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PROGRAMS TO GENERATE INCOME AND CONSERVE RESOURCES

Community-Based Eco-Businesses--Tools for Conservation?

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During the past decade, the idea of conserving natural resources by using them more appropriately has become both necessary and fashionable. This idea is not new, of course, since many people living in or near remote or fragile ecosystems have a long history of exploiting their resource base without destroying it. Increasingly, population pressure, market demand, or newly found "needs" have driven many community-based groups to exploit their resources at non-sustainable levels.

Population pressure, new "needs," and stable or shrinking resource bases push many individuals and communities to exploit their resources non-sustainably. Population in many fragile and/or isolated ecosystems is growing rapidly. Furthermore, many governments now frequently use such areas to relieve population--and political--pressure in over crowded agricultural or urban areas. As countries have become indebted they have turned to previously isolated regions with untapped natural resources taking the resources from their traditional owners/managers. Because neither the planners nor the new residents are familiar with the regions this often leads to severe environmental degradation.

At the same time, people everywhere have increasing desires to consume. Through mass communication, people are aware of lifestyles that are now possible. Wants have become needs as potential producers/consumers are drawn deeper into market economies. While some of these needs may border on the nonessential, most are understandable, e.g., education, health care, labor-saving devices.

In order to consume more, however, local people must have goods to trade or sell. Often the production of these marketable goods tests the limits, or even goes well beyond them, of traditional resource management systems which have never had to provide for so many people or produce such surpluses for external markets. To increase, or more often even to maintain their standard of living, many groups are degrading or even destroying the resource base that future generations will require for survival.

The question then, is which income generating strategies allow local groups to exploit their resources without destroying them? How can local groups think through these issue in ways that will help them design and implement successful development strategies while conserving the resource base for future generations? This report is intended to help local communities or organizations, as well as those individuals attempting to work with them, develop realistic strategies for both income generation and conservation.

The lessons that have been learned and are presented here, as well as the case studies that are included in this report, have been drawn from the experiences of hundreds of groups working on four continents during the past ten years. There is no single blueprint for success, however. Success will only be achieved if very specific local conditions are taken into account in the design and implementation of conservation and development strategies for each community. The real task is how communities can be helped to walk through their options, systematically and realistically assessing their potential risks and gains. The final challenge is to help such groups know when and where to seek outside assistance.

This work is not theoretical. We are not talking about paper profits--calculations about the theoretical value of one strategy over another, but, rather, about real incomes in real peoples' bank accounts. Likewise, what is at stake is conservation of the natural resource base and ecosystem function that future generations of humans and every other species will require for survival.

Twenty Lessons

1. Land and Resource Rights Are Essential to both Income Generation and Conservation.

Communities are unlikely to protect existing resources if they do not have clear rights or guaranteed access to them. Why should a person save a tree, for example, if someone else can come along at any time and cut it?

Likewise, communities or individuals will not invest time or money in mid to long-term activities that have potential income generation and/or conservation returns if they do not have sufficient guarantees that their rights will be protected in the future. In short, such activities as long-term resource management, reclamation of degraded areas, reforestation, agroforestry, forest enrichment, and sustainable harvesting, or investment in expensive processing equipment or facilities to reduce post-harvest losses will not be undertaken without guarantees for resource rights. Clear title to resources is one way to guarantee them, but usufruct rights, zoning and restricted access constitute what can be effective variations where rights are shared by the state and communities or individuals.



This is not to suggest that resource rights must be obtained before anything else can happen. Rather, resource rights will tend to influence both community commitment to an activity as well as the long term viability of the activity. There are countries and specific instances where a community with ambiguous or marginal claims can actually increase or even ensure their legal rights to an area by making long-term, productive investments in its use and management. In such cases, an added incentive for development could be the strengthening of a community's resource rights.

Still, the point is simply this. If a considerable investment is being made to increase the value of a resource base, it would be a good idea to keep track of who might be attempting to use the legal or political system to take it. Many communities are quite aware of such maneuvers, but others, particularly the more isolated groups, might not have any idea what is happening hundreds of miles away in a capital city or how it could affect their claims to a resource base.

2. Undertake a Community Resource Inventory.

Before a community sits down to plan its overall income generation and conservation strategy, it should prepare an inventory of the resources that it is prepared to bring to the table. These resources fall into several categories. First, and most obvious, are the natural resources that a group has to commit to the program. Which are currently being used, which not? Which are in good shape, which are being degraded?

