Non-Timber Forest Products
Livelihoods and Conservation

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This paper attempts an exploration of synergistic opportunities for livelihoods and conservation connected with non-timber forest products in view of the increasing demand for these resources in the local, regional and international markets. It also discusses the evolution of the management of such products on a broader scale in terms of policies and institutional arrangements and the dilemmas, challenges and complexities associated with the resource along with potential strategies to overcome them. An analysis of existing, relevant literature, with examples drawn from parts of the developing world along with experiences from India has been presented. Using the specific case of the wild harvested medicinal plant sector in Kerala, certification as a potential strategy to achieve a win-win scenario is hypothesised. Lessons gathered from studies reporting successful implementation of non-timber forest products certification are provided along with research gaps and future directions.

Forest resources have always been an important part of subsistence as well as livelihoods for forest dwellers and rural communities. Evidently the positive outcomes in terms of livelihoods and conservation connected with non-timber forest products (NTFPs) remain elusive (Cunningham 2011; Fagerberg et al 2007; Gubbi and MacMillan 2008) and as remedies, new policies and institutional arrangements are being recommended (Campbell et al 2002). However, there is increasing scepticism linked to these arrangements thus raising the question of whether the scope for synergistic opportunities exists. Since the original discussion on this more than a decade ago by Wunder (2001), this paper attempts to re-examine and re-explore it mainly from a NTFP markets and trade perspective through a review of relevant literature. This question continues to be pertinent due to the increasing market demand for wild harvested NTFPs, especially medicinal plants (MP) catering to a growing alternative medicine industry (e.g., ayurveda) with tremendous economic potential for both primary and secondary stakeholders embedded within the MP supply chain. Simultaneously harvest pressures are escalating conservation concerns as well. In this context, the paper discusses how natural resource management paradigms evolved, the corresponding institutional changes, the challenges encountered and new emerging ideas.

The discussion begins at a broader scale, looking at natural resource management and the shift in focus from timber to non-timber, change in paradigm from centralised to decentralised management, and the corresponding policy changes. It then narrows down to discussions on the dilemmas encountered in the context of NTFPs, its sociocultural and political dimensions, suggestions for a new “middle ground” approach (Sills et al 2011) to overcome failures linked with NTFPs and new strategies such as certification that can potentially incorporate the key aspects prescribed within the “middle ground” approach. The paper is largely written from an Indian context, but key lessons are also drawn from a global context where relevant. The discussion narrows down to the state level, with a focus on Kerala, and the wild harvested MP sector. Certification as a strategy to improve the challenges facing the sector is hypothesised and suggestions or lessons learnt from previous experiences on NTFP certification from other parts of the developing world are listed. Ongoing as well as future research needs are also identified.
Natural Resource Management: Timber to Non-Timber

Historically, communities have always been using and extracting resources from the forests based on indigenous/traditional management practices such as slash and burn agriculture, grazing, fires and sacred groves to ensure continued availability of diverse resources. Following colonisation and post-colonisation, the states attempted to restrict the use of these resources by the communities mainly through establishment of protected areas, the argument being “humans would destabilise forest ecosystems by their unsustainable and destructive use” (Saberwal et al 2001). This was the case with India as well as many other parts of the resource rich developing world. For example, after Cameroon became a republic, all vacant lands were declared state lands (Laird et al 2010b) and in Bolivia, poor guidance and regulations by the state led to claims of large tracts of forestlands by immigrant, non-indigenous groups during the rubber boom period, further marginalising and excluding the indigenous communities (Cronkleton and Pacheco 2010). Eventually, efforts to reinstate inclusive arrangements were pursued and succeeded by the users and their advocates (Gadgil and Guha 1992; Pimbert and Pretty 1995). Following this there was recognition of other forest products, services and ecosystem management emerged as the new paradigm (Salwasser et al 1993), and emphasis moved from only timber to include non-timber as well.

New strategies emphasising a participatory approach were initiated. This led to a series of scholarly works on participation in natural resource management including the role of local institutions, property rights, the nature of power relations between the state and the local institutions, between the rich and the poor resource users, the heterogeneous nature of communities and the multiple stakeholder rights over resources and corresponding challenges (Borrini-Feyerabend and Taransowski 2005; Ostrom 1990, 1999; Agrawal and Gibson 1999; Li 2002; Ribot, Agrawal and Larson 2006). There were corresponding shifts in policy as well.

