

Sustainability Audit

Bellbunya Sustainable Community

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Introduction

Concept of Sustainability

Over the last 30 years abundant scientific evidence has been gathered that demonstrates the unsustainability of human lifestyles on this earth (Earth Policy Institute 2009).

Sustainability has been defined by the Australian Macquarie Dictionary (2010) as “*the capacity for development that can be sustained into the future without destroying the environment in the process.*”

A shift in values globally is following the growing realisation that humanity’s existence is dependent upon our environment, and the recognition of our lifestyle dependency upon finite natural resources. The concept of sustainability redefines the economy as “in equilibrium with basic ecological support systems.” (Stivers, R. 1976).

A global definition for sustainable development was set by the Brundtland Commission at the United Nations (1987) as development that “*meets the needs of the present without compromising the ability of future generations to meet their own needs.*” Inherent in this is an acknowledgement of the importance of intergenerational and intragenerational equity in maintaining a sustainable lifestyle, and of conserving and protecting our biological diversity.

Sustainability is widely accepted as encompassing our physical wellbeing through a healthy environment, as well as social and economic dimensions (Anon, Agenda 21, 1992). In Australia, this was recognised in the National Strategy for Ecologically Sustainable Development (NSES) (ESD Steering Committee 1992). One of the guiding principles enumerated by the ESD Steering Committee is that “decision making processes should effectively integrate both long and short term economic, environmental, social and equity considerations.” The three areas of ecological, social and economic sustainability are widely used as a triple bottom line (TBL) guide to sustainability (Mason et al 2003).

Indigenous peoples throughout the world have had an understanding of the principles of sustainability, and have lived sustainable lifestyles, for millennia. Floyd Red Crow Westerman (2010), an Hopi Indian elder described the sustainability relationship as one based on an understanding of spirit and the transience of human lifespans. He describes the problems of sustainability as humanity's inability to live on earth in a spiritual way. Westerman(2010) describes that if humanity is not spiritually connected to the earth and does not understand the spiritual reality of how to live on earth, it is likely humanity will not survive. *“Everything is spiritual. Everything has a spirit... Water is sacred. The Air is sacred. Our DNA is made of the same DNA as the tree. The tree breathes what we exhale. When the tree exhales, we need what the tree exhales. So we have a common destiny with the tree. We are all from the earth. And when the earth, the water, the atmosphere is corrupted, then it will create its own reaction.”*

The recognition of spirit and the sacredness of our ecology and interconnectedness with the earth and each other is the first bottom line of a quadruple bottom line principle of sustainability.

In an address to the United Nations, Chief Oren Lyons (1993) spoke of the unsustainability of our current human civilizations as “the life and path which defies the Laws of Regeneration”. Lyons (1993) candidly expressed the need for a major shift in the way we view sustainability.

“Even though you and I are in different boats, you in your boat and we in our canoe, we share the same River of Life. What befalls me, befalls you. And downstream, downstream in this River of Life, our children will pay for our selfishness, for our greed, and for our lack of vision. 500 years ago, you came to our pristine lands of great forests, rolling plains, crystal clear lakes and streams and rivers. And we have suffered in your quest for God, for Glory, for Gold. But, we have survived. Can we survive another 500 years of "sustainable development?" I don't think so. Not in the definitions you put `sustainable' in today. I don't think so.

“So reality and the Natural Law will prevail; The Law of the Seed and Regeneration. We can still alter our course. It is NOT too late. We still have options. We need the courage to change our values to the regeneration of our families, the life that surrounds us. Given this opportunity, we can raise ourselves. We must join hands with the rest of Creation and speak of Common Sense, Responsibility, Brotherhood, and PEACE. We must understand that the law is the seed and only as true partners can we survive.”

When we regard the ecological considerations of our natural systems, the social inequities and challenges and the global economic crisis it is clear that a major shift in policy and collective actions worldwide is needed to bring the consumption of natural resources by our species to potentially sustainable levels. (Earth Policy Institute, 2009)

Such a radical transformation from our current lifestyles requires a shift of focus from slowing the rate of harm to a reappraisal of what constitutes sustainable human settlements and living conditions. Sustainability thus incorporates a consideration of how we live and how we design our settlements, the focus of our economic sectors, the principles behind our work practices, the development of new “green” technologies and living lifestyles that are within our resources intergenerationally and intragenerationally.

Aims

This report is aimed at the Bellbunya Sustainable Community and its members. It will define sustainability in the context of their core value of modeling holistically sustaining community. It will provide a summary of the stated goals of the community and propose performance indicators that relate to their goals. The provision of a base-line for each of the indicators will assist the community to determine its progress in sustainability and provide data to assist the community to compare itself with average or initial scenarios.

Benchmarks to work toward are provided to assist the community to mark its progress toward its optimal goals, and assist it to redefine priorities from year to year. Against these will be a measurement or audit of the current situation of the Association using available and gathered data to give the community a picture of its current state of sustainability across each of the four defined areas.

Background to Bellbunya

Bellbunya is a recently established community located on the Sunshine Coast Hinterland in South East Queensland. It's primary purpose is modeling quadruple bottom line community living that is spiritually, socially, economically and environmentally sustaining. The Bellbunya community started as an initiative of the Association for Sustainable Communities Inc, a not-for-profit environmental organisation, in recognition of the important role that community living will play in creating a sustainable future.

Bellbunya was formed out of a growing awareness of the unsustainability of western lifestyles, intergenerationally, intragenerationally, socially, ecologically, economically and culturally. Bellbunya (2010) summarises the current situation as dire.

“Environmentally, we are depleting our soils and polluting our air and waterways. Our daily meals are heavily fossil-fuel dependent and lacking nutrition. Our houses are resource hungry and expensive, locking families into mortgage-driven lifestyles. We build toxic homes that we fill with ‘disposable’ goods that plunder the earth’s resources before being dumped in mother earth as ‘landfill’. Despite greater access to leisure, entertainment, fine foods and luxuries than ever dreamed before in history, we also have more disease (1 in 3 will have cancer during their lives), mental illness and depression (2 in 5 persons). The suburban Western way of life is both reflective and causative of the problems of isolation, powerlessness and disconnection that pervade society.”

According to Sociologist Ted Trainer of the University of New South Wales, community living is one of the most sustainable lifestyles we can choose for our planet, enabling

people to be sustained, work, play and share using less resources. Trainer describes the eco-village and community movement as the most significant movement of the 20th Century. (Jackson, R.2004) Community living has become a global, cross-cultural phenomenon, exemplifying diverse people living and working together with a common vision of creating a more sustainable future, developing and testing alternate models of economic systems, exchanges, agriculture, green technologies and cooperative living. (Jackson, R. 2004)

A sustainable community is ecologically, economically, and socially healthy and resilient (Institute for Sustainable Communities, 2010). It takes an integrated, holistic and long-term approach to problem solving.

