### India

# 8 Reviving and strengthening women's position and agency in ensuring household food security

The role of home gardens

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#### Introduction

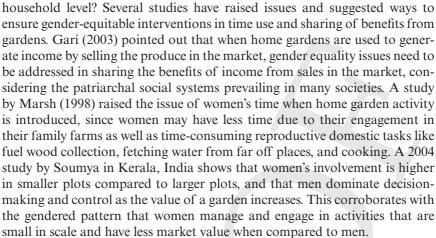
Home gardens are unique agricultural spaces and one of the oldest production systems; however, they are highly neglected in agricultural development programs. Women's role, level of participation and responsibilities in home garden management varies across societies. In most cases women play a predominant role (Seeth et al. 1998; Talukder et al. 2000), whereas in others they perform a supportive role (Hoogerbrugge and Fresco 1993); this depends upon the purpose of managing the garden and kind of crops cultivated. In general the management of the home garden is labor intensive and needs continuous management and care. Issues related to women's time, mobility, responsibility for food and care needs of family members, and other household reproductive tasks makes it convenient for women to play an active role in home garden management.

Since home gardening is an agricultural activity associated with women it is determined by sociocultural norms (Mitchell and Hanstad 2004), and it has not received much research attention from either national or international institutions. Garí's (2003) study indicated that prevailing gender inequalities associated with garden management is the primary reason for limited technological improvements in productivity. This is also related to women's negative position in accessing productive resources and institutional linkages, in spite of the benefits of home gardens in addressing food security and nutritional values.

Home gardens have been promoted as an agricultural development strategy to improve the food and nutritional security and livelihoods of rural poor households. However, since rural women are often the managers of the garden, could the home garden development strategy be used as a pathway to reduce gender-based disparities and empower women's position at the







Previous studies have attempted to conduct gender analysis on existing home gardens with a biodiversity perspective. The study done by Perrault-Archambault and Coomes (2008) in the Amazon region revealed that the increase in species composition is related to age and sex of the person who manages the garden. The gardens managed by women are more diverse by 4.0 species than the gardens managed by men, and older managers' gardens have more species than those of younger managers (Perrault-Archambault and Coomes 2008). The authors estimated that an increase by ten years in age corresponds to a predicted increase of 1.40 species. Apart from sex and age, social and kin networks play an important role in managing the garden with diverse and more species. Perrault-Archambault (2005) reported that women use matrilineal kin networks to acquire planting material, such as seeds or cuttings and Perrault-Archambault and Coomes (2008) also described that older women develop stronger social networks and enrich their garden with more and diverse species. Similar observation of how social networks enhance the sharing of planting materials was reported by Coomes and Ban in 2004 at an Amazonian peasant village in Peru.

The theme of home gardens and gender has received little attention from research and developmental actions despite its recognized importance in determining food and nutritional security. Helen Keller International (HKI) initiated an intervention to improve home gardens' contribution in reducing nutritional problems in South Asian countries where women were the primary partners. Several researchers studied its impact; the study of Talukder et al. (2010) revealed that women's active participation in home garden initiatives enabled them to gain control over resources and income, which enhances their participation in household decision-making. Studies by de Pee and Bloem (2007) and HKI (2010, 7) in Bangaladesh, observed that women's active participation in decision-making processes makes it possible for them to influence "overall household spending, food preparation, food choices and intra-household food allocation as well as care-seeking behavior





of the women." The study of Iannotti, Cunningham, and Ruel (2009) similarly reported that women's participation in small household decisions have increased from 14 percent to 50 percent, which suggests a change in the intrahousehold power dynamics.

Hillenbrand (2010, 416), who studied the initiative from a gender perspective, argued that the "small household decisions" women make are within the acceptable female domain of decision-making in Bangladesh, rather than challenging the power relations. She further added that since the model deliberately does not contest existing gender norms or patriarchal power structures, it was possible to upscale the intervention to many households. Iannotti, Cunningham, and Ruel (2009, 6) concluded that although such food security programs support women's culturally acceptable role, the opportunity helps them to build their bargaining power and become "more productive in their traditional role". However Wilson-Moore's (1989) study in Bangaladesh clearly pointed out that the success of women's performance in homestead gardens may not be sufficient to positively influence their socio-economic status. The main reason she cited was that the income generated out of the activity is directly handled by men, since women's mobility and participation in public space is culturally restricted among Muslim and Hindu communities.