A community also has financial resources to invest in its own project. How much is feasible? How will this affect the overall strategy if these are the only financial resources that are obtained? Increasingly, communities will have to look to their own financial resources. There simply are not enough outside resources to finance all the worthwhile projects around the world.

What human resources does a community have to bring to the strategy? How much labor, what kind, what parts of the year? What skills does a community have? These could be specific to production and processing, commodities, or management.

Finally, what other resources does a community have access to from outside individuals or groups? Who are their friends? What companies, individuals, financial institutions, politicians, NGOs, etc. can a community turn to for help of various types?

3. Start with Products that Are Already Being Produced and that Have Markets.

A local communities initial efforts to identify products that it can sell should focus on commodities that are already being extracted, harvested, or otherwise produced or traded. Such

production and trade implies not only that there is already demand, but that some forest residents are supplying it and, depending upon the length of time they have been doing so, that production and trade might not be environmentally destructive. Research and development should concentrate on four general areas for each product: existing and potential markets, sustainability of production over time, potential of each commodity for possible enrichment programs and the communities that could benefit from market development.

If local products are already being sold or traded, it should be easier, hypothetically, at least, to expand their markets. By contrast, creating markets for new or unknown products would take 5 to 20 years. In addition, creating markets for commodities that have not previously been harvested or produced will require changes in overall local production schedules and habits and could lead to environmental degradation and even species loss.

As a rule of thumb, communities will cause less disruption and environmental damage producing items for sale that they already know how to produce. Existing products also offer the best chance of quickly creating regional, national and or international markets that can increase income. Introducing new products on national and particularly international markets, on the other hand, takes time: up to 5 years for foods, 10 years for personal care products, and 20 years for pharmaceutical. Local producers need income immediately and if they don't get it they will increasingly be forced to use their resource base in non-sustainable ways.

Each community in question, then, needs to make a list of all the products that it has produced historically for consumption, trade and/or sale as well as what the general trends in production trends are and why. The data can then be compared with information about current markets either within the country or internationally. It is also possible that new markets might exist for products that went out of favor years ago, or that products with which a community has experience could be substituted for other products currently on the market.

Some of the initial questions that need to be answered in the early stages of developing strategies are:

- What is not being traded today versus 90 years ago? Why?
- What products are being produced by some groups but not others? Why?
- What products do community members think have market potential? Why?
- How intimate a knowledge does the community have of its natural resource base? Have inventories of marketable species been undertaken?

- What are the main problems with producing and/or selling any of the products under review? How could they be mitigated or eliminated altogether?
- What do the findings of this research suggest for follow-up information that will be needed to develop strategies?
- What product waste or by-product comes from the primary products that are being considered? Do they have value? Why/Why not?
- What would it take to develop markets for those by-products?

The answers to these questions will help identify possible priorities to be addressed not only by outside institutions but by communities themselves.

4. Improve the Harvesting Techniques of Existing Products.

For many products, the issue of sustainable production has as much to do with harvesting as it does with production, particularly for wild harvested items. Furthermore, proper harvesting increases income not only in the medium and long term but in the short term as well. For example:

- Pau rosa (*Aniba roseadura*), an essential oil whose harvest has almost eliminated the species from the Amazon, can probably be harvested sustainably if only the leaves and twigs are harvested during certain seasons rather than chopping down the entire tree.
- Copaiba oil (*Copaifera multijuga*), the resin from a tree can be harvested from the same tree for decades if the extractor drills a hole into the trunk to extract the resin and then plugs it with a stick rather than opening the hole with an ax so that it will never close.
- Allspice and xate palm leaves in the Peten can both be harvested sustainably in ways that maintain or even increase production over time.
- The production of asai (*Euterpe oleracea*) for either fruit or heart of palm can be increased through management and appropriate harvesting to levels that are significantly more productive than previously unharvested natural stands.

The implementation of improved harvesting techniques usually requires education and sometimes equipment. In some instances research will help to identify the extent of the problems posed by harvesting as well as potential solutions. Many times as people move from subsistence use of their resource base to more market, surplus oriented uses, they cannot continue to use their traditional harvesting techniques without degrading the resource base they are trying to exploit. Through research it would be possible to evaluate which new harvesting techniques make sense

in terms of the time they require as well as which make financial or environmental sense. Marshalling research results may also be necessary to provide the information that will convince harvesters to change old practices for more efficient ones.

