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**Collective Action and Institutional Innovations towards Gender Equity in
Agrobiodiversity Management:
Empirical evidence and further questions from South India**

by

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Collective Action and Institutional Innovations towards Gender Equity in Agrobiodiversity Management

- Empirical evidence and further questions from South India

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The maintenance of crop diversity on farmers fields in the hot spots of plant genetic diversity is considered a „global life insurance policy“ in the Convention on Biological Diversity (CBD 2001:1). The vital contribution of poor women farmers to the conservation and utilisation of the plant genetic resources (PGR) for food and agriculture has been stated repeatedly (Swaminathan 1998, Kumar-Range 2001). Its equitable recognition and economic reward is a key issue in the sustainable management of biodiversity by agriculture. The investigation into the institutions governing PGR, with special emphasis on gender equity and participation, aims at the identification of innovative institutions with special focus on women’s interests. The perspective combines an institutional and sociological outlook on common pool resources and gender studies and contributes towards the understanding of innovative institutions¹.

This first step into the field explores the main issues of institutional and gender analysis in the conservation and utilisation of agrobiodiversity. Starting with the questions what are the properties of the resource “biodiversity” concerned, I continue to identify resulting problems and challenges. For the systematic and thorough analysis I propose an analytical approach, which is based on Hagedorn et al’s (2002) “institutions for sustainability” framework. The concept is extended by a outspoken focus on the crucial interplay between men and women farmers and different degrees of integrated farming-systems in the management of agro-biodiversity through

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the terms “intraface” (Padmanabhan 2001) and “interface” (Long 2001). I will consider empirical evidence from Kerala, a hot spot of biodiversity in India, to illustrate problem situations and identify first movements towards collective action resulting in innovative institutions.

The properties of the resource agrobiodiversity, which relates to the biological diversity of agriculture related species and their wild relatives, are given by its appearance as a public good. „[...] Biodiversity is the variety of ecosystems such as those that occur in deserts, forests, wetlands, mountains, lakes, rivers, and agricultural landscapes. In each ecosystem, living creatures, including humans, form a community, interacting with one another and with the air, water, and soil around them” (CBD 2003). The system character of agrobiodiversity with its complex social and biological linkages requires the consideration of whole ecosystems. In this paper I concentrate on agrobiodiversity management *in situ* by traditional cultivators and the problem how to face the dwindling richness of species with adequate institutions. Farmers are confronted with international conventions and national laws, new maintenance schemes and property right regimes in order to prevent further loss, while they are looking for ways to share the costs of conservation efforts. New demands and an increasing interest in conservation asks for new institutional solutions in the field of biodiversity rich agriculture.

The challenge is to consider men and women’s contribution to the existence and maintenance of agricultural species without repeating the disempowerment of women through modern science and administration. How to avoid the perpetuation of women’s *de jure* and *de facto* asymmetries in property and rights, while finding institutional solutions for the sustainable management of agrobiodiversity?

Ignoring women’s particular interests and contributions to agrobiodiversity risks the miscomprehension of institutions and governance structures, which have been responsible for the development of a vast multitude of species in the past (GTZ 2002). Since most transactions are not co-ordinated via the market but fall rather under the realm of co-operation, the danger to neglect this sphere of agricultural reproduction is virulent. The analysis of the care-economy concerned with the maintenance and development of agricultural species highlights it in a gender-sensitive way to improve its sustainability. The failure to consider women’s reproductive agricultural work, taking place in the institutional environment of other female reproductive responsibilities, may result in the abandonment of these services and the consequent

disappearance of agrobiodiversity. Such loss of services are related to the gendered access to and control of common pool resources. These access rights are closely linked to the social construction of gender and nature and may hinder an effective, equal and sustainable management of agrobiodiversity.

The key question is: What institutions are necessary to co-ordinate the conservation and utilisation of agrobiodiversity *in situ* in an equitable and effective way? Four dimensions emerge which influence the institutional arrangements in agrobiodiversity at the community level. Following hypotheses can be formulated accordingly:

1. Properties of transactions:

The decisions over activities resulting in the provision of agrobiodiversity are complex. This decision-making process is influenced by crop ecology, available production factors, market supply and demand, and knowledge and interests of farmers (Bellon 1996), which differ between genders (Lachenmann 2001). The interaction between determinants is not clear and may appear contradictory.

2. Characteristics of actors:

Agrobiodiversity is the result of the interplay of identifiable actors. Poor men and women farmers, commercial farmers, agribusiness, the local government, NGOs and public research are local players with different power, values, perspectives and time horizons. Their bargaining power influences conflict and co-operation (Sen 1999) in agrobiodiversity management. The social construction of nature and gender (Shiva 1989) may vary from actual capabilities and potentials (Nussbaum 2000).