Nonetheless, HKI interventions evolved strategies to address the gender disparities by understanding women producers' capabilities, needs, and rights. One such intervention was the introduction of collective marketing, which allowed women to have strategic control over the businesses and gain access to income and take decisions to use it (Hillenbrand 2010). The other most important intervention was critical engagement with women's partners, sensitizing them on unequal norms without directly challenging the power structures; this process required complex skills from the facilitators' end (Reid 2004). The above review of research on gender and home gardens clearly shows that through the interventions women become stronger in their traditional role and participate in household decision-making, but this may not be sufficient to bring desired changes in gender relations at the household level or beyond. In the following sections, the authors share their experiences in addressing these issues.

#### **Background** of the study site

The study was conducted in Kolli Hills, which is the tail end of Eastern Ghats in South India, administratively located in Nammakkal district of Tamil Nadu state in India. The total geographical area of the hills is 28,293 hectares, of which forest occupies 44 percent and agricultural activities take place in 51.6 percent. The forests are both deciduous and dry deciduous. The hills are inhabited by *Malayali* tribal communities. They are descended from early migrants from the plains at the beginning of the sixteenth century (Thurston and Rangachari 1909).





The main occupation of the men and women is agriculture, combined with cattle herding and pig rearing, and working as laborers in coffee plantations or migration to other districts/states as wage laborers. Little millet and Italian millet are the common small millet species cultivated on terraced beds (mid slope) as well as rocky terrain (highest slope) under rain-fed conditions. Of the total workers in the area, 88 percent are cultivators (of whom 90 percent are small and marginal holders), 7 percent are agricultural laborers and 5 percent are other workers. Small millets, grain legumes, and wild yams supplemented with rice served as their staple food in the past and this has shifted to rice-based food systems in the recent past. The traditional agriculture of Malayali people has been undergoing changes during the last three decades, due to the introduction of cash crops such as tapioca, coffee, and pineapple (Rengalakshmi 2004). Consequently, their diets have changed from small millet to what is the main staple today, rice. Small millets are rich in micro nutrients and proteins, and rich in fibre when compared to rice. Agricultural intensification driven by the assured market for tapioca, lack of market for small millets, less supportive government policies, erratic climatic factors, drudgery in processing of millets, and decline in per capita land availability are other important factors speeding up the erosion of diversity of millets. The introduction of rice in the Public Distribution System (PDS) and Noon Meals Program in schools has begun to have an impact on culinary preferences. In addition, the menace of wild animals and changes in cultural values and lifestyles has reduced the preference for millets (Rengalakshmi 2004).

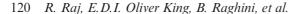
#### Gender issues and gaps associated with nutrition

Earlier studies (Vedavalli et al. 1999; Rengalakshmi 2004) on *Malayali* people's diet indicated that greater emphasis was given to cereals and pulses than to vegetables (except greens) and fruits. It was common that they cooked grain legumes like French bean and lablab (*semmochai*, *karumochai*, and *avaraimochai*) at least thrice a week. Pork was a special delight, fish was unheard of, and seasonal hunting of wild animals (wild boars and other small animals) supplemented their protein intake. Even in the case of vegetables, mostly green leafy vegetables, tubers/rhizomes/roots harvested or collected either from cultivated fields or forests were the major ones and within this, the species diversity varied according to the seasonal availability.

In the past, women were largely involved in collection of wild species of greens and frequently consumed greens in their diet (twice weekly). Women played a predominant role in mixed cropping systems as well as millet cultivation to ensure household food needs. Thus they had more control and agency over their household food security in terms of availability and access and had control over resources including associated traditional knowledge and planting materials. The experiential knowledge acquired by the women from their gendered roles and responsibility in ensuring household food security gave them an important role in decision-making at the household level.







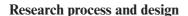
Since the 1990s changes in the cropping system (i.e., mono-cropping of cassava), have reduced the options of cultivating other crops. This has led to changes in diet and eating habits, with reduced availability and access at the household level. The change from self-sufficient and subsistence systems to a focus on the commercial economy consequently increased the household dependency on external markets for food, especially vegetables and rice from the public distribution system. However, in terms of affordability, many women and men informants pointed out that their household budget does not allow them to spend money on pulses and vegetables.