For example, in India, the National Forest Policy was amended in 1988 (Lele et al 2010) followed by the establishment of joint forest management in the 1990s (Gadgil 2001). Community-based natural resource management (CBNRM) became the new paradigm and role of communities in resource management was recognised (Agrawal and Gibson 2001; Agrawal 2005) along with the market potential of biodiversity, capitalising on indigenous knowledge. Later, with the increasing market demand for biological resources, when issues with equity, fairness and biopiracy became apparent (Rausser 2000), India responded by ratifying the Convention on Biological Diversity (CBD) in 1992 (UN Report 1997) and the Biodiversity Act was implemented in 2002 (Enviro News 2003; Vasan 2005). However, even with NTFPs, priority over high value resources remained with the state (Lele et al 2010: 107). More recently, in response to indigenous rights to property and access, the Forest Rights Act 2006, was implemented (mofa) and is an ongoing activity. Similar policy changes were simultaneously taking place in other parts of the world as well in post-Suharto Indonesia, the Philippines through the Certificate of Ancestral Domain (Li 2002) and in Brazil through the establishment of extractive reserves (Klüppel et al 2010).

In conjunction with these new policy trends, a number of institutional arrangements linking the NTFPs, conservation and development were being experimented with and reported upon. Salafsky and Wollenberg (2000) called it the “linked incentive mechanism” that emphasised the commercial use of forest resources not restricted to buffer zones with greater devolution of power to local users to use and manage the resources; the argument being that this would not only improve income and push people out of poverty but also act as an incentive to conserve resource and use it sustainably (Nepstad and Schwartzman 1992; Durst et al 2005; Salafsky and Wollenberg 2000; Rangarajan and Shahabuddin 2006; Laird et al 2010a). In this context, although the cooperative market arrangements and institutions for decentralised governance were established, in practice various dilemmas were encountered.

Associated Dilemmas

It was the groundbreaking work of Peters et al in 1989 that originally brought the NTFPs into the limelight, its role in achieving livelihood and conservation goals mainly by linking it to markets. Salafsky and Wollenberg (2000: 1435) tried to assess the effectiveness of this “linked incentive mechanism” and their study concluded that “NTFPs have weak linkages”. There are studies that have illustrated the complex nature of the NTFPs, and the challenge in quantifying its true value to the local users (Godoy et al 2000; Sheil and Wunder 2002). Even the more recent studies looking at the potential of the NTFPs to meet livelihood and conservation goals indicate challenges (Shackleton et al 2011; Sunderland et al 2011), raising the question as to why despite new incentive-oriented mechanisms, there is a continued state of degradation of forests and increasing poverty. Some arguments suggest that the NTFPs can support rural livelihoods only if alternative options are not available (Gubbi and MacMillan 2008) and/or when market access and basic infrastructure are missing (Sunderland et al 2011). A study on forest resource value conducted in sub-Saharan Africa by Lucrezia Tincani (in Shackleton et al 2011a:74) illustrates why “incentive” based mechanisms using the NTFPs fail, as non-tangible costs such as opportunity costs and transaction costs are absent from the equation. In addition, the NTFPs have subsistence value, protecting communities from extreme poverty along with cultural values thus affirming the complex and multi-use values associated with the NTFPs (Sheil and Wunder 2002).

Last but not the least, from a conservation perspective, continued harvesting of the NTFPs, and especially on a long-term basis is not feasible as it may cause depletion (Ticktin 2004) unless the scale of monitoring and enforcement is manageable and effective. There are evidences that show how intensive harvesting of the NTFPs has increased loss of biodiversity and forest cover as in the case of India (Gadgil and Rao 1994; Shanker et al 1998; Shahabuddin and Prasad 2004; Arjunan et al 2006). Also, changing lifestyle trends, with a greater
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demand for the NTFPs that has changed the “traditional economic characterisation” of NTFPs (Shanley et al 2008c) and, due to poorly evolved co-management structures (Rai 2007) and oversimplification (Li 2002) or as Ostrom (1999) calls it “single prescription policies” have had negative effects on the conservation of these resources. These dilemmas become more complex when the social, cultural and political contexts that these resources are embedded in are considered.