Many researchers regard eco-villages, and the larger social movements of which they are an integral part, as the most promising and important movement in all of history (Jackson, R. 2004).

The Bellbunya community consists currently of around 16 members on a 40 acre conference facility owned by the Association for Sustainable Communities Inc. (ASC) Bellbunya community has the right to use the property and in return provides the ASC with an annual statement as to its findings on sustainability.

Sustainability Criteria

Given Bellbunya's primary goals of holistic sustainability, it will be important to measure their progress against each of the quadruple bottom lines (QBL), that is cultural/spiritual, social, economic and environmental.

It will be important for Bellbunya to measure its performance periodically for each of these areas against best practice (Camp, 2005). This will help Bellbunya to ascertain how well they are achieving their goals and a comparison with others who are leaders in their fields. With best practice continually evolving, Bellbunya could expect to revise their

benchmark targets for best practice every 2-3 years to ensure that they continue to aim high.

The main goals of Bellbunya Sustainable Community in each of the 4 key areas have been summarised in Table 1 below.

Area	Desired Outcome
Spiritual	Transformative Growth Making a difference in the world Integrity
Social	Openness Trust between members Good Communications skills and processes Education available to all Networks and interactions with wider community Health of members is taken care of Reasonable hours contributed to community life
Economic	Commercial debt / asset ratio of ASC Affordability – accommodation, meals, utilities Building local economy Ethical business on-site
Environmental	Food Production Low Consumption Low Waste Increasing Soil health Energy efficiency and renewable, local production Buildings are efficient and small Minimal transport requirements

Additionally, Bellbunya needs to know on a comparative basis how well it is performing in comparison with average or mainstream Australia. Wherever feasible, a base-line is given for each of the indicators to allow Bellbunya to measure their progress to date, and ascertain to what level the community provides a preferable or more sustainable solution to average lifestyle practices. In this way the impacts of the community's actions can be looked at relative to a baseline option (Cox, M. 2007). In some instances, it is difficult to identify a relevant baseline option.

As Bellbunya reports annually to their members, and to the Association for Sustainable Communities Inc to support their lease arrangement, it is important that Bellbunya is able to measure its progress every year. As a recipient of grants and an active partner in sustainability projects, having an up-to-date review will give funding bodies and third parties a picture of Bellbunya's accomplishments. Bellbunya is a new initiative with financial and human capital limitations, and is not likely to be achieving all of its sustainability goals at this point. It will be important for the morale and planning to have a clear idea of Bellbunya's sustainability performance and their effectiveness as a model for sustainability. It will also be important for forward planning, so that Bellbunya can prioritise those areas where work is most needed to bring them closer to their goal of being holistically sustaining.

Indicators

Framework for Indicator criteria

The indicators need to meet Bellbunya Community's information requirements and give them, and the ASC, a fair indication of their sustainability performance. The indicators needed should cover all aspects of sustainability relevant to the community and should lead to an overall integrated assessment of the community's sustainability performance. The ease and simplicity of data collection is one of the primary criteria for including indicators in order to facilitate an annual review without stressing Bellbunya's time and

monetary resources. Trewin (2006) suggests focusing of measuring indicators of long-term goals rather than tracking actions and short-term impacts. The indicators chosen should be sensitive to change, clear and measurable, realistic and relevant to the actionable goals of Bellbunya. (Prasad, D et al 2003)

Each performance criteria will be measured annually as at mid-May. When a specific day is required for measurements, it will be on a Saturday in Mid-May. By keeping the date around the same time, it can ensure some level of constancy in seasons and in likely community habits. This date will also meet the legal requirements of Bellbunya Community to provide a sustainability report annually to the ASC prior to their annual general meeting (AGM) held in June. By taking measurements in mid-May, Bellbunya Community can ensure they have enough time to measure and analyse the data and prepare their report for the AGM. This then enables the ASC to meet its commitments to its members and its environmental objectives around the Bellbunya property by tabling the report at their AGM.

In this audit, the indicators have been divided into the four areas identified by the Bellbunya Community for their goal of quadruple bottom line sustainability. However, there will be linkages between indicators within the framework (Gibson, 2006) as there are always interactions between actions, plans and goals. (Cox, M. 2007) Some of the indicators are specific, however some will be integrative of linked areas. Identifying links underscores the importance of all areas to achieve holistic sustainability and reinforces that aspects cannot generally be managed in isolation but will have direct and indirect impacts on other aspects of sustainability (Cox, 2007). The overall sustainability of the community is upheld when each of the dimensions is strong and balanced. (Gibson, 2006)

Cultural / spiritual Dimension

The spiritual dimension broadly refers to a recognition of divinity and intercom

nectedness. For Bellbunya, this is reflected in their Core Values which are centred around being holistically sustaining.

Bellbunya deliberately adopts the word “sustaining”, rather than “sustainable”. “Sustaining” means nourishing, and holistically sustaining refers to an all-encompassing nourishment. For Bellbunya, it is less about making smaller footprints than leaving positive prints.

Further defining Bellbunya’s central value of holistically sustaining in the spiritual dimension are the core values of making a difference in the world, transformative growth and integrity (Bellbunya, 2010).

Measuring items in the spiritual domain can be a largely subjective endeavour. Elements that can be difficult to measure in themselves may show as a reflection in other areas (Mason et al, 2005). The spiritual dimensions go to the very heart of what is the Bellbunya community, and when these values are engaged, they will have a flow on effect into the other dimensions. Ipso facto, if the spiritual dimension is out of balance or absent, it will often be indicated in other dimensions, such as a lack of respect for the earth leading to biological unsustainability (Westerman, 2010), unresolved issues between community members in the social dimension, and economic blockages.

Making a difference in the world

A primary goal of the organisation, making a difference in the world goes to the heart of the basic question of life, “Why am I here?” For Bellbunya, this means being more than a community of people gathered to support each other, but also making positive impacts on society and the wider community. Bellbunya’s documents refer to Andrew Cohen’s statement, “*We are all capable of greatness when we know without any doubt that we are directly connected to a higher purpose.*” Making a difference in the world is Bellbunya’s higher purpose.

One of the primary ways that this is represented is within Bellbunya's aim of being a model for change. Bellbunya aims to be a living laboratory and model, experimenting, researching, documenting and disseminating means of change to more sustaining lifestyles. If humanity is to survive with grace, humanity will need to behave differently now and in the future. For people to voluntarily change they need to be desiring change, know how to change and have the means to change. (Mason, 2009) Attitudinal shift follow behavioural change, that is when people see and experience something as a working alternative, then attitudes shift. Behavioural change drives attitudinal change; only when something is seen to be working does the attitude change (Mason, 2009).

