

7. Creating supportive environments to foster reasonableness and achieve sustainable well-being

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Well-being depends on others and the environment. Our capacity to meet our needs and pursue a meaningful life is affected by the actions of other people as well as the shared environmental resources on which we all depend. These impacts play out unequally across socio-economic, geographic and political boundaries. Excessive resource use by industrialized nations leads to exploitation, both human and natural, in underdeveloped yet resource-rich nations. On a smaller scale, how farmers care for a shared pasture can have an impact on the well-being of those with whom they share it. Inequalities range across temporal boundaries as well – the well-being of future generations depends on the decisions and actions of the current generation, just as ours has depended on those of past generations.

If our goal is to improve the well-being of all people, then maximizing the individual well-being of some at the cost of others and the environment cannot be an adaptive solution. Consequently, policies aimed at improving the well-being of current as well as future generations must simultaneously address individual well-being and the larger good (Kjell 2011). To promote this more egalitarian well-being, we address the needs for reasonableness and coexistence that can foster the well-being of others as well as ourselves.

We begin by describing our conceptualization of reasonableness, its commonalities with and differences from current notions of well-being (in particular, subjective well-being) and the centrality of information in understanding ways to foster reasonableness. This leads to a brief overview of the Reasonable Person Model, a theoretical framework which casts reasonableness in terms of human informational needs. To fulfil these needs, in turn, it is important to consider how environments can support reasonableness. One category of needs relates to functioning effectively in a world that readily undermines our mental resources. How can environments sustain and restore our inherently limited mental

capacity? The second category concerns the need for community, in terms both of ways to promote social interaction and of opportunities for acting meaningfully. Implicitly we take the position that reasonableness is strengthened by sharing perspectives, learning from others and feeling that one is a useful member of the species. We close with the suggestion that small experiments are an effective means for testing some of these ideas while creating environments that can bring out the best in people.

REASONABLENESS

Reasonableness addresses the issues that help (or hinder) us in being civil and sociable, developing trust, and cooperating with one another in the face of shared challenges. More simply, it refers to the way in which people, at their best, deal with one another and the resources on which we all rely. While humans have evolved to have pro-social inclinations (Tomasello and Herrmann 2010), the frequent examples of unreasonableness in modern life suggest that all too often people are not at their best. Irritability, intolerance, incivility, lack of respect, and a sense of hopelessness are but a few instances of a reasonableness deficit in managing oneself and interacting with others. Greed, waste and pollution are examples of unreasonableness that have an impact on our shared resources. By contrast, achieving sustainability relies on regard for others and appreciation of what sustains us.

Subjective Well-being and Reasonableness

The notion of reasonableness focuses strongly on humankind's mutual dependencies and less on the personal aspects of subjective well-being (SWB). Whereas SWB is primarily a measure of one's own state, reasonableness also reflects how we treat others. While research supports that cooperation can enhance well-being, there are also ample examples of people whose well-being is not reflected in their civility towards others. It is also possible that consideration of the larger good may not permit maximizing individual well-being. For example, people often take on challenges that may compromise their own well-being in order to achieve a larger purpose (e.g. raising children, helping others, learning about oneself). While such challenges may diminish one's autonomy or pleasure in the short term, the realization of a long-term achievement can benefit overall well-being. We propose, therefore, that reasonableness may provide a useful standard for addressing the issues of interdependence that are pivotal to both the individual and the societal aspects of well-being.

While reasonableness does place a greater focus on interdependence, there are several themes that reasonableness and research linked to SWB have in common. For example, Helliwell's analysis of SWB (this volume, Chapter 5) includes findings supporting the human inclination for pro-social behaviour that resonate strongly with the notion of reasonableness. Likewise, there are some interesting parallels between Antonovsky's sense of coherence (Hämäläinen, this volume, Chapter 2; Eriksson and Lindström, this volume, Chapter 3), consisting of comprehensibility, manageability and meaningfulness, and factors related to reasonableness. Deci and Ryan's (2000) notions of autonomy, competence and relatedness are characteristics that connect well with reasonableness. Also, among Peterson and Seligman's (2004) list of character strengths and virtues, many – e.g. wisdom and knowledge, courage, justice, transcendence, temperance, humanity – are in concordance with the characteristics of a reasonable person.

Information and Reasonableness

What are the reasons behind reasonable behaviour? We suspect that an underlying issue is our relationship with information. For a species whose survival has hinged on wits rather than speed or strength, it should not be surprising that we are greatly motivated by and concerned about information. Our survival toolkit depends on mechanisms for gathering information from our surroundings to recognize existing dangers or opportunities and to anticipate future outcomes. Yet our relationship with information is anything but straightforward. We seek it and share it, even hoard it, and struggle to make sense of it. At the same time, we hide it, get bored with it and become overwhelmed by it. The joys and pains of this relationship suggest that we care deeply about making sense of our world and, accordingly, would go to great lengths to avoid confusion. When we are unable to do so, we are more likely to find ourselves in an unreasonable state.