3. Property rights to nature components:

Property rights institutionalise cost and benefit streams (McKean 2000), their practice, enforceability and clarity decide over their appropriateness. Since the common pool resource 'agrobiodiversity' requires joint management, common property rights appear more feasible than private ones (Birner and Gunaweera 2002). Common property may improve women's access and control and enhances their bargaining position (Meizen-Dick et al 1997, Bennholdt-Thomsen and Mies 1999).

4. Governance structures for agrobiodiversity relations:

Co-ordination mechanisms for collective action (Ostrom 1994) with a high participatory involvement promises advantages over markets or hierarchies because of reduced transaction costs and increased motivation for agrobiodiversity management. Co-operation considers the institutional situation of women (Biesecker et al. 2000) and the nature of agro-environmental problems best (Hagedorn et al. 2002).

The linkage of institutional and gender analysis proposes insights into the conservation and utilisation of agrobiodiversity. Gender promises to be a useful variable since the institutional environment appears for women in another light because of different property rights and power, work and responsibilities, knowledge and values. Considering the women's perspective beyond the household is crucial for an analysis of agrobiodiversity management (Howard-Borjas 2001) and indispensable, if derived recommendations should be relevant to female actors as well. The sociological concept of *intraface* (Padmanabhan 2002) incorporates the gender dimension into the institutional analysis, while the term *interface* (Long 2001) highlights the interaction between farming-systems of differing richness in biodiversity. The focus is on situations where different perceptions encounter each other and on the subsequent processes of negotiation.

In order to capture the gendered negotiations over biodiversity management, the term *intraface* is introduced. Since the negotiations concerned take place between genders within a shared life-world, "*intraface*" is a succinct concept for describing both the situation of cultural and ethnic sameness and gendered difference. It is important to distinguish between *interfaces*, in which discontinuities are likely to prevail, and *intrafaces*, in which cooperation coexists along open and subtle conflicts within a single life-world.

The *intraface* is concerned with gendered interfaces between actors sharing a common life-world. Male and female farmers use the same local knowledge system for their orientation, but encounter different realities because of their gender. The term *intraface* covers the simultaneity of the commonly perceived framework of an ethnic group and the distinct room for manoeuvre according to the respective gender. This extension of the concept of *interfaces* concurs with Long's definition of *interface* as a critical point where structural discontinuities occur, due to different normative values and interests between entities of social groups (Long 1992:274). A

distinguishing aspect of interacting individuals or formations is the difference in power and the endowment with resources and rights, as in the case of South Indian gender relations.

The analysis of intrafaces and interfaces is concerned with the dynamic character of these interactions. Intrafaces and Interfaces serve as a methodological tool to understand interconnecting structures and processes. The process of legitimisation is an essential part of the ongoing struggles over meaning and the control of strategic relationships and resources. The goal is to identify and characterise differing actor strategies and conditions, and to evaluate their viability and effectiveness for problem solving and their structural outcomes. This approach results in the study of a small-scale interactive setting and its significance for macro phenomena.

The term interface illustrates the dynamics between modern farmers with biodiversity poor systems and integrated farmers of biodiversity rich farming systems in a changing social and biological environment. Long conceptualises knowledge - in this case on agrobiodiversity management - as a social process of constant negotiations, in which actors apply interpretations and strategies, which are interlocked through processes of negotiation and accommodation. This actor-oriented perspective includes the acceptance of “multiple realities” and diverse social practices. The social worlds can differ to a great extent and are often incompatible. Development is conceptualised as the struggle between different social interests and the intersection of life-worlds.

Interfaces in a study on agrobiodiversity management and gender relations appear during encounters with monocultures and biodiversity poor, but commercially rich farming systems and play a role when alternatives are incorporated into routines, thereby subjecting those routines to change. Interfaces are a metaphor for the places where knowledge about identity and the world is contested and altered. All elements of concern – management knowledge, gendered actors and negotiations over property rights and governance structures– can be integrated into this concept. Merging the sociological perspective with the institutional approach allows to overcome altruistic and reductionist assumptions on the household (Waller and Jennings 1990) and to differentiate the process of negotiation on the grounds of power, property rights and co-ordination.

Conceptual framework for institutional and gender analysis

To analyse the link between agrobiodiversity management and gender issues, the interaction between the environment and the institutions of agrobiodiversity co-ordination have to be considered for their relevance to men and women. To grasp the human handling of nature, we need to take into account the care economy of re/production, to account for women's non marketable transaction and maintenance work. The differences of people handling agrobiodiversity are not only determined by resources, information and knowledge, values and beliefs, but very much shaped by the social construction of nature and gender, thereby influencing possible options respectively denying options of action. Institutions of agrobiodiversity co-ordination may limit women's stake through different property rights in biodiversity management or grant them access through common pool resources or titles. With the advent of national legislation in the realm of the Biological Diversity Act and Farmer's Rights in India, the questions of women's involvement in formalised governance structures has to be asked once more aloud.