It is quite possible that by merely improving the harvest of products, local producers can realize a 10 percent or more increase in income from that product. Gains can be made both through reducing harvest losses (e.g. there is less damage to the product) and through maintaining or increasing natural stands of the species rather than reducing them. If harvesters unnecessarily reduce the number of individuals from which they can harvest, they will have to spend more time to find or plant others. In some cases they will deplete the species on their land and will have to do without or gain access to someone else's land.

Guaranteed land and resource rights (or usufruct rights) are also important in the development and implementation of sustainable harvesting techniques for almost every product. Without clear resource rights, harvesters will not develop long-term harvesting strategies either for single species or more complex agroforestry systems. Resource rights also allow harvesters to make financial investments in the equipment they need to harvest products sustainably or add value to their products through processing.

5. Reduce Post-Harvest Losses

Little time or energy has been invested in reducing post harvest losses. Yet, most products, particularly wild harvested ones, have well defined and relatively short harvest seasons. Markets for such products, however, could easily be sustained throughout the year if produce were available. Harvest, itself, is usually an arduous task. Transportation to market is difficult and often must wait until a change of season. Rodents, insects, and rot can reduce harvests by 25% or more even of durable items. All of these factors make the reduction of post-harvest losses an essential task (e.g. a lot of time and effort has already been expended) as well as a potentially profitable one for every producer.

In short, once a product is harvested it makes sense to ensure that as much of it as possible can be sold. Most producers receive very low prices for their product during periods of peak production. To the extent that the product can be sold out of its normal season (e.g. during the "off" season), it will generally not only command a higher price, it will also help to raise or at the very least stabilize the price during the peak season.

The Brazil nut illustrates some of these points. Little is known, for example, about how to harvest or store Brazil nuts in the forest during the rainy season before they are transported to market. What are the best storage facilities? Should they be elevated off the ground? Should they be thatched roofed, slat

sided, etc? Should the nuts be picked up as soon as they fall off the trees, or is it better to leave them in the ouricó (the true Brazil nut fruit is a hard woody sphere that holds the seeds of commerce) on the forest floor until they can be sold?)

Once the nuts are sold to traders, they are traditionally shipped by open barge to Manaus or Belém where they are shelled and packaged for export. On these journeys, 25-35% of the nuts rot. Covering the barges or processing the nuts closer to the forests could reduce the post-harvest losses and make financial sense. What is the value of the nuts that are lost? What would be the cost of plastic covering for the barge?

The ways to reduce post-harvest loss should be examined for each commodity. This information can be gathered in the commodity specific market research suggested below. It should be noted, however, that such losses, often give the appearance of being value added, because they force the price up at the next market stage, e.g. Brazil nut processing in Belém.

6. Increase the Competitiveness of a Community's Existing Products in the Market.

One of the main reasons that primary product producers can be kept in their current impoverished position is because they do not benefit from the value that their products ultimately generate as they move through the system. This situation was created by a lack of information and of competition in the marketplace. In order to increase local revenues, competition must be increased. There are various ways to accomplish this. Some ways are to:

- differentiate your product (e.g. by talking about its social or environmental impact);
- use the commercial media or the publications of sympathetic organizations to help you differentiate your product/s;
- use product differentiation to create alternative markets and/or buyers;
- try to circumvent traditional trading or shipping monopolies; and
- invest in production systems that reduce overall costs, making production and processing more efficient and more competitive.

One of the curious effects of monopoly capitalism as it continues to be practiced in isolated areas of the world has been to discourage either sustainable harvesting practices or economically viable production systems.

Species enrichment programs or reclamation of degraded areas can also increase competitiveness of a product by increasing overall

production and making production, processing, or marketing more efficient as well as by forcing marketing or trading monopolies to compete particularly when such programs are associated with community-based processing or value-added activities.

7. Keep the Strategy as Simple as Possible.

Anything that can go wrong, will go wrong. Furthermore, many things will go wrong that were not anticipated in the strategy.

Every layer of complexity that is added to a business, brings more problems that must be solved. Given that the largest single problem with almost every community attempting to generate income is a lack of administrative and management skills, complex strategies will be fatal for most.