The literature echoes the famous quote of Buckminster Fuller: *"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."*

As making a difference in the world is about positive impact outside of the community, indicators of success would be the number of visitors to Bellbunya who experience the model for change. To simplify data collection, this could be taken as the number of persons visiting in the preceding week, together with the number of visitors to the Bellbunya web-site on a given day. Visitors in this case would mean anyone who is not a full or provisional member of the community. A lower number indicates less impact outside the community, while the higher the number, the higher the potential impact.

The goal benchmark would be similar to Findhorn, a spiritual community started in 1962 located in rural Scotland, and considered the most influential of intentional communities in the world. Findhorn hosts 3000 residential visitors each year, holds outreach education workshops on almost every continent in the world, holds regular "day-out" tours and short-visit tours and has an a significant on-line community (Findhorn, 2010).

This is not a perfect indicator, as it does not measure the effect of the visit, or whether any positive impact was made. It should be analysis as linked with other sustainability indicators that give a picture of how effective Bellbunya is as a model. It will also be a

useful indicator for Bellbunya to use to gain further support from funding bodies and media.

During the audit it was ascertained that Bellbunya hosted 12 visitors in the preceding week and was visited by 35 people on the web-site within the 24 hour period. Whilst this is a long way below the benchmark comparison with Findhorn, it suggests over 600 visitors each year to the site and 12775 visitors to the web-site during the year which is a fair start.

Transformative Growth

A core value of the Bellbunya community is transformative growth. While it would be difficult to measure the personal growth of individual members, it is possible to measure the formal opportunities provided by Bellbunya. There are deficiencies in this indicator, as growing as a person is something individual and happens on an internal level and often in informal interactions. Further, providing an opportunity for growth does not mean it will be taken up. However, the number of formal opportunities is an indicator of the value that the community is placing on personal growth and the environment they are creating. It is a measure of Bellbunya community meeting their commitments to each other that can be measured simply.

Bellbunya can measure the number of organised activities conducted on-site in the week preceding the recording date that are for the purposes of personal, spiritual or community development. Activities could include meditations, prayer gatherings, workshops, talks, heart circles, visioning and blessings. Most of the data can be collected from the community calendar. A benchmark would be a monastical life, such as the Sisters of Saint Benedict, who hold prayer sessions three times a day and mass daily, giving a benchmark of four activities each day. (Funk, 1999) A base-line is hard to establish as there is significant variance between households and generations (Mason et al 2005). Amongst Generation Y, for example, less than 20% of youth attend a formal religious or spiritual event more than once a month (Mason et al 2005). The Catholic religion, which is Australia's largest denomination, offers a religious gathering (either a lay-lead Liturgy

of the Word or a Mass) once a week in the Belli Park region. A base-line would be one formal gathering each week.

Integrity

Integrity is a personal concept, and is difficult to quantify (Mason et al, 2003). One of the indicators for integrity would be that the community is meeting its commitments to its members, and that community members are meeting their commitments to each other. This is linked with other dimensions of the community, and will be measured indirectly by such factors as the asset to bank debt ratio, as a measure of financial integrity, by the types of ethical enterprises being conducted; by the measures of social sustainability and the meeting of social commitments and by the environmental sustainability attained by the community.

Social Dimension

Social sustainability could have a range of meanings such as increasing social capital, human rights or improvements in lifestyle, depending on the context (Vanclay, 2003). Australia's ESD policy describes the social element as relating to the total quality of life, both now and in the future, with explicit mention of enhancing individual and community well-being and welfare and intergenerational equity. Goldie et al (2005) describes social sustainability as the "capacity of human systems to provide for the full range of human concerns in the long term".

In the context of an intentional community, there is an intention for people to feel supported by and responsible to community members. A deep sense of belonging can be generated and people are encouraged to actively participate in decision-making processes. Following global research into successful communities, the Global Ecovillage

Network (GEN 2010) concluded that the social dimensions of a community are in balance when the following areas are addressed:

- *There is a sense of social stability and dynamism in community life; a foundation of safety and trust enables individuals to freely express themselves to the benefit of all.*
- *Spaces and systems are available that support and maximize communication, relationships and productivity.*
- *There are adequate opportunities/technologies for communication within the community and for connecting as is appropriate with the world wide community.*
- *The talents, skills and other resources of the community are shared freely within the community and offered outside of the community to serve the greater good.*
- *Diversity is honored as a source of health, vitality and creativity in the natural environment and in community relations.*
- *Acceptance, inclusivity and transparency fosters understanding of the benefits of diversity, enriches our environmental and social experience and promotes justice.*
- *Personal growth, learning and creativity are valued and nurtured; opportunities for teaching and learning are available to all age groups through a variety of educational forms.*
- *Options for restoring, maintaining or improving health (physical, mental, emotional and spiritual) are available and affordable, including natural remedies and alternative health practices – such as meditation and body work.*
- *The flow of resources - giving and receiving of funds, goods and services - is balanced to meet the community's needs and wishes. Surpluses are shared.*

This list matches Bellbunya's core values in this dimension as they relate to openness and feeling energised, and their defined specific commitments to each other, that are based in

relation to maintaining good relationships and community glue. It is recommended that Bellbunya adopt these indicators and measurements to give them an outlook on how they are faring in comparison with other communities, and what areas in the social sphere may need to be prioritized.

GEN (2010) has matched these indicators to a social checklist, which is a subjective measure of how the community views their community from a social sustainability perspective. The checklist measures openness, the feeling of trust and safety, communication, networking and outreach, diversity and tolerance, conflict resolution, decision-making, education and healthcare. This checklist is attached as Appendix A. The indicators are measured by the community at a regular gathering, so that learnings can be gained and shared by the community in the process of the review. GEN (2010) maintains a set of benchmarks for these indicators, with given ratings to let a community know how they are faring in relation to other communities.

This has been measured by the community with the results shown in Appendix A. The results show excellence sustainability in most of the social parameters measured, with the area needing most work outreach and networking with the broader community. Given that the community is little over a year old, it is reasonable that their energy is primarily inwardly directed in this initiating phase.

One pivotal factor in social sustainability throughout society is time pressures. An additional indicator of social health relevant to Bellbunya is the amount of time required to be contributed to community work from each community member. A small time or no time would suggest that the community is dysfunctional, not only because working together is an important community glue, but also would indicate that the community's common aims and goals and physical requirements are not being addressed. Too much time spent on community work would indicate a lack of time for individual, creative, artistic or relationship endeavours.