Apart from the affordability and negative nutritional outcomes among household members, especially children and women, the changes in food systems have weakened the position of women by reducing the availability and access to diversified food products, and women now have a very limited role in ensuring household food security and voice in decision-making. Women's control is particularly weak among younger women (younger than 25 to 30 years old) due to the changes in gender roles, responsibilities, and knowledge, which ultimately changed the gender relations between women and men. In other words, changes to food systems have restricted the women's role and voice in ensuring household food security. Also, it is common that men go to the market (weekly local market) to sell fruits or any other produce from their farm and at the end purchase vegetables for a week's time. Women do not involve themselves, and they accept whatever men purchase. If there is any special need, women request men to buy it. According to women participants, changes in the cropping system, restricted mobility, reproductive domestic roles, and limited control over economic resources have reduced their access to market. Commonly purchased vegetables are mostly potato, onion, tomato, and some seasonal vegetables. Ultimately reduction in dietary diversity, especially greens and tubers, and shift of food habits from millet to rice-based foods with reduced consumption of grain legumes led to negative nutritional outcomes among the household members especially among women and children. Apart from these external factors, cultural norms play an important role in ensuring equitable sharing of food among household members. Generally men and children eat first and then women eat at the end and usually get the leftover portions of the food.

This chapter describes a set of interventions focused on reviving and strengthening the culturally accepted role of women in ensuring household food security by adopting diverse strategies from 2010–2014 in Kolli Hills. The intervention was carried out as a part of a Canadian International Food Security Research Fund supported research project on Alleviating Poverty and Malnutrition in Agro-biodiversity Hotspots by M. S. Swaminathan Research Foundation. The overall goal of the project was to demonstrate innovative and integrated interventions in small farm agriculture to achieve increased income and improved food and nutritional security of 4,000 poor farmers at individual, household, and community levels from three different field sites in India. Kolli Hills was one of the sites in which 1,000 households were targeted in Vallapur nadu panchayat; from them, 570 households were involved in home garden based initiatives.







In Kolli Hills keeping a homestead agricultural space near the habitation is a traditional practice, but they are largely used to plant perennial fruit tree species with very few vegetable species. This is done for economic reasons rather than to meet household nutrition. Though the space is available it receives little social recognition at the village level and does not get any support from agricultural or horticultural departments. Keeping traditional values in line, attempts have been made to introduce vegetable species with multiple strategies to improve the structure, cultivation practices, and crop diversity for a higher productivity in nutrition, income, and labor management. The division of labor clearly indicated that women play a primary role in maintaining the home garden, and hence developmental actions were planned to strengthen women's role in home gardening as well as household nutrition. The project was done in such a manner that it does not increase women's labor, by involving other household members in sharing the labor demands. The production is targeted to provide a variety of vegetables for consumption by the family members; on the other hand, excess production was shared with other households or sold in market.

Initially, a detailed situational analysis was carried out using both qualitative and quantitative methods to understand the food- and nutrition-related practices and challenges. In order to understand the gendered consumption pattern as well as overall dietary diversity, pre- and post-consumption surveys were conducted to ascertain the changes. In relation to nutrition, issues related to inadequate calorie consumption (energy) and hidden hunger (i.e., malnutrition issues), were focused with due importance to maternal and child nutrition. Focus group discussions were also conducted with women and men to understand changes in local food systems and gender roles, particularly changes in gendered access to assets, division of labor, and decision-making at household and community levels. This was supplemented by key informant discussions with men and women of different age categories and participant observation on different occasions. Care was taken to mobilize the women and men of the household and sensitize men and other family members to create household-level ownership of the garden. Such sensitization programs enabled the participation of men in the garden management activities like soil preparation, fencing, and watering. Field-level women staff were appointed to mobilize, coordinate the training programs, and provide context-specific technical inputs. Following this awareness, participatory experimentation and technical training on home garden management, cultivation techniques, and hygienic ways of cooking vegetables were conducted.