8. Diversify Production and Reduce Dependence on a Few Products.

The diversification of products is absolutely essential to the overall long term viability of most communities. This is particularly the case with those communities or individual producers who make a living from harvesting wild products. If wild harvested products become sufficiently valuable, every attempt will be made to produce them synthetically (e.g. essential oils, flavors, medicines) or in monocrop plantings (e.g. rubber, palm oil, palm heart, rose periwinkle, Brazil nuts, mushrooms) outside the ecosystem of their origin.

Diversification strategies should be developed one product at a time, however, and should focus initially on the easiest to produce (\$/hour of work), largest volume or highest value commodities. Yet, diversification can easily be taken to extremes. It is a question of balance and opportunity costs. Individual producers (in contrast to communities) probably should not diversify their cash crop production beyond a few products or they will reduce their efficiency and ability to compete in any single market. Also small quantities of production leaves producers with very little leverage in large commodity markets. That being said, individual producers can take advantage of seasonal climate variations to produce multiple products for market.

Once the first business with a single commodity is up and going, profits can then be invested in additional products in order to diversify production. Particular attention should be paid to commodities that generate high value per unit of labor, complement the seasonality of other products, and provide food or other essential goods to the producer group. In addition, products that require the same skills, equipment or infrastructure are more efficiently absorbed by producers/communities.

9. Diversify the Markets for Raw and Processed Forest Products.

To reduce the overall risk to producers, they should try to diversify the number and type of end users for each product they sell. For example, Brazil nuts (Bertholletia excelsa) can be used as nuts (shelled or unshelled), or in ice cream, baked goods, cereal, candy, oil, flour, salad dressing, soaps, shampoos and so on.

Market diversification can also be achieved through market positioning--regular, organic, wild, "green," or natural--and through local, regional, national, and/or international marketing strategies. Diversifying markets can also increase demand, and, consequently, a commodity's price.

10. Add Value Locally.

Research should be undertaken on each product that is seriously being considered as a part of a community's overall strategy. This research will focus, initially, on identifying the bottlenecks in the current system and the point where value can be captured by producers. Each commodity has a different production and marketing system. Essences, oils, flours, nuts, fruits, honey etc. are all different. Each product has its own set of producers, traders/marketers, and processors.

Gathering such information is essential to determine where to intercede in the system so that more value can be added closer to the producer. With this information, a community can determine when it is advantageous to process their products, when it is not worth the risk or capital investment, or when they do not have the financial or management skills required for the job.

Brazil nuts illustrate the point. In 1989, collectors were paid only two to three percent of the New York value of their nuts. (Some were not paid cash at all, but instead were kept in a constant state of indebtedness--a company store system--by local traders.) A quick study of Brazil nut marketing showed that transporting their nuts to the regional market center would double their value. Shelling the nuts for export would allow collectors to earn 20-40 times the in-forest value, because it adds value while reducing transport costs (shelled nuts are only one-third the weight and volume). In some instances local shelling makes it possible to sell Brazil nuts which in the shell are not worth the transport costs (in 1994, it is estimated that only about half of the communities with Brazil nuts can profitably harvest and sell their nuts). Turning nuts into oil would double or even triple the shelled nut values. And so it goes. These are the types of data needed for each commodity.

This is just one commodity. A better way to increase the economic viability of extractive economies is to diversify production and sources of income. This cannot be done overnight, and it must be done strategically. Each commodity can generate some of the money required to diversify income sources. For example, the export of Brazil nuts can be used to guarantee a loan to purchase equipment

for processing a higher, more valuable grade of rubber, even though the rubber will only be marketed within Brazil. Copaiba, cupuassu, vanilla, tagua (Phytelephas aequatorialis), and other products can be added to the mix. The specific products will be different for each community. In general, however, groups should strive to be less dependent on single products or purchasers. In some cases, even in most cases, such a strategy will make more sense on a regional basis rather than the level of an individual producer or community.

In every instance, attempts should be made to determine ways to add value locally. In general, processing should be done to reduce post-harvest losses, reduce the weight and volume of raw products, increase their standardization, and guarantee consistent quality and acceptability into multiple markets. Local value-added activities should increase the ability of products to enter multiple markets rather than restrict the number of markets that would accept them due to over processing. It will be easier to sell semi-processed goods to a wider range of end users than finished products.