For example, being in a state of confusion can easily make us irritable. Our patience is tested when our expectations of others are not met (consider, for example, a law-abiding driver who might develop road rage at someone skirting the rules). Impatience can be quickly exacerbated in contexts where we do not know what is going on or why things are happening a certain way. O'Hara and Lyon (this volume, Chapter 4) assert that an uncertain, rapidly changing global context now leads to an incoherent worldview with concomitant psychological costs. Lack of clarity at many scales can thus readily lead to expressions of unreasonableness.

The information we absorb from and about others colours the way we perceive and interact with them. How we understand others and their circumstances can thus play an important role in developing trust,

achieving tolerance and respect, and countering stereotypes that easily lead to unthinking reactions. Developing such understanding requires community and social interaction, yet as people are increasingly isolated (Helliwell and Putnam 2004; Bartolini, this volume, Chapter 6) such opportunities are less frequent. Furthermore, inequality exacerbates feelings of resentment towards others (Oishi et al. 2011).

Reasonableness, however, requires more than having needed information and a sense of clarity. We must also have the mental capacity to use the information effectively. For example, we may know that saying something is impolite or inappropriate, but may not have the mental resources necessary to refrain from doing so. Von Hippel and Gonsalkorale (2005) exemplified this in an amusing cuisine-related study which showed that people with a depleted capacity for self-restraint are more likely to make culturally insensitive comments. By contrast, listening and showing respect to others depend on our ability to control the urge to interrupt and jump to conclusions. In short, civility depends a great deal on self-restraint.

Even when we have the needed information and can competently utilize the knowledge, reasonableness may still founder. Taking action and then realizing it has made little difference can lead to distrust, a sense of helplessness and hopelessness, and inappropriate behaviour. On the other hand, getting positive feedback about the difference we've made can have the opposite effect.

Supportive Environments as Conditions to Foster Reasonableness in Policy

Given the breadth of issues associated with reasonableness, improving it may seem like an intractable problem, particularly from the vantage point of policy initiatives. We propose that focusing on the impact *environments* can have in fostering reasonableness and well-being may offer some fresh insights.

Environments can be thought of as patterns of information that their human occupants must process. They can take many forms. They can be created by people (houses, office buildings, streets) or products of natural forces (forests, streams). Both cities and forests provide information that is essential to human knowledge, wayfinding, prediction and action. Similarly, many other contexts, circumstances and situations can be considered as patterns of information that serve human functioning.

Our analysis thus broadens the environment concept to include not only physical settings, but programmes, interventions and virtual environments. For example, what we see on our computers and smartphones can be a captivating or confusing environment. Classrooms, boardrooms and courtrooms are characterized not only by the design of physical space, but

also by the rules, customs, formalities and informalities which govern how people share information, respect one another and work together.

Environments, in this broad sense, can have a dramatic effect on physical and emotional states as well as behaviour. One can get into the driver's seat of a car and become a very different person. Zimbardo (1973) famously put innocent people into a prison context, some as prisoners and others as guards. The 'guards', who had no previous experience as such, treated the 'prisoners' so badly that the experiment had to be terminated. Similarly, being lost in an unfamiliar neighbourhood can lead to frustration and fear. Attending some lectures can produce sufficient confusion or boredom to make one head for the door.

While there are plenty of negative examples, our focus here is on the kinds of environments that can bring out the best in people. The next section presents a framework that builds on these notions.

THE REASONABLE PERSON MODEL

The Reasonable Person Model (RPM) (S. Kaplan and Kaplan 2003, 2009) posits that reasonableness and well-being depend greatly on meeting informational needs. From an RPM perspective, environments are patterns of information that people want to make sense of, utilize effectively and engage with meaningfully. Since information patterns serve as the common coin, institutional or cultural arrangements can be analysed through the same RPM lens as physical environments. For example, people in more individualistic societies are regularly exposed to information, through media and through others' actions, that promotes selfish behaviour. Thus, cultural values and norms can be framed as information that influences reasonableness.