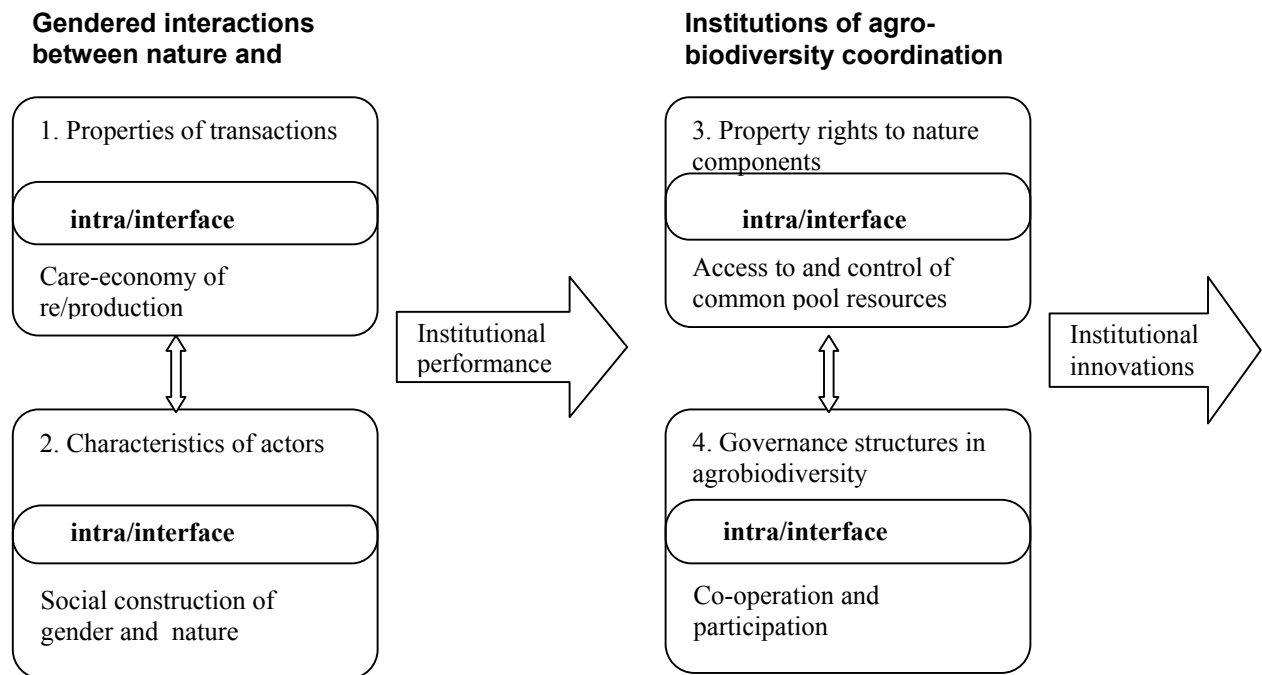


Figure 1.: Conceptual framework for institutional and gender analysis

Women's responsibilities and knowledge in biodiversity management is widely documented (Almekinders 2001), as is their variation amongst contexts and cultures. What emerges as the common trait of reading women's contribution to agrobiodiversity management is the fact, that

most of the selection, storing, pruning, tending etc are not considered an activity in its own right, but rather as an extension of women's reproductive cores. What is actually an intellectual and manual tasks, becomes invisible, when transactions take place away from the market in the realm of another reproductive tasks. Especially in the case of landless daily wage labourers on somebody else's field, the tacit knowledge women apply to their work does not appear as an additional value added to a specific site, but is considered as an extension of "women's nature". The misconceptualisation of women's work as their essentialist character and not as a part of labour is still a powerful tool to dilute women's contributions and respective claims. Productive tasks and reproductive tasks are necessarily interlinked and constitute a care-economy.

Elson (1998) criticises the elimination of the household-economy - which reads women's unpaid reproductive work - from macroeconomic models. She proposes the integration of the care-economy - which encompasses the management of agrobiodiversity as well - to stress the importance of gender relations for the economy. Markets and their functional logic are understood as social institutions, which determine economic behaviour through social norms and power relations. Care economy is an integral part of the political economy, focusing on the economic and social contribution of women. Beside the private and public economic sectors, Elson integrates the "home-work" and the value NGOs generate into the net-product cycle. The interdependence between the productive and the reproductive sector is described by these interconnected streams and their embeddedness. It is the reproductive economy, which is taken for granted by classical economic analyses, without realising the interfaces and integration. The subsidy of the formal sector through the informal one has to come into the picture as a relationship. The interconnection and the thus created values of social capital, security and complementarily contribute immensely to the sustainability of economic processes (Padmanabhan 2003:62).

Considering the importance of the care-economy for provision of agrobiodiversity, it is important to have a close look at the gendered actors and their characteristics, who handle the plants in the ecosystem. What are the restrictions for men and women acting according to caste, class, community, occupation, religion, ethnicity or geography to take part in influencing the agrobiodiversity co-ordination? Power relations not only differ between actor groups, but within. Bargaining power and access to information as well as voice differ greatly between men and

women. Decisions made on the crop rotation or species selection by men may very much influence women's food security and fall back position. The social construction of nature and gender are important ideological devices to continue with asymmetries in decision making.