Two areas that are most readily measurable are the number of hours required to be spent on community work, and the number of hours spent on food preparation within the community. The benchmark that has been set by the community is 8 hours each week for community work, based on 1 day each week in areas such as maintenance of the grounds, administration, housekeeping, community shopping and maintenance and 3 hours each week for community meal food preparation and clean up, with a further half hour/day anticipated for non-shared meals.

The Australian Bureau of Statistics found that the average time spent by Australian each day in social interactions or recreation was 42 minutes/day (ABS 2006a). It also found that work hours are generally unevenly distributed between men and women. In 2006 men spent 11 hours 19 minutes, and women 20 hours each week in domestic duties (ABS 2009). Of this, women spent 8 hours in food preparation and clean up to men averaging 3 hours 23 minutes. On average 5 hours a week is spent on grocery shopping, around three and a half hours in grounds and maintenance and four hours for women, 1 hour for men in other housework. These figures constitute a base-line indicator.

Bellbunya shows a greater equity in work expectations between genders, and has a work expectation that amounts to a saving of time spent on combined domestic duties and food preparation over most Australians, and if the community members are completing the allocated hours they would fall within a sustainable social outcome.

Economic Dimension

Reliance on debt-based system

The current debt-based “monetary” system (Daly, 2004), which is almost devoid of “money” in Australia and other developed nations, is unsustainable. Whereas “money” at one time referred to a means of exchange holding intrinsic value, such as gold and silver coins, it was exchanged last century for “legal tender”, which could be tendered in

exchange for gold held in reserves for the purpose (Freedman, 1960). Legal tender has become fiat currency with only a fraction of its value held in reserve, a situation termed by economists “fractional reserve banking” (Fisher, I, 1997; Horwitz, 2009.) Currency itself accounts only a fraction of exchange, with the bulk of exchanges happening as binary changes in computer systems created by the banking system as debt. In Australia, as with New Zealand, Canada, Sweden, Mexico and the United Kingdom, the reserve ratio of fiat currency that banks are required to hold has been reduced to zero, in other developed countries it ranges from 0-18%. Interest charged on the virtual “money” comes from exchanges of goods and services, or productivity, which must continually produce and grow more in order to perpetuate usury on virtual money. Usury rates of interest are set by non-public entities such as the reserve banks, other banking institutions and creditors. (Moore, 2006)

Davies, M (2009) brought attention to Australian commercial debt levels, which are high by international standards and have been growing sharply over the last few decades. Household debt to disposable income has grown in that time from a relatively stable 45% to 157% in December 2007, primarily as a result of increased real estate mortgages (Davies, M. 2009). Similarly during these decades the ratio of debt to assets has more than doubled from 8% in December 1989 to 17% in December 2007. While many developed economies experienced rises in household bank indebtedness over this period, Australia shifted from having one of the lowest rates in the advanced economies in the late 1980s to one of the highest in December 2007. (Davies, M. 2009)

Australians have never paid more of their disposable income in interest payments to banks, including in the late 1980’s during the recession when interest rates for households peaked in 1989-90. At that time Australian were paying approximately 6% of disposable income in mortgage repayments compared with 9.3% of disposable income today, an increase of 55%. This leaves Australian households at risk from the private sector banking system increasing rates further, as well as the effects of negative equity in housing markets with falling house prices (Davies, M. 2009)

The unsustainability of economic systems globally has led to the call for a fundamental reorganisation of approaches to economics (Visscher et al 2008). In recognition of the underpinning flaws and unsustainability in the debt-based economy, the founders of the Association for Sustainable Communities Inc developed core principles around creating an internal economic system that “supports and encourages us financing each other” rather than be reliant on the banking system.

An important indicator of financial sustainability in this light is the reliance that Bellbunya has on the banking system through the ASC’s financial arrangements in purchasing and holding Bellbunya. This can be measured by the total liabilities with banks or financial institutions to assets ratio. When drawing comparisons, the goal benchmark would be a zero reliance on bank finance as the best practice or ideal solution. The base-line would be the current household situation of 17%. This indicator would reflect the Association’s stability in relation to growing equity from an increase in assets, such as through grants or capital expenditure from profits, as well as decrease in commercial bank loans.

Bellbunya’s total bank liabilities(\$592,000) as a ratio of assets (\$1,280,000) is 46%, significantly higher than either the benchmark or base-line and an area requiring some focus of attention from Bellbunya.

Affordability of community

Bellbunya seeks to be affordable and accessible to people from a different socio-economic stratas. This echoes the stated core value of the community of “openness” and their core principle of equity. It does not seek to be a cheaper alternative than other housing, but rather provide a different option that draws to itself people interested in being a part of community life. Bellbunya provides community members with the options of building themselves and acquiring long-term leases, or of periodic tenancies in existing facilities.

Bellbunya offers more than just housing, it offers a lifestyle, with the private components of rental spaces comprising only a portion of what is offered to community members. Bellbunya offers community members shared use of facilities such as a hall, cinema, restaurant and common house are included that would be difficult to quantify as a portion of private rental. Additionally, the community bulk-purchases food for community members and offers combined utilities and communication options. There is limited car-sharing and car-pooling currently available to community members with an intention to extend the program.

A useful measure of affordability would then be, could the lowest socio-economic strata, such as unemployed or pensioners, afford to live at Bellbunya? An appropriate benchmark would be to take the current Centrelink single person unemployment rate, which is presently at \$462.80 per fortnight, and deduct an amount for private expenses, health and travel costs.

This would be compared with the sum of the lowest rental rooms for new community members, food contributions, utilities contribution and any other mandatory contribution to the community. The desirable outcome would be for this to be a lower rate.

This can be contrasted as a base-line with the average single person expenditure of \$485 per week (ABS 2006a, reissued 2009).

Reinvestment in the local community

An important indicator of economic health within the community is re-investment of resources in the local economy (Institute for Sustainable Communities, 2010). This is a lynch-pin of the Transition Towns and Relocalisation movements, that are working toward creating stable sustainable futures post peak-oil (Hopkins, 2008).

Whilst many aspects of manufacturing are hard to source in a local context, the principle area where Bellbunya can make a difference is in food miles. Food purchases are the single largest non-finance expense of the community with bulk purchases for community members as well as guests and visitors. As the rural Sunshine Coast Hinterland is a fertile, high rainfall area, agricultural production is one of its principal activities (Sunshine Coast Regional Council, 2010). A significant number of organic commercial farms are located within South East Queensland, making a supply of local, healthy, fresh and ecologically produced food readily available to the community.