Although adding value locally is important, with the exception of the production of crafts and the sale of houseplants, attempts to produce end-user commodities is probably not a good idea. Rarely does an area have, on hand, all the different ingredients that would be required to make a finished product. Processing and manufacturing also require reliable sources of energy. Finished products are often larger and less efficiently transported than either raw materials or semiprocessed goods. Thus, end products would require shipping not just the product, but the air and packaging (packaging would be shipped into and out of the area), great distances at energy and environmental costs that do not justify the political impetus for local manufacture and that might undermine the ability to market the product as a "green" or environmentally friendly product.

Another reason communities should not attempt to produce finished products is that they have little idea of what consumers want. This is particularly true the greater the distance between the producer and the consumer as well as the greater the difference between their cultures and their lifestyles.

Efforts to add value locally should not have built-in subsidies. While it may be acceptable to subsidize processing in the short term, in the long term, business plans would have to show that the subsidies could be eliminated or else such programs would not be options in the real world.

Nor should programs to add value be ecologically unsound. For example, what is gained through sawing tropical timber locally if it is done so inefficiently that more trees must be harvested (unless the economic and environmental transport costs of logs are considerably higher than for sawn timber)? Why not leave the processing to the most efficient processors? Or, if the volume

justifies it, why not invest in more efficient local plants or attempt to establish a joint venture with a more efficient processor? In a similar vein, it rarely makes financial or environmental sense to produce finished products in isolated communities.

Evaluate the current market structure for each product that is being considered for a significant role in the conservation and development strategy of a community. For each product, determine where value is being added, where risks exist and where local communities stand to gain the most in the short, medium, and long term. Sometimes, eliminating intermediaries through improved transportation might work; other times, adding value through local or regional processing could be most beneficial. In some instances, the best strategy is to develop product branding or labelling which can capture additional value per unit and/or overall sales. Depending on the product, adding value locally, in a traditional sense, does not always make sense.

Whether or not it makes sense to add value locally is a complex decision. Such decisions about if it is appropriate to add value and how much value should be added vary widely from group to group, commodity to commodity and region to region. The types of questions that should be considered when making such decisions include the following:

- What is the volume of the commodity in question?
- Where is value currently being added?
- What are the easiest/quickest ways to add the most value with the least risk?
- Which forms of processing open the product to a wider market?
- Which forms restrict its markets?
- Which forms of adding value expose the producers to risks?
- Which risks should be avoided?
- What is the seasonality of production?
- Can the investments (processing plants, driers, warehouses) for adding value to one crop be used to add value to other products during the off season?
- Is capital readily available? Does the group have access to it? At what costs? Does a group have collateral?
- Is there sufficient labor? Do laborers have any interest in, or skills at, performing the necessary tasks?
- Would local people know how to manage a plant, either in

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technical or financial terms? Would there be resistance, a priori, to the idea of importing outside management?

11. Identify and Use Appropriate Production and Processing Technology.

Question technology. This is another area where producers can save time, improve quality and/or add value to their products. Technology is also an area where producers can waste a tremendous amount of time and money and become terribly frustrated with development programs in general.

Rapid advances in technology that is specifically designed for local production and processing activities could be a real asset to local producers. In addition, researchers are also developing applications of technology that are particularly suited to solving local problems of scale and expense. Much of the technology is user friendly and extremely reliable. Sometimes it is designed to address precisely the bottleneck that a community has identified. Sometimes it is for a different product entirely but is readily applicable to a wide variety of other activities. If technological bottlenecks are identified within the overall strategy of a community, every effort should be made to contact other individuals or groups outside the area who might know of solutions to the problems.

As with most things in life, there are few black and white issues. All technology should be carefully evaluated to determine if it is indeed appropriate, reliable and user friendly, or if, as is often the case, it is more trouble than it is worth.

12. Capture the Value that Is Added as the Product Travels through the Marketing System.

Each time a commodity is bought and sold, or processed or altered in some way, value is added. While value is added according to labor, risk, and capital investment, it is also compounded through scarcity and monopoly.

Most communities who collect, or produce products that leave their areas, currently receive little of the value that is added to the raw material, usually much less than 15 percent of the New York City wholesale price of the commodities that they sell. Yet, they often pay equal or higher prices than those in NYC for basic commodities--sugar, rice, beans, meat, gasoline. If they continue to receive such a small portion of their products' value, they will inevitably be forced to degrade their resource base as they try to maintain their standard of living much less improve it.