The direction of an analysis of collective action and possible institutional innovation in biodiversity management, is illustrated by the case of Wayanad, a biodiversity rich district in South India. After describing the general situation, four sketches on specific management situations are presented to demonstrate the variety of issues with a gender perspective and point to problem areas and open question.

The Case Wayanad - The land of paddy fields

The hilly district of Wayanad is considered as one of the richest "hot spots" in biodiversity in India (Rengalakshmi 2002). Relevant transactions occur around the cultivation of paddy landraces, some with medical value, which are threatened by the cultivation of banana and arecanut plantations, while the forests is replaced by tea and coffee estates. The actors are of diverse tribal population, small scale farmers, agriculture and forest departments and NGOs promoting the value of biodiversity. Among property rights, land inheritance is a crucial factor that influences the decision-making capacity of women (Agrarwal 1994). Governance structures are specific as they allow *de jure* the representation of women in the institutions established through the Protection of Plant Varieties Bill 2001 (MSSRF/FAO 2002), but are to be established *de facto*.

The district Wayanad in the South-Indian State of Kerala is nested admits the majestic mountains of the Western Ghats at the height of 700 to 2100 m above seas level. The landscape is distinct because of its deep valleys, leading to a multitude of climatically and ecological conditions. Until 150 years ago, the rich forests have only been populated by tribals or Adivasis due to the severe danger of malaria infections Wayanad used to be very remote and inaccessible. With means to fight the parasite, people from the plains moved into the region to earn their living as small scale farmers. Still their descendants are called "settlers". There has been a recent shift to high intensive cash crop agriculture that has simplified the heterogeneity of the landscape to a significant extent resulting in the loss of its flora and fauna (MSSRF 2001:6).

Agriculture is the main stake of the districts economy and the rich cash crop plantations of pepper, cardamom, coffee, tea, spices have made Wayanad one of the biggest foreign exchange earners in Kerala. Paddy used to be the dominant crop in the area, some varieties with medical and dietician value, but its area of cultivation has reduced to mere 15% (Girigian 2003). A good road system, high literacy rate, politically articulate population and strong unions frame the conditions for the management of agrobiodiversity. With about 7% of Keralas population working as migrants in the Emirates and transferring income home, the labour wage has increased. The trend of turning multifunctional paddy field into monoculture banana plantations has economic, cultural and ecological consequences. The extend of the loss of agrobiodiversity is accelerating and accompanied by diminishing food security. Because of its natural scenery, the promotion of ecotourism is envisaged in the hilly region of Wayanad, which will induce social change.

From the problem situations in the field concerning agrobiodiversity coordination in Wayanad, four sketches highlight the specificity of the interaction between the plant genetic resources and their managers, as well as the institutional set up. The management of agrobiodiversity can be observed in the case of wild food, medical plants, multifunctional farms and organic farms. The sketches present the problem situation, describe the actors, their property rights and governance structure. The very different cases highlight aspects like access rights, decision-making capacity, land rights and collective action.

Sketches in Agrobiodiversity Management				
	Properties of transaction	Actors	Property rights	Governance structures
1. Wild food	Collection of wild food, management and knowledge of wild species	Kattunaiaka Hunters and gatherers	Commons forest and formerly interior forest	Headman no seat in Panchayat
2. Medical herbs	Collection and cultivation of medical plants	Women self help groups	Own home garden and commons	Marketing limited due to certification
3. Multifunctional farms	Paddy field system including water harvesting	Kurichias Matrilinear	joint family holding family plot spouses plot	Tendency to nuclear family

4. Organic farms	Integrated agriculture	Wayanadan Chettis Small scale farmers	own land (less 1 a)	Farmers group looking for certification
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Figure 2: Sketches in Agrobiodiversity Management

Case 1:Collecting Wild Food

In Wayanad 17% of the population belong to the Adivasis or tribal communities. The Kattunaikka tribe are traditional gatherers of wild food in the forests. With their ethnobotanic knowledge they can identified and collect more than 120 wild food specimen (MRSSF 2003A). With their knowledge on wild species and their collection activities, they manage this knowledge and its genetic resources, which only now is being documented. The Kattuaikka people have been surviving as gathers and hunters in small groups of 25 families in the forests, lead by a headman and his wife in a egalitarian set-up. The women enjoy a rather equal status because of their crucial position in supplying for the family. Other tribals like the Paniyan are mostly landless people working as wage labourers (MSSRF/FAO 2000). Due to the changing crops in the field to banana, women in the tribal communities can not any longer earn their living on the paddy fields, changing the relations and negotiations at the intrafaces.