Measuring food miles has linkages to other sustainability goals for the community. With food traveling along long food distribution chains it arrives at its destination generally poorer in nutritional value (Gaballa , 2007) so reducing the food miles has a positive social impact on community health. It affects the ecological sustainability of the community, through reducing the community's consumption of fossil fuels and reduced embodied energy in food (Gaballa, 2007) and reducing waste through unnecessary packaging.

A measure of the community's re-investment in the local community is what percentage of its food product is supplied by farmers located within South East Queensland, and from that what percentage is from the Sunshine Coast/Gympie region, and from that what percentage is produced on-site or within Belli Park. A target would be 100% in each case. Given that in Australia the average >800 kilometres (Gaballa, 2007), the base-line for this study would be zero % within each of the areas.

Ethical businesses incubated on site

Economic enterprises based on the community is a fundamental aspect of economic security for sustainable community (Institute for Sustainable Communities, 2010). Ideally, enterprises will provide employment opportunities that are meaningful with

opportunities for training and skills development. Businesses should be diverse (Queensland Government, 2009) and financially viable and add to a strong and healthy community-centered economy (Institute for Sustainable Communities, 2010). The businesses will ideally compliment the aims of the community and enhance the sustainability of the community in other dimensions. Bellbunya has stated goals of supporting ethical businesses and stopping economic leakage.

The number and nature of the enterprises and the percentage of the community who have the majority of their income generated on-site will all be indicators of the economic sustainability of Bellbunya. Too many businesses without a corresponding number of people generating income from their endeavours may mean that energy is going out in a number of directions and some consolidation may be required.

Indicator	Measure	Baseline	Benchmark	Bellbunya Result	Implications
Reliance on debt-based economy Equity growth	Commercial debt / assets	17%	0%	46%	Bellbunya need to reduce their bank debt
Affordability	Can lowest socio-economic stream afford the lifestyle		\$230/week less \$80 travel and personal = \$150/week	\$90 accom + \$50 food + \$20 utilities = \$160 / week	Bellbunya is generally affordable and some work on transport options could make it more so
Reinvestment in local community – fresh food	% food from SEQ % food from Sunshine Coast % food on-site/Belli Park	0 0 0	100% 100% 90%	90% 50% 11%	Bellbunya needs to source more produce from its own site and the local area
Ethical Businesses incubated on site	Number of businesses Nature / type of businesses			5 5 diverse	This is indicative of start-up phase of businesses that are yet to generate significant income for

	% community members whose main source of income is generated on-site			ethical, complimentary enterprises 0%	community members It may also be indicative of a scattering of energy amongst different enterprises
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Economic sustainability indicator

Ecological Dimension

Queensland's SEQ Plan (2009) sets out a number of regional sustainability goals for a healthy climate and environment, including:

- Protection and enhancement of local and regional ecosystems and biological diversity.
- Conservation of water, land, energy, and nonrenewable resources.
- Utilization of prevention strategies and appropriate technology to minimize pollution.
- Use of renewable resources no faster than their rate of renewal.
- Infrastructure that improves access to services and markets without damaging the environment.

Food production

Bellbunya has a goal of producing 90% of all fresh food on-site within 2 years. It has stated goals of modeling eco-agricultural production, with a low toxicity policy that supports organic and biodynamic food production. These goals are consistent with the sustainability principles regarding reduced food miles. They are interlinked with social sustainability in promoting greater health of community members through producing and eating food that is fresh, nutritious and contains live enzymes, vitamins and life energy. Additionally, Bellbunya aims to practice and model minimal reliance on fossil fuels in the agricultural production, as finite oil reserves render all fossil fuel based agricultural production unsustainable (Hawkins, 2008). As we approach the peak of oil production in the next few years (Hawkins, 2008), it will be important for food to have little or no embodied fossil fuel energy to have sustainable societies.

The benchmark Bellbunya will be aiming for is 90% of all fresh fruit and vegetables grown on site, whilst the base-line would be zero production. This can be measured by estimating the amount of fruit and vegetables that have been purchased and the amount of fruit and vegetables taken from on-site and calculating that as a percentage of the total.

Consumption

Australia has become a consumerist society, with Australian households spending an average of \$895 per week on household expenses (ABS 2006). One of the most significant ways of reducing consumption is through sharing of resources (Smith). Bellbunya has a principle of minimising private consumption in favour of shared resources. The level of consumption can be exemplified in electronics.

Australians tend to have significant quantities of electrical and electronic equipment in their homes. A 2005 study found an estimated 92.5 million electronic devices in Australian households, representing an average of 22 items per household of 2.3 people. Of those, the average household will have 12 large items, such as computers, televisions, videos and sound systems. (Katos et al 2005). Televisions account for 11% of equipment in households, with the average household have 2.3 tvs and 2.2 dvd or video players. (Katos et al 2005)



The environmental disaster with these figures is threefold. Firstly, the energy and resources employed in the manufacture and transport. Secondly the energy consumption they represent on an annual basis. Thirdly, the

problem of disposing of e-waste. As people are purchasing new items faster than they are disposing of items they have, and minimal recycling, the problem of e-waste is a rapidly growing one (Katos et al 2005).

The number of big ticket electronic devices in the community would be an indicator of sustainability, with a base-line of the Australian average, and a goal of 1 item per person or less.

A second indicator would be the average age of the electronic equipment owned by the community. Average equipment age of 3 years or more indicates lower consumption rates and re-use rather than disposal and upgrades.

Energy usage and production

Australian households are high energy consumers, and the bulk of Australia's energy use being met currently by coal power stations (DEWHA, 2008). One result of centralized power reliance is high voltage power lines taking up large tracts of land and generating electromagnetic radiation at considerable financial, ecological, health and social costs to Australia. Most power stations use fossil fuels that are mined at considerable environmental cost and transported used refined fossil fuels with incumbent infrastructure

requirements. Coal stations are high water users in a country where water is a precious commodity. Amongst the pollutants generated by the stations are high levels of carbon dioxide, with the average household fed by coal energy producing 7 tonnes of CO₂ each year (DEWHA, 2008). With peak oil predicated to be apparent within the next few years (Hawkins, 2008), and water use an issue facing Australia at local, State and Federal levels, and national targets set to reduce greenhouse gas emissions, Australia's excessive consumption of centralised coal energy is unsustainable (Hawkins, 2008).

Complimentary strategies for sustainable energy consumption are increased energy efficiency to reduce total energy efficiency, changing behaviours to reduce peak loads, purchase of energy from renewable sources and production of renewable energy. Interlinked with this is greater outcomes for social sustainability, from increased comfort levels and a measure of self-sufficiency, and financial sustainability with reduced costs and potential income stream from the renewable energy grid feed. Interlinked with this indicator is the amount of electrical appliances at the community, tying in with consumption and e-waste generation.

