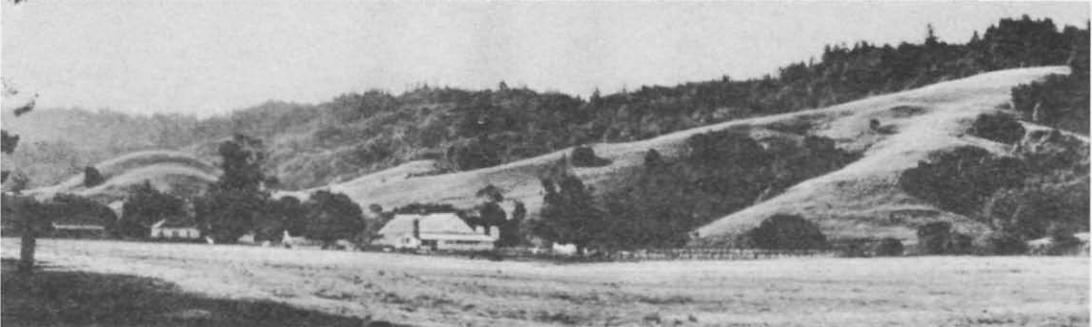
For communities that want to follow a similar approach, the Nicasio study is a practical guide through the various steps of environmental planning. These include inventorying the natural environment, interpreting visual and esthetic characteristics, anticipating the impact of land development and the competition for limited natural environments, and developing suitable conservation programs.

The Nicasio study points up the potential problems and suggests the consequences of various planning and development activities.

The study found that the visual

### EXAMPLES OF SITE COMPETITION





*Nicasio's beauty depends on its oak-studded grassy hills, redwood forest, wooded streambanks, and wind-sculpted trees. Residents have acted to preserve valley's distinctive qualities during anticipated development.*



quality of Nicasio valley is due not to a few unique scenic attractions like mountain peaks, waterfalls, or rugged cliffs. Rather, it comes from the total effect of the natural environment—the topography, the central Nicasio square, the rich and varied plant life, and the charm of farm houses in a rural setting.

The golden expanse of summer grasslands, the deep shade of the red-wood groves, the tangle of streamside trees and vines, and the wind-sculpted bay trees—all contribute to the “early California” character of Nicasio.

Nicasio’s grasslands are especially important and care must be taken to preserve them. If grazing and fire are curtailed, the natural plant succession is for the low grasses to be replaced by dense shrubs and low trees. Moderate grazing, burning, or mowing will be required to maintain the grassland.

The valley has a varied geographic base, but much of the area is subject to extreme erosion or landslide hazard. Maps prepared especially for the study indicate where buildings can be located so as to avoid existing landslides and particularly earthquake-sensitive rock and soil formations. The town is just five miles east of one of the world’s most active earthquake faults, the San Andreas. Landslides and uneven settling can be expected if a major quake occurs.

Thirteen soil types were identified, mapped, and classed according to their ability to hold up under various kinds of use.

Land managers and developers can consult the agricultural land capability report prepared by the Soil Conservation Service of USDA, working through the local Marin County Soil Conservation District. The report rates soils primarily on their potential for agriculture, but observations are also made about their suitability for other uses such as for septic tank fields, grading, landscaping, or for tree planting or forestation.

Nicasio reservoir is a central feature in the landscape, and serves as an alternate source of water for the Marin

Municipal Water District. It is also vulnerable to siltation, pollution, and other abuses which might arise from development in the watershed.

The valley is noted for a moderate climate, but the report tempers this conclusion with a certain caution, pointing out that there is a rather persistent temperature inversion which would trap and hold air pollutants in the valley. Fog is a frequent visitor during the summer and should be considered in locating homes, schools, parks, or playgrounds.

Black-tailed deer are common and benefit from the natural conditions that encourage grass and shrubby vegetation. Many other forms of wildlife, including birds, fish, and small mammals, are abundant and depend upon native plant cover for survival.

Indian mounds—the remnant of old campgrounds of the Coastal Mi-Wok Indians who once frequented the valley—were located. Along with other features of the area’s natural and cultural history, they can be included in an open space and park system.

Land trusts or other property agreements may be desirable so that owners can pool their holdings. In that way, owners could share the profits of development as well as the cost of preserving land quality.

“When development occurs . . . does Nicasio have to become a future addition to Noplace, U.S.A.?” the report asks. The future of Nicasio depends now on how well the study’s recommendations are carried out, and whether or not landowners can overcome the usual economic pressures that influence land development. Landowners, and others who have been involved in this study, believe they have a good chance of preventing haphazard growth.

Raymond H. Shone, an attorney and president of the Landowners Association, believes that cooperation has been a strong factor in success of the effort so far.

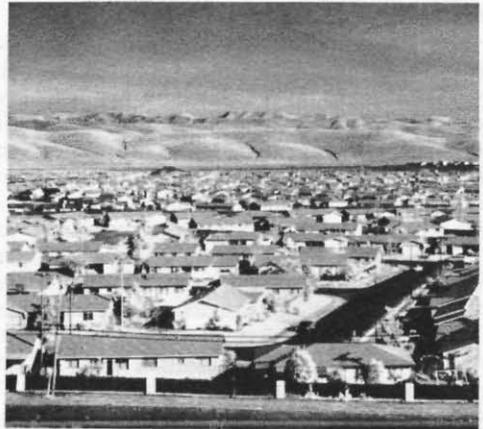
“One thing I’ve always been impressed with is the sort of open feeling among the landowners . . . a feeling

that all of us, regardless of whether we own small or large amounts of land, can pull together. We all have a stake in the future of Nicasio," Shone says.

For Nicasio, planning is just beginning. Following the environmental analysis, a general planning study was to be conducted during the fall and winter of 1970-71, and finally a master plan was to be drawn up. Landowners have organized a committee to work

The forces of growth which are propelling us headlong into the 21st century will undoubtedly bring increased mechanization, noise, hurry, and crowding—all of which tend to diminish the quality of human life.

We need open space. We need forest and wildlife at the back door. We need streams and green things. We need a sense of country . . . a land to belong to. And we need this as much in urban areas. where 70 percent of



*The report on the study asks: "When development occurs. . . does Nicasio have to become a future addition to Noplace, U.S.A.?"*

with Marin County and the University of California in the continued planning effort and to solve mutual local problems as they arise.

Nicasio is not alone. For other rural areas all around the country, it may already be too late to prevent the haphazard advance of suburbia . . . or it may be a good time to begin planning for the future.

There is probably no question that we can feed and house up to 100 million more Americans by the turn of the century.

But what kind of existence will we have? Will our living environment be as good as it is now? Or will the thousands of small, rural communities at the edge of major metropolitan centers be gobbled up in unplanned city and suburb?

the population lives, as we do in the country.

Concrete, asphalt, and highrise buildings indiscriminately covering the land will not give us that.

It is essential to anticipate the consequences of development and to use specialists in the natural and social sciences to help determine the impacts on the land and its resources. Residential development creates a particularly big impact on the land and is a major consideration in our new National Environmental Policy.

Studies, like that undertaken for Nicasio Valley, can help point the way toward a 21st century that will not only provide housing, food, and fiber for more people, but will also give us an environment with which we can live in harmony.