Sociocultural and Political Dimensions
Studies by Borrini-Feyerabend and Tarnowski 2005; Ostrom 1990, 1999; Agrawal 1998; Li 2002; Ribot et al 2006; Dove 1993 have all highlighted how sociopolitical constraints restrict the marginalised communities from achieving optimal returns despite various “participatory” arrangements. Dove (1993: 21) says:

Forest people are impoverished by the degradation of the resources by external actors. Instead, due to their proximity to the resources they are often blamed and as they lack the political capital they find it hard to refute these charges.

Consequently, benefits from market arrangements never trickle down to the primary harvesters, increasing pessimism manifested in the form of boom-bust cycles and poverty traps. Studies have also emphasised the sociocultural significance of these resources (Posey 1999). As remedy, a “middle ground” approach is suggested (Sills et al 2011) where the importance of (i) the centrality of culture; (ii) role of local and regional markets; (iii) value of diversity in itself; and (iv) greater inclusiveness in resource management is stressed.

The ‘Middle Ground’
The previous discussions all indicate the complexities associated with the NTFPs with stakeholder consultation and decentralised management limited to rhetoric. What can be inferred from these discussions is absence of participation and a clear departure from some of the recommended conditions for the “middle ground”. To begin with, the cultural importance of the NTFPs is often given enough weightage despite its significance. For example, traditional ecological knowledge (TEK) and the usefulness of combining it with scientific knowledge to develop effective management plans has been suggested (Posey 1999; Ticktin 2004). Next is the neglect shown in developing the local and regional markets where cost of entry, risk and barriers are low (Shanley et al 2002) when compared to international markets. A good example is the ayurvedic medicine industry in Kerala, which will be discussed later in some detail. Also the importance of tapping into the diversified value of the NTFPs, not only as cash source but also its subsistence value is not emphasised. Diversity is a significant quality from a socio-economic-ecological perspective where shifting from a single NTFP to a suite of species can act as a “safety net” from unexpected setbacks (Neumann and Hirsch 2000; Marshall et al 2006). Finally, a greater inclusiveness in managing these resources is important. Local users who have been traditionally managing them must be consulted “integrating production with social arrangements” that makes access and regulations easy (Michon 2005). However, this is often missing and examples of weak integration and its repercussions are illustrated through case studies across the Western Ghats, and particularly in Kerala and Karnataka (Lele et al 2010: 102-06) (also Amruth et al 2007).

The challenge is in identifying strategies that incorporate this “middle ground” to realise a win-win situation. One such strategy that seems to fit the bill is certification of the NTFPs with some amount of success reported from countries in Latin America and Africa; successful attempts include certification of the natural Chicle harvest in Mexico, the Brazil nut and Palm hearts in Bolivia and the Palm hearts in Brazil (Shanley et al 2008a).

Certification: Opportunities and Challenges
In the 1990s, in response to issues involving the over extraction of forest resources particularly timber, “sustained yield forestry” gained importance followed by the recognition of other forest products. A number of principles and guidelines have emerged over the past decade to ensure sustainable harvest and use of these forest products which came to be known as the certification guidelines with the common goals of maintaining ecological integrity; social equity; and economic viability (Pierce 2008). The three established ones are (i) Forest Stewardship Council (FSC); (ii) International Federation of Organic Agriculture Movement (IFOAM); and (3) Fair-trade Labelling Organisation (FLO). Although originally intended for timber, organic products and improving trade conditions respectively, they were later extended to include the NTFPs (Pierce 2008; Erwin and Mallet 2008). Certification is expected to benefit markets for value added products with a potential for niche markets. The advantage the NTFPs have is the opportunity for diversified markets considering the variety of products available and for tapping into existing markets as well. The challenge lies with the associated cost and with the three levels of certification possible, namely, self; second party; and independent, third party certification, with the cost increasing respectively. Considering the economic and political vulnerability of the primary stakeholders, the added burden of costs of certification renders itself a challenge rather than an opportunity. Options to address this are being explored, as demonstrated by Chicle in Mexico gaining all three certification by partnering with a private company catering to green market consumers, which is a growing market segment (Guillén 2008). Attempts to develop common principles and standards exclusively for the NTFPs, that address its socio-economic and ecological dimensions necessary for sustainability and simplifying the certification process for ease of implementation and reduce cost for primary collectors are being made. Simultaneously its potential is being explored in other parts of the developing world such as India.