The issue of energy consumption and centralised production is particularly relevant to the local community and the Sunshine Coast hinterland, where a duplication of existing high voltage power lines together with a new substation is planned. At a cost of hundreds of millions of dollars, properties are being resumed, property easements are being created and koala habitat destroyed to make way for the proposed infrastructure to bring additional energy from coal stations to meet peak demand on the Coast. An alternate strategy put forward by the People Advocating Green Energy (2010) is investment in energy efficiency and renewable energy sources.

An important measure of Bellbunya's ecological health will be the per person rate of energy usage in comparison with energy use in the Australian residential sector as a baseline, with a goal of reduction of 50%. The data as measured will be skewed by the commercial activities of the conference centre on site, and to have a more accurate picture the conference facilities could be separately metered. It could also be useful for

individual households within the community to be separately metered to assist locating primary areas of energy saving potentials.

A second measure will be the percentage of the energy used that is produced on-site from renewable energy. This will show the reliance on centralised infrastructure for overall energy use.

Timing of production in relation to the time of use would be a useful measure to determine practical reliance on centralised infrastructure and baseload. The information for production will be available as part of the software for the system, whilst general information regarding loading at peak and off-peak times can be found through the electricity supplier bills. A healthy benchmark from an ecological perspective would be that energy is generated during peak loading times in the local community, and that the community minimizes its consumption during peak load periods. The measure of the energy consumed during peak load times will be an indicator of the sustainability of the building designs, particularly heating, lighting and cooling.

The third measure will be the percentage of non-renewable energy consumed by the community. Bellbunya is finalising a solar project that will see 50% of its total energy use being produced by solar arrays on-site, with a project planned for 2011 to incorporate wind energy. They have a policy of purchasing only renewable energy and currently their supplied energy is purchased as wind power. Their benchmark aim is to produce more than 100% of total energy consumed at the community.

Soil Health

Soil health is an important aspect of ecological sustainability, showing whether the earth is gaining in health or declining. It is linked to food production, low food miles and to the health of community members, particularly when Bellbunya reaches its target of 90% of its fresh food intake coming from the land.

Soil health can be measured by its composition, which is done by a soil analysis, to determine the PH and levels of P, N, K and trace minerals. Additionally, the presence of any toxins should be noted for remedial actions where appropriate. The benchmark for each item will be determined by the intended use.

A further test that is easily measured is the number of macro-organisms counted within the sample. Consistency of the soil is also measured by adding some water, rolling a soil sample into a ball and squeezing to determine the amount of clay.

Bellbunya's first step is to select six to eight sites to sample. Sites should primarily be chosen within the food production area, but include a site around the community building spaces and a site near the waterway. Each site should be marked with a permanent sign, such as a starpicket, in order to find the area again the following year. Bellbunya is recommended to test two of its sites each year, however to create a base-line and inform planning and planting choices it should test all sites in the first year. Site samples are achieved through taking the hand auger and creating a hole 30 cm deep within 1 metre of the site marker.

As no testing has been carried out by Bellbunya at this stage, this indicator cannot be benchmarked at this time.

Wastes

Most households in Australia contribute a wheely bin of general refuse each week to landfill dumps, in addition to recyclable wastes of a wheelybin a fortnight. Waste requires not only energy and land for disposal, but also energy for its original manufacture and distribution. Echoing the catchcry of "reduce, reuse, recycle" the important steps to sustainability are to reduce the amount of disposable items and

packaging purchased, to reuse an item rather than send to waste, and if buying it is inevitable and it can't be reused, then recycle it.

A measure of the Bellbunya's success in adopting this strategy is the amount of household waste that is sent for disposal offsite, in comparison to the average household disposal and a benchmark goal of zero waste.

Building

Whilst the average number of people per household has been steadily declining for the last century to just over 2.3 people per household (ABS, 2009), the average dwelling size has been steadily increasing over the period so that the average house size currently being built has 4 bedrooms and encompasses over 245m². The resources required to build each square metre of house are significant. Buckminster Fuller, a visionary and inventor, declared 6 decades ago that unless we reduced the average house's resource use from 150 tonnes down to 3 tonnes, there would not be enough resources for everyone and wars would be fought over resources. Rather than decrease that amount, resources spent on housing continues to increase per capita in Australia.

One of the most significant indicators of ecological sustainability for Bellbunya is the average amount of resources used for housing, measured by the average per capita dwelling size, set against a base-line of the average Australian household, and with a benchmark set by the Bellbunya community of 60 metres for 2 people.

A second measure to give a full picture of resource use in the community would be to add the floor areas of the dwellings and community buildings, such as the hall and community house, and divide by the number of community members to gain the average total area per community member. This could be set against the same base-line as for private space, however the benchmark would include an additional 20 metres per person for community area.

The community has regulated for sustainable building design and construction, and the energy efficiency of buildings will be indicated by tracking energy consumption in the community.

Transport

Australians tend to rely on cars as their primary means of transport, and on the Sunshine Coast hinterland where there are few public transport services, this is even more marked. The average household in Belli Park has 2 cars, and travels 64 kilometers a day via car (Sunshine Coast Regional Council, 2010).

Bellbunya is located in an area with no public transport availability, and reduction of reliance on private cars requires community support. Some car sharing arrangements have been put into place. Whilst measuring kilometres traveled could be onerous, a simple measure of how well the Bellbunya community reduces its reliance on cars is to estimate the number of cars per adult, and compare these with the average Australian ownership rate.

Ecological sustainability evaluation

Indicator	Measurement	Baseline	Benchmark	Bellbunya Result	Implications /findings
Food Production on-site	The % of fresh fruit and vegetables consumed that are produced on-site	Zero	90%	11%	Bellbunya needs to increase food production on-site
Consumption - electronics	Number of big ticket items, units per person	11.2	1	1.9	With less than 2 big ticket items per person, Bellbunya is consuming well below the average, demonstrating the effectiveness of sharing Bellbunya is achieving this benchmark, partly through donations to the community of older equipment and skills in the community in repairing electronics
	Average age of equipment: > 3yrs or <3 yrs	3 years	> 3 years	> 3 years	
Energy use Energy production	Energy use per capita	1.9KVAp/p	.95KVAp/p	.9KVAp/p	Bellbunya is very energy efficient in comparison to average households as well as best practice sustainable design buildings. The completion of the solar project will bring the energy produced on-site to more than 50%, with further projects for energy production warranted.
	Energy produced on site % of energy from renewable sources	0% 0%	100% 100%	0% 100%	
Building – size	Average private space	245m ²	60m ²	18.5 m ²	Bellbunya community residents have exceeded their benchmark target in private space; and whilst
	Average total space	between	2persons	pp	

	private and public	2.3 people	80m ² 2persons	39m ² pp	ecologically sound, this leads to social implications and community members feeling cramped for space.
Soil Health	Soil composition and PH No. of Macroorganisms Clay content	To be determined from samples	To be determined base on production /use	No data available	Bellbunya needs to do testing in this area
Waste – for dumping offsite	Number of wheelybins / household	1 per 2.3 people	zero	1 per 16 members	Bellbunya’s waste is at very low levels, demonstrating preference for bulk, non-processed food purchases, low consumption and re-use of paper and cardboard on site
Transport – private motor vehicle reliance	Number of cars / adult	1.1	.5 (50% reduction)	16 members, 13 cars,	While below the average, Bellbunya needs to do more to support car-sharing and alterative transport