With the advent of new environmental policies, the Kattunaikka people lost their customary right to roam the interior forests for game and special products of the forest. Their access right to the commons has been reduced dramatically. Their traditional livelihood has turned into a National park between the states of Tamil Nadu, Karnataka and Kerala. The right of access is in the hand of the forest departments and tribals are not allowed to cross the boarders, though traditional collecting and hunting grounds for seasonal items are cut off therefore. The politically very sensitive issue of property rights and access to the commons especially for marginalised groups like the Kattunaikka tribal people in an environment of corporate tea, coffee- and spice plantations has tipped of a discussion on reclaiming the ancestors land. Fact is that changes in forest policy deny tribals the right of access to the forest interiors. Forest officers confiscate hunting and fishing gear, while settlers who hold landtitles are allowed to hunt. Consequently the Kattunaikka tribe is starving, because game is missing from their diet. They still collect fruits and honey, but meanwhile for societies, which have the right of access and function as middlemen. Their livelihood is endangered by protection and conservation policy, while their conservation practice and knowledge is not valued and recognised. Being a minority among the tribal

population itself, with a low internal organisation and no outside representation, since they are too small in number to become eligible for a seat in the local panchayat, governance structures are weak and the Kattunaikka remain voiceless. With threatened food security, the danger of losing this remaining knowledge seems eminent. Interfaces appear where the livelihood strategies of the Kattunaikka collide with environmental policies and their enforcers.

In this institutional environment Kattunaikka have lost their access and use rights to new conservation regulations of the Forest departments and their restriction on common access in the name of environmental protection. The Environmental policy has turned against the traditional managers of the forests.

Case 2: Processing Medical Herbs

The common feature of all Kerala houses is the close-by homegarden. Whether the household is engaged in agriculture (though more than 85% of the district Wayanad actually are) or people follow occupations as employees, each and every house features a homestead-garden. People grow vegetables for home consumption, run nurseries or grow spices. This unique garden is an important access to land for women. They can entertain usufruct rights in these gardens and represent an important link of exchange in terms of samplings and plant material. The existence of the homegarden and the women's access and to a far extent control over it, were the precondition for management of medical herbs by a Women Self Help Group. Initiated by an NGO, women of diverse ethnic or religious background met, to start the collecting, cultivating and processing of local medical plants for ayurvedic medicines. The women invested into learning local recipes from a traditional healer, collected medicinal plants and cultivated herbs to produce ointments and herbal medicine, thereby utilising and marketing the local biodiversity. 200 Women from rural backgrounds joined this scheme..

The access to the homegarden was the precondition to utilise and revitalise "grandmas" knowledge, together with advice from a traditional healer (Swami), who passed on knowledge on plants and their medical value. The work with medical plants rests on two feet: Women collect the plants in the commons, where the knowledge on their value gets lost, and cultivate them in their homegardens. As long as the production is for the community level, no problems have been encountered with a lack of supply. Rather the marketing proves to be a problem. While the

internal governance structure with equal sharing of profits, good bookkeeping and conflict management works to everybody's satisfaction, the co-operative faces difficulties with expansion and up-grading of the business. The "Bio-health" Self-Help-Groups strength comes from its well organised collective action among an all women group with social heterogeneity. The question whether a strategic co-operation with other groups for example in an NGO network is currently discussed. It is a very crucial issue in the debate on equal benefit sharing, whether in the process of upgrading of activities men will join the group and on what terms. Is it important to form strategic alliances with knowledge holders and gain access to credit, without sacrificing the autonomy and control of the enterprise.

While the home-gardens act as an entry point into economical ventures, the question is whether existing institutions are able to secure the management of medical plants in the future. An interface appears, where the Women-Self-Help-Group has to secure usufruct rights in a longer run. The legal situation for women in the case of migrating men constitutes another interface. Interfaces arise, when the informal situation shifts into a formal set up and the women aim to reach legal security for their business through the institution of a co-operative.

Case 3: Preserving or conserving multifunctional farms?

The Kurichias are famous for their elaborate rice-farming systems and water management practice (Girigian 2003). "Such poverty-ridden custodians of genetic wealth are increasingly confronted with severe economic problems that are rendering the maintenance of their traditional conservation ethics difficult" (MSSRF/FAO 2000:8). Organised as a matrilineal joint family with 50 heads or more, they cultivate different local traditional rice varieties under the eldest husband, who acts as the headman. The joint family lives in a single house with separate rooms for the women, into which the husbands move. Seldom women ask for a separate plot on the family holding to build a house for their nuclear family. The "Pittan", the headman decides over the crops to be planted in the common fields. „Local landraces are still being maintained largely by the tribal poor. Beside the common fields, there are "private" ones for the spouses, which are held in the name of the wife and cultivated according to the gendered division of labour by husband and wife and up to the husband's decision. The headman insists on planting paddy in the common fields for food security (Anil Kumar et al 2003). Bananas used to be planted only at the fringes of

the irrigated field towards the forest and did not interfere with the paddy field, though the younger men considering the conversion from paddy fields to banana plantations.