Scope for Certification in India
In India, the NTFPs are integral to the livelihoods as well as for subsistence use by communities near or in the forests, broadly referred to as the “forest-dwelling tribal communities” (Lele et al 2010: 87) and a significant source of revenue to the state.
government as well (Tewari and Campbell 1995; Mitchell et al 2003; MOEF 2001). The commercial value of the NTFPs in India is currently estimated at an average of $11 billion but the NTFP trade distortions and poor marketing account for 70% average loss in returns to these communities (Choudhury 2007). Medicinal plants are NTFPs that are of particular importance to the rural poor, who harvest these from the wild to meet their primary healthcare needs as well as their livelihood needs. According to the World Health Organisation (WHO), 80% of the world’s population relies on traditional medicine for health and other needs and the value of MP-related trade in India is to the order of $5.5 billion and is growing rapidly (Aromatic and Herbal Plantations). Increasing market demand has affected the availability and quality of these resources, as well as livelihoods.

Experts claim that “certification standards can ridge the environmental, economic, and social pitfalls that have impeded the success of commercialisation efforts of NTFPs” (Wilsey and Hiderband 2010: 68). It is considered a “voluntary market tool that encourages ‘green consumerism’ by ensuring principles of sustainable forest management (SFM)” (Bhattacharya et al 2009: 1).

With this growing interest in NTFP certification, some preliminary attempts have been made in India. Marketing of wild honey from the Nilgiris Biosphere Range and the Western Ghats, sold with an “eco-mark”, called “PGS Wild”, based on the principles of the Participatory Guarantee System (Nath 2010) drawing parallels to the Brazil nut production and quality assessment in Bolivia is an example of a successful attempt. These attempts are indeed very encouraging but how viable are these considering larger international markets that adhere to stricter quality standards and third party assessments (Ervin and Mallet 2008) remain to be explored? Such requirements may be too costly for small producers unless there is consumer demand and willingness to pay a premium price for the products. Recently a fully-fledged certification framework was brought out based on participatory approach, drawing on stakeholder feedbacks from four states in India (Bhattacharya et al 2008, 2009). However its feasibility when factoring in the local and regional markets, the existing policy and institutional arrangements which often differ across states, and stakeholder reactions and/or preferences remains to be explored. Finally, new strategies are viewed with scepticism mainly due to weak sociopolitical conditions such as lack of tenure security, elite capture, insufficient monitoring capacity, poor management capacity and poor organisation among users affecting effective management of these resources as previously seen in the case of India, Brazil or Cameroon. The following section briefly discusses this through a specific case from Kerala.

### A Kerala Perspective

The Kerala region of the south Western Ghats is rich in biodiversity with many species endemic to it. The forest dwelling communities of this region depend on the NTFP collection as a major source of livelihood; in fact 56% of their total income is from the NTFPs (Thomas 1996). One hundred and twenty items of the NTFPs, mainly MP are permitted to be collected from the forests by the tribal people and 96 species by tribal cooperatives. The largest consumer of the forest products is the state’s ayurvedic industry (Ramesh et al 2007; Menon 2003). Nearly 80% of the Indian traditional medicine industry is situated in Kerala with a predicted growth rate increase of 35% annually (Nath 2010; Samraj 2010). This poses a threat as well as an opportunity for sustainable NTFP extraction in south India, especially in Kerala.