Recommendations

Bellbunya is generally achieving a high level of sustainability across its quadruple bottom lines. In the social realm it is particularly successful, with high levels of communication, trust and openness, and a sustainable benchmark set for community work contributions. It is recommended that Bellbunya focus attention on the areas of food production on-site, reducing their bank loans and shared transport to bring their quadruple bottom line into balance.

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Appendix A

SOCIAL

The Social aspects of community life are balanced when...

There is a sense of social stability and dynamism in community life; a foundation of safety and trust enables individuals to freely express themselves to the benefit of all.

Spaces and systems are available that support and maximize communication, relationships and productivity.

There are adequate opportunities/technologies for communication within the community and for connecting as is appropriate with the world wide community.

The talents, skills and other resources of the community are shared freely within the community and offered outside of the community to serve the greater good.

Diversity is honored as a source of health, vitality and creativity in the natural environment and in community relations.

Acceptance, inclusivity and transparency fosters understanding of the benefits of diversity, enriches our environmental and social experience and promotes justice.

Personal growth, learning and creativity are valued and nurtured; opportunities for teaching and learning are available to all age groups through a variety of educational forms.

Options for restoring, maintaining or improving health (physical, mental, emotional and spiritual) are available and affordable, including natural remedies and alternative health practices - such as meditation and body work.

The flow of resources - giving and receiving of funds, goods and services - is balanced to meet the community's needs and wishes. Surpluses are shared.

SOCIAL CHECKLIST 1

1. Openness, Trust & Safety; Communal Space

- A. The extent to which there is a basic sense of safety and trust within the community:
mostly (6) some (3) little (0) not at all (-1) 5
- B. The extent to which the community is a safe environment for women:
completely (6) mostly (3) sometimes (0) not at all (-1) 6
- C. The extent to which the community is a safe environment for children:
completely (6) mostly (3) sometimes (0) not at all (-1) 6
- D. The extent to which people in the community know and relate supportively with their neighbors:
almost always (6) often (3) sometimes (0) not at all (-1) 6
- E. Adult crimes in the community are best described as:
rare (6) occasional (3) frequent (-3) constant (-5) 6
- F. Juvenile crimes in the community are best described as:
rare (6) occasional (3) frequent (-3) constant (-5) 6
- G. Indoor spaces available for communal gatherings and activities are:
excellent (6) adequate (3) minimal (1) inadequate/none (0) 5
- H. Outdoor spaces available for communal gatherings and activities are:
excellent (6) adequate (3) minimal (1) inadequate/none (0) 3
- I. Places available for youth gatherings and wholesome activities are:
excellent (6) adequate (3) minimal (1) inadequate/none (0) 3

J. The frequency of social gatherings for the whole community: Check as many as apply -
 Daily (7) Weekly (5) Monthly (3) Seasonally (2) Annually (1) Rarely (-1) 7, 5,3,2

Add up the numbers in parentheses behind each item above that you checked.

1. Openness, Trust & Safety; Communal Space Total: 63

50+ Indicates excellent progress toward sustainability

25-49 Indicates a good start toward sustainability

0-24 Indicates actions are needed to undertake sustainability

Comments:

SOCIAL CHECKLIST 2

2. Communication - the flow of ideas & information

A. The community's system to provide members with opportunities to regularly share information, exchange ideas and announce needs is:

excellent (15) adequate (5) minimal (1) inadequate (-5) 10

Community members make use of this system:

often (10) sometimes (3) very little (1) not at all (0) 8

B. Communication systems are used and work well in the community for the following: Check as many as apply –

announcing social events (3) 3

announcing group work activities (3) 3

encouraging discussion of important community decisions (3) 3

making information about past community decisions and policies available (3) 3

providing opportunities to share resources, skills, transportation, etc. (3) 2

providing personal support at times when a community member is in need (3) 3

uncensored exchange of ideas and discussion of values and visions (3) 2

Other (1 point for each) - describe (on next page)

C. There is adequate accessibility for community members to:

Meet and talk face to face: often (8) sometimes (4) rarely (-3) 8

Phone: yes (5) no (-3) Fax: yes (4) no (-1) 5

Regular Mail service yes (3) -no (-1) Internet/e-mail: yes (2) no (0) 3, 2

Other (1 point for each) - describe:

Add up the numbers in parentheses behind each item above that you checked.

2. Communication - the flow of ideas & information Total: 55

50+ Indicates excellent progress toward sustainability

25-49 Indicates a good start toward sustainability

0-24 Indicates actions are needed to undertake sustainability

Comments:

SOCIAL CHECKLIST 3

3. Networking Outreach & Services - resource exchange (internal/external)

A. Information about the community is available for others (general public) in some form: yes (7) no (0)	7
B. The community offers programs and services in sustainable living methods, technologies and/or businesses:	
To community members: yes (7) no (0)	4
To the general public: yes (7) no (0)	5
C. The community provides assistance/service to those in need: Check as many as apply -	
within the community (10) within bioregion (5)	5, 2
in the country/state (5) in other parts of the world (5)	2, 2
D. The extent to which community members engage in service projects: Check as many as apply -	
Within the community -	
often (5) sometimes (3) very little (1) not at all (-1)	5
Within the bioregion, (surrounding or nearby community) -	
often (5) sometimes (3) very little (1) not at all (-1)	3
Nationally/internationally -	
often (5) sometimes (3) very little (1) not at all (-1)	1
E. The extent to which there are community service opportunities available for youth:	
often (7) sometimes (3) very little (1) not at all (-3)	1
F. The community builds relations and exchanges information, resources and support with other communities and related organizations:	
often (7) sometimes (3) very little (1) not at all (-1)	3

Add up the numbers in parentheses behind each item above that you checked.