Capacity programs were organized to strengthen the knowledge, skill, and capacity of women on various garden management technologies, as well as on health and nutritional aspects. The programs enabled women to take a lead role and responsibility in managing the garden, which provided an opportunity for them to take decisions related to design and planning of the garden,





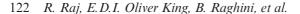


Table 8.1 Annual plan of nutritional garden to ensure year-round availability of vegetables

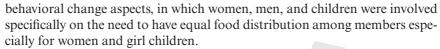
Tomato	Jan – Mar
Radish	Apr - May
Cowpea/ Beans	Jun – Sep
Bhendi	Oct – Dec
Bhendi	Jan – Apr
Radish	May – Jun
Chilli	Jun – Oct
Onion	Jun – Oct (intercrop)
Cabbage/ Beet	Nov – Jan
Greens	Dec – Feb
Tomato	Mar – Jun
Onion	Jul – Sep
Beetroot/ Raddish	Oct – Nov
Cluster beans	Jan – Apr
Greens	Apr – May
Brinjal	Jun – Dec
Dolichos/ F.Bean	Dec – Jan
Onion	Feb – May
Tomato	May – Aug
Greens	Sep – Nov
Bhendi	Feb – May
Brinjal	Jun – Oct
Cauliflower/ Beans	Oct – Jan
Cluster bean	Apr – Aug
Bhendi	Dec – Jan
Tomato	Aug – Nov
Cabbage/ Beans	Dec – Feb
Radish	Mar – Apr
Tomato	Nov – Feb
Chillies	May – Nov
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when to plant and what to plant, decisions regarding agronomic practices like choice of crops and varieties, spacing, weeding, watering, pest and disease management, harvesting, and how to use the harvested produce (e.g., own use, share with neighbors and relatives, sales). The gardens have both perennials and annuals, with a diverse mix of green leafy vegetables, fruit and other locally grown vegetable species and tubers to meet family nutritional needs with provision for composting and water saving through organic mulch application (Table 8.1).

During demonstrations and garden visits, discussion of gender roles and different agronomic and management practices of the garden were discussed with family members, especially husbands, elder members of the family, and children. The activity supported the women to seek labor support and involve family members in the intervention. Most importantly, based on the gendered need assessment, nutritional literacy programs were organized periodically along with demonstrations. Simultaneously interventions were focused on







Both quantitative and qualitative methods were used to document the changes after the intervention. A survey was conducted among 115 households using a structured questionnaire, and four focus groups were held with women and men separately. It was supplemented with field and participant observation and interviews with six key women members. All the surveyed households belong to the *Malayali* community, and 94 percent of them are smallholders having land in middle and upper slopes of the hills; the remaining six percent have a small piece of land (average of 0.08 ha) only. The composition of the age group of the participants was: 46 percent between 18–30 years of age, 38 percent between 31–45 years, and 16 percent over 45 years.

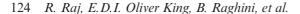
The success of nutritional gardens is apparent from the level of participation and subsequent increases in vegetable consumption and nutritional awareness among women members. The consumption survey clearly showed that the average vegetable consumption increased from 46 kg to 107 kg per household per year, and especially vegetable intake frequency as well as quantity has increased. One of the most significant changes in the attitude as well as practice was equitable distribution of food among members of the family and ensuring that women get adequate food and vegetables. There has been a shift in eating behavior at the household level; 42 percent of the households expressed that at least at dinner time, all the household members eat together. The average savings were ₹120 to ₹480 per month depending upon the family size through reduced purchase of vegetables from market. Vegetables from the garden were largely used by the households for their own consumption as well as sharing with kin and friends, and only 12 percent of the households reported that they sold excess vegetables in the market. The analysis further indicates that those households are located near to weekly market places and women are being involved in marketing the products, otherwise it is difficult due to the geographical distance in this hilly terrain.

Regarding outcomes related to the position or status of women in household food security, women expressed that the whole process helped them to gain intangible benefits like self-esteem and confidence, satisfaction in taking the lead role in garden management, recognition from family members, especially husband and in-laws, and increased control over the garden and harvested products. Women have increased access to homestead vegetable production with a corresponding increase in decisions about food preparation and use of harvested products.

In regard to workload, although women accept an increase in responsibility, they seek the support of male members of the family and children to support them on weeding, watering, and fencing, and through this they increase household ownership of the garden's management. Altogether, the intervention helped to revive and strengthen women's traditionally accepted gender role in ensuring household food needs (restricted to vegetables only), but at







the same time it enabled them to improve their negotiation skills to participate in decisions related to gardening at the initial level and slowly in other domains.