Few groups will be able to take over each stage of trading or processing of their commodities that add value to their products. As discussed above it will not make financial or environmental sense in many cases. In other instances, local groups do not have the management skills to take control of various aspects of the

value-added chain.

Still, it is possible for groups to generate income from activities that they do not control directly. For example, through negotiations with brokers, distributors or traders, local groups can generate increased income on the sale of their products through a trading system without undertaking the activities themselves. Many producer groups now receive an additional 5 percent "environmental premium" rebate on the New York or London sale of their product. Because the premium is paid on the New York price, for example, it includes premium payments on all export taxes, FOB charges, international transport, etc. In short, a 5 percent premium can equal 10 percent or more of the actual sale price a local community originally received for the sale of its product.

Dozens of manufacturers in North America and Europe have negotiated agreements to share the profits they make from the sale of manufactured products back to local groups. While these agreements vary tremendously, they range from 1 to 40 percent of net profits. Other companies pay a per unit premium (e.g., per case, bottle, can, pound) or a percentage of gross sales (e.g., 1 percent of sales).

13. What Goes Up Must Come Down--Use the Business and Marketing Structures that Are Being Established in a Community to Buy Manufactured Products in Bulk as Well as Sell Products.

If one of the main reasons that local groups need money is to purchase consumer goods, then community organizations that are being established to purchase, process, and sell local products should also be used to bring in the consumer goods that community members want to purchase.

14. Know What You Are Selling.

The main impediment to the entry of many raw or semi-processed goods into the market is the lack of information about the product. Most manufacturers are interested most in health and safety data and chemical analyses. This is true of food products as well as ingredients for personal care products. Manufacturers of soaps and shampoos, for example, are required to have documented evidence that the products they use in manufacturing are safe for human use. In fact, the requirements are as strict for anything that goes on the skin (since it is porous) as for products that go into the body. Without health and safety data, new or products that are not known internationally cannot be used. Although documentation of past use in the country of origin can supply important background information, it is not sufficient to clear the product for use.

Much of the health and safety information needed by manufacturers often exists, someplace, but it is not readily available. It may only be found in obscure or private sources. Much of the data is

probably old, and the scientific techniques were less precise. Even so, the information could be very useful. Much of the data, probably stored in old government or corporate archives or found in academic libraries, has been lost to the general public. Once the compilation of this data is completed, it would become clear what additional studies would need to be undertaken.

In addition to health and safety data, industries must know the standard chemical properties for each product as well as the acceptable ranges within and between categories. These are also the guidelines that will be used to determine if a product has been diluted or otherwise contaminated during its processing or shipping. For example, a number of varieties of a single oil might exist (there are more than 30 varieties of copaiba in the Amazon), so it is important to know the variety being received and/or the acceptable range for that variety. Full, yet basic, chemical analyses cost up to \$1,000 per sample. More than one sample of each commodity from each region would have to be analyzed in order to generate baseline data.

There are a number of excellent research facilities around the world from which a community can obtain data on products it has identified as priorities. In fact, new data can frequently change priorities as exotic properties can give a product strong market value (e.g., the interest in natural antioxidants and colorings by food and personal care manufacturers and short chain fatty acids or starches by chemical manufacturers).

It could also help communities sell their products if they can identify their uses for products (this might be a new product idea for another market), explain the myths or legends about the product that might make it sell in other markets, and have photos that show how the product is grown, harvested, processed and marketed.

15. There Is Strength in Numbers.

Individual producers or producer groups have little power in the marketplace. They cannot provide the quantities of product that even a small manufacturer would need. The Xapuri Brazil nut shelling cooperative in western Brazil, for example, produced 70 metric tons (MT) of Brazil nuts per year during its first two years, but M & M Mars uses 70 MT of peanuts per 8-hour shift when manufacturing Snickers candy bars. Individually, local Brazil nut shelling cooperatives could never convince large companies like Mars to use their nuts. By working together, producer groups can supply some of the largest manufacturers, control larger market shares, and exert considerable influence over entire markets.

In general, even trading higher volumes through local organizations rather than one-on-one through intermediaries will give individual producers access to higher prices. Furthermore, remember that the same skills and institutional structures that allow groups to sell larger quantities of product into the market

enable them to purchase manufactured items in bulk, and thus save money.