3. Networking Outreach & Services Total: 40
50+ Indicates excellent progress toward sustainability
25-49 Indicates a good start toward sustainability
0-24 Indicates actions are needed to undertake sustainability

Comments:

SOCIAL CHECKLIST 4

4. Social Sustainability - diversity & tolerance; decision-making; conflict resolution

A. An estimate of how many community members value diversity and practice tolerance:	
Within the community -	
all - very few exceptions (3) most (2) some (1) few/none (-1)	2
Outside of the community -	
all - very few exceptions (3) most (2) some (1) few/none (-1)	3
B. The extent to which the community has the power of self-governance regarding community issues: completely (4) mostly (3) some (1) little (0) none (-1)	
	3
C. A non-discriminatory method agreeable to the community is used for important community decisions and directions: yes (4) in part or sometimes (1) no (-1)	
	4
D. Decision-making is transparent:	
Information about decision topics is available to all -	
always - very few exceptions (3) sometimes (2) rarely/never (-1)	3

Any member of the community can attend decision making meetings - always - very few exceptions (3) sometimes (2) rarely/never (-1)	3
E. Decision-making processes are inclusive: There is a system by which any adult member of the community can have input in the decision making process - yes (3) no (-2)	3
There is a system by which the children of the community can have input in the decision making process, as appropriate - yes (3) no (-1)	1
F. An estimate of how many community members regularly participate in community governance and decision-making is best described as: all - very few exceptions (4) most (3) some (1) few/none (-1)	4
G. Information/training is available in decision-making and mutual empowerment skills: For adult community members yes (3) no (-1)	1
For children in the community yes (3) no (-1)	1
H. An estimate of how many community members would agree that the decision-making system is successful in difficult decisions/situations: all - very few exceptions (4) most (3) some (1) few/none (-1)	2
I. Social difficulties and disputes are successfully managed by an agreed upon system that is supportive, not punitive: almost always (5) usually (3) sometimes (1) rarely/never (-5)	3
J. Community members have easy access to this conflict resolution system: yes (4) no (-2)	2
K. Information/training is available in non-violent conflict resolution skills: For adult community members yes (5) no (-1)	5
For children in the community yes (5) no (-1)	3
L. An estimate of how many community members would agree that their conflict resolution system: is successful in dealing with difficult people/situations all - very few exceptions (4) most (3) some (1) few/none (-1)	2
safeguards human rights all - very few exceptions (4) most (3) some (1) few/none (-1)	3
promotes equality and social justice all - very few exceptions (4) most (3) some (1) few/none (-1)	3
Add up the numbers in parentheses behind each item above that you checked.	
4. Social Sustainability Total: _____	51
50+ Indicates excellent progress toward sustainability	
25-49 Indicates a good start toward sustainability	
0-24 Indicates actions are needed to undertake sustainability	

Comments:

SOCIAL CHECKLIST 5

5. Education

A. Education and learning are valued in the community as demonstrated by the following:
Check as many as apply -

mentoring, internships and/or apprenticeship offered by those with special skills/expertise (3)	2		
community gatherings for information exchange and group learning (3)	2		
community gatherings to discuss and learn from issues and mistakes and make changes to improve what is not working well (3)		2	
the input and contributions of community elders are sought and respected (3)	1		
including children in work and community activities of all kinds (3)		2	
parent involvement in their children's educational process (3)		2	
learners determining the focus and content of their educational programs (3)	3		
no or low drop out rate of children from their educational system (3)		3	
other (1 point for each) - describe:			
B. Educational opportunities (appropriate to the community) are available and accessible within the community or bioregion, including: Check as many as apply -			
Early education (pre-school learning activities) (2)		2	
Basic education (2)			2
Vocational/livelihood skills training (2)		2	
Formal/higher education (college) (2)		2	
Special interest workshops/seminars/group programs (2)	2		
Wholesome programs/activities for youth, outside of school (2)			
Life experience learning opportunities (2)		1	
other (1 point for each) - describe			
C. Education opportunities are available to all age groups:			
in the community yes (10) no (-1)			10
in the bioregion yes (5) no (-5)		0	
D. The extent to which educational systems and teaching methods:			
honor and support individual differences of learners (talents, aptitudes, interests & limits, etc.)			
great (6) somewhat (3) in small part (1) not at all (-2)		1	
promote individual self-realization			
great (6) somewhat (3) in small part (1) not at all (-2)		4	
promote cooperative interdependence and community building skills			
great (6) somewhat (3) in small part (1) not at all (-2)		4	
Add up the numbers in parentheses behind each item above that you checked.			
5. Education Total:			47
50+ Indicates excellent progress toward sustainability			
25-49 Indicates a good start toward sustainability			
0-24 Indicates actions are needed to undertake sustainability			

Comments:

SOCIAL CHECKLIST 6

6. Health Care

A. Basic health care is: Check as many as apply -			
available locally (3) easily accessible (3) affordable (3)	3,2,3		
B. Health care options available within or near the community: Check as many as apply -			
Basic health care - conventional medical services (2)	2		
Pre-natal care (2)		2	
Dental care - conventional medical services (2)	2		
Pediatric care (2)		2	
Emergency care (2)		2	
Care & support for the handicapped/disabled (2)	2		

Maternity care (2)			2
Traditional services (shamanic ceremonies, counseling, etc.) (2)	2		
Elder care (2)		1	
Traditional remedies (herbal, nutritional, etc.) (2)	2		
Care & support for the dying (2)		1	
Preventive care/teaching (diet, exercise) (2)		2	
Homeopathy (2)		2	
Alternative practices (meditation, yoga, etc.) (2)		2	
Alternative/eclectic therapies (body work, hypnosis, biofeedback, energy methods, etc) (2)	2		2
Other (1 point for each) - Specify (on next page)			
C. How well health needs are met within or near the community:			
Physical well (2) adequately (1) poorly (0) not at all (-2)	2		
Mental-well well (2) adequately (1) poorly (0) not at all (-2)		0	
Emotional well (2) adequately (1) poorly (0) not at all (-2)	2		
Spiritual well (2) adequately (1) poorly (0) not at all (-2)	2		
D. Deaths from preventable causes in the community are:			
rare (6) occasional (3) common (-1) frequent (-3)	6		
E. Deaths from suicide/homicide/drug abuse in the community are:			
rare (6) occasional (3) common (-1) frequent (-3)	6		
F. The incidence of serious communicable diseases in the community is:			
rare (6) occasional (3) common (-1) frequent (-3)	6		
6. Healthcare	Total:		60
50+ Indicates excellent progress toward sustainability			
25-49 Indicates a good start toward sustainability			
0-24 Indicates actions are needed to undertake sustainability			