The young men plant more and more commercial crops on the field meant for the couple. If they follow the pattern of 3 years of banana, followed by 1 year of tapioca and 2 more years of paddy, the rotation is still reversible. In the hot season there will still be crabs in the paddy fields for consumption, if the water tank and irrigation system are kept intact. Nevertheless, the division of labour changes drastically for the women, when it comes to banana cultivation. They have nothing to do in the whole process of banana cultivation, but instead lose their work on the paddy fields and the possibility to catch crabs and fish to increase food security. When paddy fields get converted to banana plantations, women are deprived of their job and their agricultural knowledge on local paddy varieties become redundant. Women would like to keep the paddyfields for employment, food security and to support their moral claims to surpluses. The Kurichia women have limited decision making power, though they hold the official land title and very mixed opinions about the changes from paddy into banana fields. While losing direct claims to food and direct food security, they gain indirect access via their husband to cash. In case, the banana plantation will be continued for longer time, the loss of soil texture and biotop is ultimate. The drainage changes the field and after 4 years only arecanut trees can be planted. Alongside with the paddyfields the elaborate waterstorage mechanisms get abandoned and the watercarrying capacity of the whole farming-system reduces drastically.

The joint family acts as an informal institution governing the use of the common land. Within this joint family system the rights of the women are kept by valuing the common food-security higher than individual short-term cash strategies. The viability of the joint family as a multifunctional farm with strong effects on equality among group members is questioned by the younger generation, especially the young men. With tempting possibilities of private cash crop fields, the joint family landholding is endangered to break up into private property, leaving the women with no work, food and support network. Still the headman is interested to keep hands occupied and mouths feed. To avoid a future disintegration, the strengthening of the joint family and its ecological functions for the management of agrobiodiversity requires strong institutions. The tendency towards the nuclear family is accompanied by a loss in biodiversity. As Hagedorn has put it “The family farm system could serve as an integrating institution also for the reinforcement

of jointness between commodities and non-commodities...” (2003:51). This strong plea in favour of a care-economy has to be accompanied by a analysis of the intrafaces between women and men farmers to understand the implication regarding equity.

The transition of paddy fields to banana plantation takes place in an environment of policy support by subsidises from the agricultural department. At the same time pesticides and herbicides like “round up” leak into the watertable and local drinking wells and cause environmental harm. Due to the reduced water carrying capacity of the landscape, landslides are increasing. Here an institutional failure in natural resource management can be observed and severe conflicts at interfaces arise.

Nevertheless, the potential for environmental and communal action is there. Beside numerous traditional actors maintaining diversity, we have to take into account the so called “settlers”, migrants from the plains of Kerala, who moved in the 50s-70s into Wayanad and brought their management practices of banana cultivation along with them. At this moment the Estates of corporate tea or coffee plantation do not come into the picture at all, though they might be important and powerful political players. In this scenario there are also Jains to be found, who immigrated from Karnataka in the beginning of last century and are known for their non-violent ethics, which guided them to pursue agriculture in a very holistic manner for example by shade grown coffee, leaving the regular forest canopy intact.

Case 4: Organic farms

While the case of the multifunctional farm run by the Kurichias poses an example of co-ordination within the institution joint family, other traditional agriculturists like the Wayanadan Chettis move towards collective action. 200 small scale farmers gathered to learn about organic farming, conducted by an NGO and the State Agricultural Department. Meeting with traditional farmers, traditional knowledge holders and local political leaders, they attended a one-day seminar on organic farming and used the opportunity to exchange experiences about low input agriculture. About one quarter of the attendants are women, who’s husbands are cultivating less than an acre. The women are eager to get involved in the conservation and development of the kind of diversity rich agriculture they are familiar with. Beside working on their husbands fields, daily wage labour is an important source of income to them.

The women have three objectives in getting involved into the formation of an organic farmers group. They want to collect information to improve and sustain their livelihood, secure the direction this development and have an equal share in the framing of the institutions managing the organic agricultural resources. Their interest in employment and food is supported when joining their husbands in the endeavour to apply for certification for organic farming. Their involvement in the foundation of an organic farm co-operative is closely linked to the recognition of these women farmers as managers, preservers and knowledge holders in low input agriculture. Women get actively involved at the intrafaces in their farming household to engage in encounters at the interfaces of collective action. The founding of a farmers group to organise collective action for organic farming is the first step to institutionalise the care-economy of agrobiodiversity.

Crafting diverse governance structures

The Biodiversity Act (2002) and the “Protection of Plant Varieties and Farmer’s Rights”(PPVFR) Act 2001 frame the legal situation and the governance structure for many issues relevant for the management of agrobiodiversity. The Government of India is currently working on the implementation rules related to these acts (MSSRF 2003A). The understanding of the term “farmer” and “community” are very central to the impact these rules and regulations may have on conservation efforts in the respect to gender equality.