16. Make a Decent Profit, Not a Killing.

Once local groups understand that outsiders are interested in them, their ecosystem, or their products, they are often unrealistic expectations about how they can exploit the situation for their own advantage. In this situation, isolated groups will often increase the asking price of a product by 50 to 100 fold. Less isolated groups will often try to double or triple their income from the sale of a single product. Such increases in the price of raw material, from the very beginning, will most likely jeopardize new struggling businesses. Such prices will certainly limit the number of market outlets a group/s will ever find for their products.

Expectations should be kept to a minimum. This is true in the initial inventory and planning stages as well as when an income generating program is being implemented. If people come to think that 100 to 200 percent increases in income are possible, then they will be disappointed, even bitter, at the prospect of a mere 25 to 50 percent. Yet, on the face of it, most people in the world would be happy if their income were increased by 25 percent.

It is quite possible to conserve a resource base, pay a higher price to producers for raw materials, add value to local products locally through transportation and/or processing, and generate employment. All these things can be done, but it is a question of expectations and finding the right balance.

The price paid to producers for their products is the trickiest issue of all. It ultimately determines which, if any, subsequent income-generating activities are feasible. Prices that are too high, reduce a product's chance to be competitive. Consequently, the overall markets for products will be reduced, and manufacturers will look to other sources, even other communities, for cheaper alternatives. It is a better strategy for communities to attempt to develop long-term relationships with traders, distributors, and manufacturers rather than to make a higher up front profit.

Likewise, each decision to make more profit from the sale of a product by eliminating intermediaries must be carefully studied. For example, organized Brazil nut gatherers are keen to eliminate the Belém-based shelling monopoly. However, most Brazil nut gatherers are not organized and if the monopoly was dissolved today, to whom would unorganized collectors (the vast majority) sell their nuts? Would they be better off? Would they even be able to survive the short term market disruption to possibly benefit from a longer term market reorganization? Would they be able to stay in the forest?

In each situation like this, where a radical change in market structure is being contemplated to generate more income for producers, it is important to evaluate the true costs of the change. What other risks does that intermediary take, or services does he/she provide? Who will provide them in the future in that person's absence? Is the producer/group prepared to provide them or to do without them?

17. Don't Create or Reinforce Patron/Client Relations in the Project.

A very common social/political pattern for groups who have been exploited or oppressed in the past, is to recreate internally the relations that they are attempting to eliminate. For example, project support is funnelled through existing organizations and used to strengthen them, often from the top down. Revenues are often used to reinforce the power of individuals or elite groups who can control how they are spent. Replicating the oppression of the past should be avoided at all costs.

National level organizations, in an attempt to increase their political bases, will often use project resources to recruit local communities into their political or ideological camp. Funds are only dispersed when communities or individual producers join the national organization. Such movements, built from the top down, are not the democratic organizations that they claim to be (or that they are often represented to be by their national and international funders).

Individuals or institutions helping communities develop income generating programs must remember that "development" means change, even at the local level. There will be forces within a community that are both for and against change for a number of reasons. There will also be individuals attempting to gain power or keep power through development programs. While this cannot be prevented, it must be monitored. Both funders, the agents of change, and the communities themselves must be comfortable with the changes. Of course, to the extent that a community provides its own development resources and technical assistance, they will have more control over the entire process.

15. Solutions Must Be Equal to The Problems.

Band-aid solutions are not appropriate where tourniquets are required. To be viable, solutions should address the root causes of both poverty and environmental degradation. In this sense, solutions are site specific (principles, like those presented in this report, can apply to many situations).

Likewise, solutions that do not address the principal products produced and traded in a region are probably not viable, long-term solutions either. Viable solutions must be on the same scale as the problems, yet divisible, starting with one village or group or one commodity at a time.

"Model" projects, especially those with built in financial, technical assistance, and marketing subsidies, are rarely viable solutions to either conservation or development problems. In a similar vein, solutions that address only the needs of one group (defined by age, class, ethnicity, sex, religion) will probably not be viable in the long term or replicable in other areas.

This being said, no single solution will generate all the income that will be needed in a community or reverse the destruction of the resource base by itself.

18. Require Community/Producer Investment and Where Outside Finance is Needed, Use Loans Not Gifts.

Communities and producers must make a commitment to the overall success of the project. This can be done by putting up local resources as collateral, providing local materials to the project thereby reducing the overall cost, or by providing cash or labor.

Grants all too often create dependency relationships between grantor and grantee. The point here is for outside entities to lend a hand not give a handout. When local groups run into problems, one wants them to solve them, not write a proposal for assistance.