Within the NTFP sector in Kerala, recent studies have pointed out the need for appropriate support policies; market research and analysis and efficient stock management strategies. The MP sector is best depicted as having three core scenarios: private sector dominance; market force dominance and a growing informal sector (Jayaraman and Anitha 2010). There is also concern about the gaps between the payment received by the collectors and the retail price of the commodities and the absence of a pricing policy does not help matters. The weakening of the formal economy and a growing dependency on the informal sector has resulted in unsustainable extraction of the resources affecting its environmental as well as social values. As a result availability and quality concerns are affecting the resource, its trade and ultimately the ayurvedic (industry) sector (Madhavan 2008). A need for identifying an alternative source for key medicinal plants, especially those that are vulnerable is felt, however the quality parameters and assessment standards appear vague and absent.

Based on experiences elsewhere in Mexico, Brazil and Bolivia as previously discussed, it is hypothesised that certification of the MP may prove to be an effective strategy to meet conservation and livelihood goals. However, there is also the realisation that for new strategies such as certification to be successful these are factors that must be looked at: (1) expert and detailed scientific knowledge on the resource is available; (2) demand for certified product exists; (3) external funding and other resource support is available for developing and monitoring certification guidelines; and (4) expanding markets are available for specific products (Shanley et al 2008b; Ross-Tonen and Kusters 2011). Also, in India there is a need to explore its feasibility on a state specific basis as state policies on forest resource access and use differs, along with stakeholder consultation (Agrawal 2005: 18) and how the cost of certification can be addressed (Bhattacharya et al 2009). Understanding the socio-economic implications is also emphasised (Agrawal 2005: 119) as they are often overlooked. In summary, reverting to the original question of synergistic possibilities and based on lessons learnt on the NTFP certification and other incentive based strategies in India and elsewhere, these are our suggestions for a win-win situation.

### 1. Management Plan for Single Species

Most studies report the lack of a management plan for the NTFPs as the reason for the over harvesting and increasing threat. With a clear and a well laid out management plan, sustainable harvests of resources can be maintained ensuring long-term benefits. A good example is the Mexico Chicle...
harvest where the management plan is integrated with timber and set by the government. The harvesting is however done in the traditional way with a fairly successful certification effort in place. Two key points are highlighted as important. These are the chain of custody and management and monitoring of the forests (Alcorn 2008). Another example is that of Brazil nuts in Bolivia where after many repeated attempts an acceptable standard for Brazil nut management was put in place. Certification efforts in the form of fair trade arrangements brought in some success due to direct linkages to local processors who had connections with the Europeans fair trade brokers. This direct, comparatively shorter value added chain brought in better returns to the harvesters/producers. A self-regulation mechanism (much like the Participatory Guarantee Scheme in India, see Nath 2010), to ensure quality and quantity standards not only ensures quality but is also cost-effective (Cronkleton and Pacheco 2010). On the flip side there are risks associated with focusing on a single species and hence diversification and prioritisation are recommended (Cunningham 2011; Ticktin and Shackleton 2011).

2 NTFP Management for Multiple Species

The NTFPs comprise multitude species, with varying ecological, social, cultural and economic functions and this can both be an advantage and a disadvantage. Multi-species dependency increases diverse economic opportunities, simultaneously reducing harvest pressures and also act as “safety nets” from unexpected set backs. However, designing management plans factoring in the diversity of species can be difficult. Limited information regarding its availability, spatial distribution and other ecological functions add to the challenge. Some suggest exempting the NTFPs that are of subsistence use only (Klüppel et al 2010). The role of TEK in developing sustainable management plans for the NTFPs is also highlighted (Ticktin and Shackleton 2011). The advantage of the TEK is that it factors in the ecological knowledge and the social institutions that govern these resources and these include taboos, legends, stories, customs, land tenure, rate, timing and location of harvest (Ticktin 2004). Even though the TEK may not be considered a sophisticated management plan, combining it with scientific research is suggested (Ticktin and Shackleton 2011: 161). Studies have also highlighted the cultural and social significance of the NTFPs.

All this may be of particular significance to Kerala due to the diversity of medicinal plant species harvested in the state to cater to the local ayurvedic industry. Many species that are key ingredients to specific, culturally significant ayurvedic formulations (e.g., dashamoola) with a growing market demand are in the vulnerable or endangered list. Substitution of species and as a result adulteration is a major problem facing the industry. The challenge however, for most forest communities is finding the resources to undertake these recommended activities.