## Strategies to revive women's position and agency in household food systems

As discussed previously, the intervention resulted in significant direct outcomes on dietary diversity, saving of income, and women's increased role in household food-related decisions. The women's active participation in the home garden management resulted in further changes, which are described below.

#### Creating space for women to participate

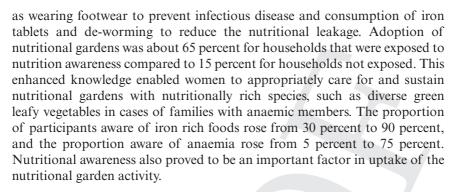
The main strategy of the intervention was ensuring women as primary participants in the intervention. The intervention provided an opportunity for them to think, understand its importance and relevance, and negotiate with other household members to have a garden with their choice of species. This process was done with the consensus of men in the households, which helped women to freely participate in the program and interact with outsiders without any difficulties, and it ensured the cooperation of men in the intervention. The success of the intervention is evident from the fact that the suggested model of home garden was adopted by 570 households during the last two years (2013–2014), of which 12 percent are landless households but have a backyard for vegetable cultivation, and remaining members are landed small farm holding households. The average age of women who participated in the program was 38 years, with a ranges from 22 to 56. They established gardens in their homesteads with an average size of 40 m<sup>2</sup>. The average number of species cultivated in a garden is 18, including the greens, whereas non-participating households have only an average of 4 species in their gardens.

#### Enhancing women's knowledge and skill to act on the new role

Necessary training, as well as awareness and exposure to outside places and successful cases, provided women with confidence to practice and manage the garden. Based on the need assessment, training was organized and 1,050 trainee days were completed on nutrition education and the key themes discussed included common nutritional disorders, nutritional profile of the vegetables cultivated, the importance of balanced food, and ways to improve the nutrient absorption. The new knowledge acquired through training programs on nutrition and its relation to health aspects further resulted in increased care of the garden as well as consumption of green leafy vegetables, other vegetables, and millets, along with essential nutritional actions such







#### Gaining recognition and respect for special knowledge

In the context of the decline in the value placed on women's knowledge of wild green leafy vegetables and small millets, due to reduced use at the household level, the role of women in household nutrition has been largely restricted to cooking, a physical activity determined by men's decisions about which vegetables to buy. The intervention provided space and opportunity for women to revive and establish their recognition and position at the household level in deciding the food according to nutritional values, and to use the new knowledge they gained through the interventions. One woman, Ms. Dhanam, Olayaru, Kolli Hills expressed that "our role was restricted to the physical task of cooking in the kitchen and extending labor to agriculture but now the new knowledge and skill provided a space and household members are recognizing and consulting us in any discussion."

#### Opportunity to strengthen social networks among women and kin groups

The sharing of vegetables among households was repeatedly expressed as an important community value for the households. Of the participating households, 92 percent expressed that they shared vegetables with neighbors and relatives. Ms. Jeyammal, Manjalpatti, Kolli Hills, one of the women in the meeting, expressed that "now we consider the garden as an important asset to the households to build and nurture the relationship." The Malayali community places high value on sharing the available vegetables, food, and seeds or other planting material from their fields with kin groups and neighbors. Such community-level food sharing practices had been culturally promoted among Malayalis until 2000, and a typical example is group hunting of wild animals and sharing of products like tubers, pumpkin, lablab, greens, etc. The intervention helped to strengthen these horizontal networks, trust, and shared values between neighbors and kin groups. They value these as significant positive outcomes of the home garden practice in the context of increasing nuclear families and cash crop oriented agriculture systems. Apart from both material and nutritional values for women, their active





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participation in the garden helped them to strengthen their social networks and relationships with neighbors and kin groups through sharing the seeds or planting materials and harvested produce as well as through meetings and visits to the gardens. Other than these activities, women's daily social life in Kolli Hills is largely restricted to their home and field spaces. The age of the women involved in home garden management is an important variable, as it has implications for the structure and species diversity among households. The gardens maintained by older women are more diverse by six species than gardens managed by younger women. The acquired knowledge as well as experience in managing the garden along with family members' support (especially children) may be the major reasons. Apart from this, as the women become older their social network is broader, which helps them to source and share planting materials among network members.