It has been clearly stated in the Farmer’s Rights Act, that not the holding of a landtitle, but the managing and handling of the cultivation turns someone into a farmer to make him or her eligible for possible benefit streams. This includes all farmers with insecure property rights to land and puts management aspects at the centre. Beside the definition of the farmer is “community” a key issue in the National Biodiversity Act. Not only is the National Biodiversity Authority able to act on behalf of the community, but who belongs to “the” community in the first place? How to define the community will decide over future possible benefit streams. The term community is very tempting to blur hierarchies and inequalities under the coat of community and needs to be treated carefully. The very same applies to heritage sites, which could be sacred groves or other places of high diversity. With focus on conservation, the sites are considered as something separate from the people, who have cared and maintained these very sites. By excluding the

former guardians from the site, the protected turns against the ones who have managed the site so far. Heritage can not be viewed without the culture and lifestyle of people (MSSRF 2003A: 23).

For better local conservation of genetic resources, women need to be represented and vested with property rights and actively endowed with decision-making power in terms of managing organic agriculture. Women shall be included as spouses or inheritors in case of widowhood. And where low barrier legal aid is missing, there arises the need for barefoot lawyers to claim and make their voice heard. The need for legal literacy arises and with stakeholder capability to understand the law and use it for ones advantage legislation starts working (Bala Ravi, Padmanabhan 2003:48). Women farmers, their knowledge and respective needs have to be considered in their own right. Society has failed to understand marriage as an economic partnership, in this context domestic work is not recognised as productive work and asset holdings are disproportionate. Still women's claims on succession rights depend on the existing inheritance laws, the social legitimacy of here claim, her educational status and legal literacy, her access to the administration and her alternatives of survival outside the support system provided by competing claimants (Parthasarathy 2003: 52).

With promising institutional innovations underway to co-ordinate agrobiodiversity, the question arises which of the rules and regulation are more effective and equal. An interesting line of pursuit is whether women are able to voice their concerns better in groups of mixed or the same gender and finally execute their interests in agricultural decision making. The claim, that heterogeneity in a group can be overcome by good institutional design (Varughese, Ostrom 2001) is a challenge in the case of groups of mixed gender.

These four sketches on agrobiodiversity management through wild food and medical herb collection, multifunctional and organic farms, point to the importance of property rights and decision making power of women farmers. There is not only a demand to develop governance structures to co-ordinate the maintenance and utilisation of agrobiodiversity, but a need to involve women actors into these very structures. Women are players in the field and they might not only be good team players, but a winning team, if the rules of the game would considered them as equal partners.

Successful policy design must be able to create an enabling environment and to allow for the formulation of interest within a larger group. The beginnings of organic farming in Wayanad can be understood as the process of political negotiation and the formation of pressure groups. The consequence for local level conservation is: Social diversity in the co-ordination of agrobiodiversity is a precondition for biological diversity.

References

- Agrarwal, B. (1994) *A Field of one's own. Gender and land rights in South Asia*. Cambridge: Cambridge South Asian Studies.
- Almekinders, C. (2001) *Management of Crop Genetic Diversity at Community Level*. GTZ. Eschborn.
- Anil Kumar, N.; Girigan, G.; Nambi, V Arivudai (2003) *Vayals (paddy fields) in Wayanad, Kerala: Traditional Classification of Agricultural Landscapes*. Unpublished paper .
- Bala Ravi, S.; Padmanabhan, S. (2003) *Protection of Plant Varieties and Farmers Right's Act: What are Farmer's Rights and Why are they important*, p 39-48, in: MSSRF (2003) *Farmer's Rights and Biodiversity: A Gender and Community Perspective*. Chennai.
- Bellon, M.R. (1996) *The Dynamics of Crop Intraspecific Diversity: A Conceptual Framework at the Farmer Level*. *Economic Botany* 50(1) 26-39.
- Bennholdt-Thomsen, V. and M. Mies (1999) *The Subsistence Perspective: Beyond the Globalized Economy*. Zed Books. London.
- Biesecker, A., M. Mathes, S. Schön and B. Scurell (2000) *Vorsorgendes Wirtschaften. Auf dem Weg zu einer Ökonomie des Guten Lebens*. Kleine. Bielefeld.
- Birner, R. and H. Gunaweera (2002) *Between Market Failure, Policy Failure, and "Community Failure": Crop-Livestock Conflicts and Technology Adoption in Sri Lanka*. In Meinzen-Dick, R., A. Know, F. Place and B. Swallow (ed) *Innovation in Natural Resource Management. The Role of Property Rights and Collective Action in Developing Countries*. The John Hopkins University Press. Baltimore. 186-206.
- Convention on Biological Diversity (CBD) (2001) *Global Biodiversity Outlook*. [www.biodiv.org/gbo/ chap-06.asp](http://www.biodiv.org/gbo/chap-06.asp)
- Convention on Biological Diversity (CBD) (2003) *Sustaining Life on Earth*. www.biodiv.org/doc/publications/guide.asp?id=web
- Girigian, G (2003) *Gender Dimensions in Household Food Security. A Case study of Kuruchias of Wayanad*. Unpublished paper.
- GTZ (2002) *The Convention on Biological Diversity: Ensuring Gender-Sensitive Implementation*. Gesellschaft für Technische Zusammenarbeit. Eschborn.
- Hagedorn, K., K. Arzt and U. Peters (2002) *Institutional Arrangements for Environmental Co-operatives: A Conceptual Framework*. In K. Hagedorn (ed) *Environmental Co-operation and Institutional Change*. Edward Elgar. Glos. 3-25.
- Hagedorn K. (2003) *Rethinking the theory of agricultural change in an institution of sustainability perspective*. In: G. Vanhuylbroeck, W.Verbeke, L.Lauwers, Ivanslembrouck, M.D'Haese (eds) *Importance of Policies and Institutions for Agriculture*. Gent: Academia Press.
- Howard-Borjas, P. (2001) *Women in local plant genetic resource management and conservation*. *Upward fieldnotes*. 10:1-5, 36-40.
- Kumar-Range, S. (2001) *Like Paddy in Rock. Local Institutions and Gender Roles in Kolli Hills*. M.S. Swaminathan Foundation. Chennai.
- Lachenmann, G. (2001) *Geschlechtsspezifische Einbettung der Wirtschaft*. In G. Lachenmann and P. Dannecker (ed) *Die geschlechtsspezifische Einbettung der Ökonomie*. LIT. Münster. 15-36.
- Long, N. (2001) *Development sociology. Actor perspectives*. Routledge. London.
- Long, N (1993) *An actor-oriented paradigm*. 3-43. Conclusion .268-277 in Long, N. Long, Ann (eds) *Battlefield of Knowledge. The interlocking of theory and practice in social research and development*. London: Routledge.
- McKean, M.A. (2000) *Common Property: What Is It, What Is It Good for, and What Makes It Work?* In C.C. Gibson, M.A. McKean and E. Ostrom (ed) *People and Forests. Communities, Institutions, and Governance*. MIT. Chicago. 27-56.
- Meinzen-Dick, Ruth; Brown, Lynn; Feldstein, Hilary S.; Quisumbing, Agnes R. (1997) *Gender, Property Rights, and Natural Resources*. FCND Discussion Paper 29. IFPRI. Washington.
- MSSRF (2001) *Agrobiodiversity Crops: Catalysts of a Community Agrobiodiversity Movement*.