3 Collective Action and Donor Support

The initial investment and continuous resource support needed for preparation of management plans, implement certification, carry out adaptive management, and ensure monitoring and enforcement is a difficult prospect. Suggestions include forming producer organisations (successful examples of these include the Mexican ejidatarios (Granich et al 2010), the tribal cooperatives in India like the LAMPS to some extent (Lele et al 2010), and the indigenous groups of Bolivia organising against the barraqueros (Cronkleton and Pacheco 2010). In fact the NTFP trade is more likely to be viable when producers (especially the small producers) are organised, good entrepreneurs participate women’s involvement is encouraged, there is transparency in the value chain (Schreckenberg et al 2006; de Velde et al 2006) and adaptive resource management is in place. The advantages of collective action are many. These include the economies of scale, where many producers can come together and meet the market demand rather than at an individual producer level and bringing the cost down as well in the process. Politically, there is the advantage of strength in numbers and thus an increased bargaining capacity (Agrawal 1998). The problem that is anticipated here is the heterogeneous nature of the groups involved and how the dynamics among the group members may influence various decisions (Agrawal and Gibson 1999: 638–39; Wunder 2001). However, studies also suggest that if groups are formed with a specific objective in mind, they are more likely to succeed (Agrawal 1998: Ch 3).

As much as local community cooperation is a must, facilitation from outside is also equally important. This may be through private partnership or government partnership or non-government partnership. Outside funding is vital along with donor support for local and national research, support for small producers and for efforts to increase consumer awareness. Funds and support are also needed to establish additional livelihood schemes so that the dependency on resource extraction is decreased (Wunder 2001; Gubbi and MacMillan 2008). This could be in the form of payment of ecosystem services (PES), where conservation goals are met and resource dependent communities are not made worse off (Chhatre and Agrawal 2009). Donor support for other welfare activities such as health, education and employment training and opportunities are also recommended. Last but not the least there is an increasing trend among corporate companies to support environmental and other socially relevant causes as part of “corporate social responsibility” (Shanley et al 2008a: 6). Non-governmental organisations (NGOs) and local producer organisations can play a significant role in tapping this resource.

4 Appropriate Policy Measures

No matter what plans are made or what new strategies are suggested, they would not work or be effective without having enabling policies in place. In the case of the NTFPs, formal policies are in fairly nascent stages with challenges encountered due to their complex nature. The overlap between statutory and customary laws was the most limiting factor. For example, in Camaroon (Laird et al 2010b: 56), customary laws were followed in terms of use of the NTFPs. When statutory rules were put in place, restricting the use or harvest of certain species, they were either ignored due to lack of awareness or because
they were considered “illegal” by the local communities. One reason for the confusion is that most of these policies are put in place and implemented without stakeholder participation. The needs of the local communities are rarely studied and even if they are, eventually those with stronger political clout or lobbying capacity have their way and invariably they are usually not the traditional, indigenous users. Therefore, it is recommended that before any rules are changed or created, active participation of stakeholders must be sought. The purpose of the participation can range from prioritising species of commercial importance to preparing management plans and formulating and implementing legislations that support them. In the case of first world countries such as British Columbia, traditional connections to the NTFPs is only limited to its use. The rest of the traditional knowledge is “lost due to acculturation” and yet stakeholder consultation is maintained (Mitchell et al 2010). But, in case of developing countries, resources continue to be socially as well as culturally linked and consultation and collaboration becomes all the more important yet is rarely practised. In India’s resource rich regions like Kerala, such participation and consultations appear to be absent (Amruth et al 2007) and this needs to be addressed.

5 Property Rights and Tenure

Policy arrangements incorporating property rights and tenure arrangements continue to evolve especially within the commons’ sector. Examples from India and Brazil all illustrate the importance of clear property rights and tenure arrangements regarding forest access and rights to harvest-specific resources. There is evidence (as in the case of Brazil nuts in parts of Bolivia, e.g. Acre) where clear rights have helped in sustainable management and use of the Brazil nut which is an important resource traded nationally and internationally and a source of high income to the locals. In regions which lack such arrangements and where government support is poor, the resource is subjected to unsustainable extraction and even theft. (Moss 2011). It is suggested that depending on the traditional access and use arrangements of these resources (or customary rules), statutory rules must be put in place such that feeling of ownership is felt which, in turn, will ensure better management, enforcement of rules and protection of resources, simultaneously maximising the benefits from trade. The recently passed Forest Rights Act (2006) in India indicates steps in the right direction but its implications on different stakeholders are still under scrutiny.