#### Women's voice and the wellbeing of girl children

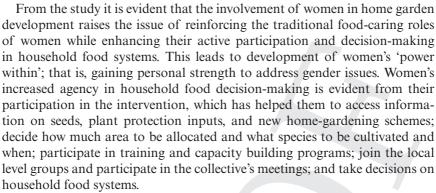
Women's empowerment from home garden management is also helping women to proactively initiate actions and participate in decision-making related to the health, education, and marriage of girl children. Of the women participating in the intervention, 24 percent expressed that they played a key role in the discussion as well as making decisions related to the marriage of female children in the household. Furthermore, 68 percent of the women expressed that they monitored the health of girl children and insisted that girls consume iron rich foods to overcome the anemia prevalent among adolescent girls.

#### Change in the perception of stereotypical gender roles

Amongst the 26 percent of households aged 20–30 years for whom gardening is a new experience, women often reported that men see their masculine role as restricted to the productive and community domains. The time use study indicated that, on average, one hour of extra labor time in a day is needed to manage the garden. Considering women's triple burden of work (i.e., productive, reproductive, and care work), the participation of men, children, and other elders is necessary to share the additional home garden work which is now stereotypically considered women's work. The intervention process set an example for women to seek support from household members, especially from men, which is a significant change in women's mindset and perception on similar stereotyped tasks. Although initially men saw gardening as women's work, sensitization programs helped them to come forward to share the workload of women, especially in areas such as preparing the land, fencing the area, and watering the plants. In 44 percent of the households women stated that they had the support of men in fencing and watering the plants, and 72 percent of the members expressed that all the household members including children were involved in managing the garden.







It could be argued that one of the major negative outcomes of the introduced home gardening model is decreasing value for women's traditional ecological and ethno-botanical knowledge about different wild species, since the intervention is directly reducing their dependence on wild species of green leafy vegetables and other wild species in their diet. But according to the participants, home garden intervention is not the reason for this reduction and there are other larger factors are contributing for this; the important ones are changes in the cropping systems as well as environment. Ms. Muthammal from Keel Sengadu, Kolli Hills, one of the women participants, aged 53, shared that "earlier when I go to work daily on the evening I come with a bunch of mixed wild greens but now due to tapioca and silver oak trees in the hill slopes and terraces, the availability of such diverse species are less, also the common spaces (field bunds, common area between fields etc) are invaded by *parthenium* and *lantana* species, hence we are not getting preferred species and adequate quantity for cooking and also in frequency."

#### Conclusion

The life and livelihoods of *Malayali* tribal communities have undergone social, economic, and political transformations during the last two decades. Traditionally among *Malayali* communities in Kolli Hills, women played a key role in ensuring household food and nutritional security. They actively participated in decisions related to selection of food crops (grain and legumes) and area under cultivation. Simultaneously they planned and sowed vegetable crops and stored grain legumes required for the family, which were produced largely in mixed cropping systems. Women acquired experiential knowledge, which provided an opportunity for women to play the lead role in taking decisions on food choices and had greater agency over food systems. This position of women gave space and opportunity to have equitable gender relations at household level, though men played a dominant role at community level governance.

However, in the recent past, macro-level changes in social, economic, and policy spheres have led to changes in the *Malayalis'* lives, livelihood and





consequently on food practices and systems. The degree of dependence on traditional food systems and sources, associated knowledge, practices, and attitudes are largely influenced by education, changes in the cropping system from subsistence to commercial orientation, and age, as well as mobility and transport services, networks, and linkages. Interventions to enhance home garden activity, such as the intervention described in this chapter, have increased women's control over foods consumed in the household, increased their self-efficacy for nutritional garden management, decreased reliance on the market to obtain food, and promoted knowledge of positive health outcomes associated with home grown vegetables. It is expected that the improved status and agency of women in household food systems may lead them to participate in decision-making and gain control in other household resources in the long run. As stated by Wilson-Moore (1989) and Hillenbrand (2010), changes in women's position and status in household food systems may not directly transform overall unequal power relations, but they provide opportunities for women to negotiate and participate in decisions; according to Malayali women, this is a positive step to challenge the current context of their declining position and voices.

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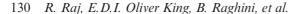
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