Financing of income-generating projects should be done through loans not grants. While grant money might be useful to undertake some of the preliminary studies and background research, communities should realize from the outset that money costs money to use. That is the way a business operates, and the way their business will have to operate, too, if it is to succeed.

Finance for local programs should be used to help groups improve a group's credit worthiness in the eyes of local institutions. For example, government programs and/or local banks often have low-interest loans available to groups for income generation projects. An outside entity that could finance the entire needs of a local group might, instead, use its money to guarantee or lever additional funds for the project from local sources. This approach has a number of advantages. Some of them are:

- the outside group can help more groups, spreading its support over a wider area;
- the local group can build credibility with local financial institutions that might otherwise be reluctant to support them without a third party loan guarantee; and
- the local group can reduce its hard currency debt which would require it to export products or exchange local currency at disadvantageous rates.

19. International Markets Are for the Protection of Ecosystems, not for the People Who Live in Them.

 Many local producer groups and many international assistance organizations see northern consumers as the answer to their problems. Yet, most North American and European consumers are concerned about the environment, not Third World producers. Thus, from a marketing point of view, it is also essential for communities to invest in monitoring systems which ensure the sustainability of production. The sale of commodities must be linked with systems that ensure that the quantity of products taken from an ecosystem does not destroy it.

By the same token, the harvest of any product will change the ecosystem from which it comes. Manipulations of ecosystems to produce the subsistence needs of humans or even surpluses for markets have taken place since humans have existed. Most of these manipulations have not destroyed ecosystems even though they have certainly altered them forever.

What is needed, then, are careful environmental impact assessments and monitoring systems that examine at the outset the impact of increased trade on the individual species, other species as well as the functioning of the ecosystem as a whole. This is the type of monitoring that is required for products that are already being harvested and are to be sold onto the market as "green" products. For new products, such studies should be undertaken before the commodities are harvested. Monitoring and research should be undertaken for each commodity by scientists and local residents. In the end, it is the local communities whose present markets and future livelihoods will depend on such certification. The authority to monitor and certify should be primarily theirs.

20. Use the System to Change It.

In general, it is easier to harness the power of an existing system than it is to change it. The power of business needs to be brought to bear to change it. When trying to figure out how to get around a bottleneck, make a crucial change or create positive forces for change within a local community or a market system, always start with what is before you. Business is one of the most powerful forces on the planet, if not the most powerful force. Figure out ways to harness that power as a positive force for social change at the community level.

These are 20 lessons that have been learned through efforts to produce, process, and/or market products which both generate income and conserve resources. Not all of them are relevant in any given project or community. Nor are the lessons to be considered a blueprint. They are simply a set of tools that local communities and outsiders working with them to use to determine the most viable strategies a community has to generate income and conserve its resource base.

These lessons will be modified over time. They are offered here

as ways to help a community or local producer identify and think through both their problems and their options. Each application of these lessons will build upon them and suggest additional ones. The ultimate success of this strategy--both its broader, theoretical issues and its specific, detailed suggestions--will only be possible if those interested in these issues at the community level work together, addressing the problems in as complementary and comprehensive a way as possible.

Possible Cases (up to 1 page) to ^{be} Included:

1. Wild Rice--Ikwe, Chippewa Indians, Minnesota
2. Northwest Province Beekeepers Cooperative, Zambia
3. Banana Chips, Mindinao, the Philippines
4. Okari Nuts, Papua New Guinea
5. Tropical Timber, Amuesha Cooperative, Peru
6. Brazil Nuts, Xapuri Cooperative, Xapuri, Brazil
7. Babassu Oil, Maranhao, Brazil
8. Jaborandi Extraction for Medicines, Guajajara Indians, Brazil
9. Eco/Scientific Tourism, Kuna Indians, Panama
10. Sale of Seed Pods, !Kung San Bushmen, the Kalahari, Namibia

To be the most informative the cases should be made generic so that they can bring up the more contentious issues as learning tools. It is doubtful that many groups would like their projects to be seen as failures, but all have had problems. How problems are dealt with is, in fact, the issue. Often, more can be learned from project failures than project successes.

Charts/Graphs/Diagram

1. Value of Brazil Nuts as They Travel Through the Market to the Consumer
2. Diagram showing how a community can walk through their decisions to develop a strategy.