Alternative Source: Domestication and Cultivation

Attempts are being made to encourage cultivation or domestication of the NTFPs species of importance, especially those with high market demand. This is expected to ease harvest pressures on the forests and examples are agave in Mexico, or some of the medicinal plant species in India. The problems with this approach are varied. First of all cultivation would require additional land and other resources along with additional economic and physical burdens on the marginalised communities (Gubbi 2006). It may increase vulnerability to elite capture, and the chances of falling into a debt trap depending on its commercial value. There are also environmental effects associated with such land-use changes that include: deforestation, loss of diversity of species, ecosystem degradation and loss of genetic variability, and soil and water degradation and loss (Granich et al 2010). Last but not the least there are quality issues associated with the species, especially between the wild harvested and the cultivated substitutes. This is particularly important in the case of the medicinal plant species. Recently (May 2011) ayurvedic products have been banned in the European Union (EU) and all future trade will be permitted only after a licensed authorisation from the EU (Indian Express, 2011). These are clearly additional burdens on the primary collectors and traders and add to the management challenges. Therefore before such efforts are put in place a thorough analysis is a must with the information gaps filled in.

Conclusions

This paper has attempted to explore whether synergistic opportunities for NTFPs livelihoods and conservation are available in India, specifically for Kerala. Based on past and present and global and local experiences the answer is yes and no. It would depend on the kind of relationship that is in place, which is influenced by the nature of policies and the external support system in place. This reflects Barrett et al’s (2005: 193) opinion that “synergies between livelihoods and conservation do not automatically occur simply because they are related”. Despite the suggestions given, it is important to note that the use of the NTFPs and its potential to meet the expected goals of improved livelihoods and conservation is contextual. Therefore it is important to make room for flexibility while applying some of the previously listed points.

Purely from a market and trade perspective, instead of expanding the markets, or exposing them to mass markets, exploring specialised, diversified, and high end niche markets may offer improved, long-term sustainable returns. There is increasing demand for certified “green” or “fair-trade” products obtained from the wild. Thus further research is needed to identify niche market segments; willingness of consumers to pay, the various costs associated with the NTFPs production and marketing, and design appropriate campaign strategies for effective sales. In this context, policy arrangements for effective trade and compensation must also be placed such that industries and other “elite” bodies that are primarily responsible for pushing local harvesters into over harvesting are persuaded to be more sustainable which may simultaneously improve primary harvester returns. Prioritising species, incorporating the TKE and working out collaborative management plans with local users can ensure better accountability and a higher incentive to conserve. Finally, expanding citizens’ awareness on the importance of natural resources, pushing for more ethical business practices and keeping consumers informed on the origin and “real” value of these resources, perhaps through the chain of custody arrangements, a win-win scenario can be achieved.
Future Directions

As discussed earlier, a certification framework for MP has been designed for India drawing from stakeholder feedbacks and consultations from four central and western forest regions of India. It was also deduced that management strategies need to remain flexible and more importantly must be context-specific. Based on this argument, an ongoing study is in place exploring the potential of certification of MP in Kerala, using the certification framework by Bhattacharya et al. (2008). This study intends to find the contribution of MP to household income, the impact of existing institutional arrangements on the socio-economic status of primary harvesters, the socio-economic determinants that influence their choices and reactions to new strategies such as certification. It will also study if there is compliance with the certification standards from a multi-stakeholder perspective. It is expected to throw light on the implementation challenges of the strategy if any, in a place like Kerala, identify gaps to be addressed, alternative approaches and synergistic potential. So far no studies have been conducted in India looking at these implications from the NTFP certification and the MP sector in Kerala will provide an excellent case study to not only design practical strategies to improve the local situation but also gain new theoretical insights on the broader question of synergy raised initially.

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