- MSSRF (2003) A Study on Ethnobotany and Gender Dimensions of Wild Food Management in Wayanad, Kerala.
- MSSRF (2003) Farmer's Rights and Biodiversity: A Gender and Community Perspective. Chennai
- MSSRF/FAO (2000) Gender Dimensions in Biodiversity Management And Food Security: Policy and Programme Strategies for Asia.
- MSSRF/FAO (2002) Implementing Farmer's Rights for Conservation and Utilisation of Plant Genetic Resources in the Asia-Pacific Region: From Legislation to Action. MSSRF-FAO Expert Consultation. MSSRF. Chennai
- Nussbaum, M. (2000) Women and Human Development. The Capabilities Approach. Cambridge University Press. Cambridge.
- Ostrom, E. (1994) Institutional Analysis and Common-Pool Resources. In Ostrom, E., R. Gardner and J. Walker (ed) Rules, Games, and Common-Pool Resources. The University of Michigan Press. Ann Arbor. 23-50.
- Padmanabhan, M.A. (2002) Trying to Grow. Gender Relations and Agricultural Innovations in Northern Ghana. Lit. Münster.
- Padmanabhan, M.A. (2003) Frauenökonomie und Vorsorgendes Wirtschaften. Konzepte zur geschlechtsspezifischen Analyse ökonomischen Handelns. In Zeitschrift für Wirtschafts- und Unternehmensethik. 4(1) 56-66.
- Parthasarathy, Mahalakshmi (2003) A Gendered Critique of the Plant Varieties Protection and Farmers' Right Act, Draft Rules and Related Legislation. P. 49-54, in: MSSRF (2003) Farmer's Rights and Biodiversity: A Gender and Community Perspective. Chennai.
- Rengalakshmi, R. (2002) Rural and Tribal Women in Agrobiodiversity Conservation. An Indian case study. 8. Bangkok, FAO Regional Office for Asia and the Pacific/ M.S. Swaminathan Research Foundation. RAP Publications. Bangkok.
- Sen, A. (1999) Inequality Reexamined. Oxford University Press. New Delhi.
- Shiva, V. (1989) Staying alive. Women, Ecology and Development. Zed Books. London.
- Swaminathan, M.S. (1998) Gender Dimensions in Biodiversity Management. Konark Publishers. Delhi.
- Varughese, George; Ostrom, Elinor (2001) The Contested Role of Heterogeneity in Collective Action: Some Evidence from Community Forestry in Nepal. World Development 29(5) 747-765
- Waller, W. and A. Jennings. (1990) On the Possibility of a Feminist Economics: The Convergence of Institutional and Feminist Methodology. Journal of Economic Issues . 24 (2) 613-622.