RPM breaks these informational needs into three interdependent domains that have already been hinted at in the previous discussion (Figure 7.1). While RPM does not address every cause of unreasonableness, the basic premise of the model is that we are more likely to be reasonable when all three domains of needs are addressed.¹

Model Building

The first domain of RPM concerns our need to build mental models. These models take the form of neural structures that represent ideas and objects in the real world as well as the relationships between them. Constructing such mental models (i.e. learning) is a relatively slow process that requires multiple and varied experiences. The resulting maplike structures (also

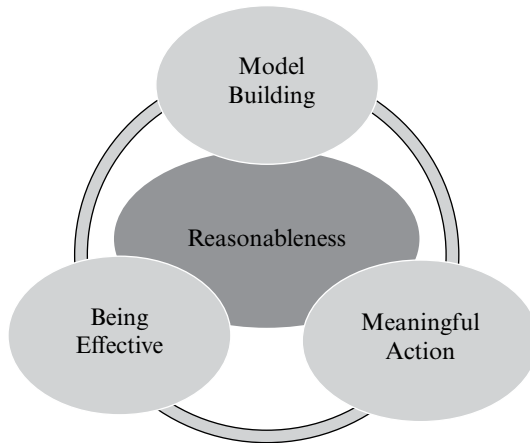


Figure 7.1 Three interrelated domains of the Reasonable Person Model

known as cognitive maps) allow us to store information and to use it to anticipate forthcoming events and evaluate possible outcomes (S. Kaplan 1973). Our mental models permit us to parse an otherwise incoherent mass of information and pick up on salient patterns, ignore the superfluous, and make predictions of what might come next. Because of our ubiquitous reliance on mental models, we are hard-wired to want to extend our maps. At the same time, however, given the effort put into building them, we are often inclined to cling to the mental models we already have, sometimes despite evidence to the contrary. Like most products of evolution, it is by no means a perfect system, but it has helped the species carve out a large and often comfortable niche.

Undermining our capacity to build mental models undermines our reasonableness. Research in environmental preference has shown strong commonalities in the kinds of environments that people prefer. These are settings we can understand and that offer us the opportunity to learn something new (S. Kaplan and R. Kaplan 1982). On the other hand, environments that are consistently less preferred are ones where our models cannot grow (e.g. boredom) or where they are not useful (e.g. confusion). Extending our models is facilitated when new knowledge connects sensibly to what we already know and grows mostly incrementally. While innovation sometimes comes from 'thinking outside the box', more commonly being able to explore in a realm not too far away from one's expertise is more comforting. Being able to do so at one's pace fosters the model-building process. RPM emphasizes that addressing these needs for understanding and exploration is a critical component of enhancing reasonableness.

Being Effective

The second domain of RPM deals with the need to function effectively. First, doing so requires more than knowing what to do – it also requires a sense of competence. This means cultivating skills for how to do things. It also requires knowing how things work in the world and finding opportunities to apply one's skills.

Second, developing this competence is dependent on thinking with a clear head, yet we often find our thoughts muddled (see also Hämäläinen, this volume, Chapter 2). Not only is such a state disconcerting, but it can impair learning, cooperation, problem solving, civility, and many other activities central to reasonableness and well-being. This unfortunate state of mind is a result of a depleted mental resource known as directed attention (DA) (S. Kaplan 1995).

In technical terms, DA is an inhibitory neural mechanism used for self-regulation, self-control and executive functions (Baumeister 2004; S. Kaplan and Berman 2010). More simply, it is what people depend upon to pay attention, block out distractions, resist temptations and stay focused on goals. Thus, DA is essential for coping with the environment. The demands on attention in modern environments are rapidly increasing, but the evolution of our brains has not kept pace (Grinde 2009a). Yet those same brains must now swim through tsunamis of information every day. In some respects technology has helped where evolution has not; in other respects, however, it has exacerbated the situation by the sheer volume of added information to which attention must be paid. In other words, more information is not always helpful.

All of this would not be a problem if DA were boundless. Alas, it is a limited resource, meaning that we cannot pay attention indefinitely. The depletion of this resource – resulting in directed attention fatigue (DAF) – can have serious effects on functioning effectively and our sense of competence. It can increase the likelihood of incivility and aggression, as well as decrease the capacity to face challenges (Kuo and Sullivan 2001a). These and other factors combine to reduce our overall effectiveness. In light of the far-reaching implications of human attentional capacities it is important to consider ways not only to restore DA but to reduce the likelihood of DAF.

Meaningful Action

The third domain of RPM addresses our need to make a difference in the world around us. Such meaningful action is far different in the modern world than it was for our Stone Age ancestors. For them, foraging for

food was clearly linked to survival and quality of life. In our modern times the relationship between one's actions and the outcome is often more murky. Nevertheless, our desire to make a difference remains a strong motivating factor. Feeling that our actions make no difference can be a tremendous detriment to our self-worth and lead to a sense of helplessness (Seligman 1975). On the other hand, knowing that we have had an impact can make us feel accomplished and useful, bolstering respect for ourselves and also garnering the respect of others.

Meaningful action can find expression in a multitude of common activities that permit us to have a sense that we make a difference, are heard and respected, and may be part of something bigger than ourselves. Participating in plans that may affect our communities is a chance to act meaningfully. It is hardly surprising that when participation is solicited but the outcomes show little trace of its impact the consequences are distressing to those who were involved. The desire to be respected and to be heard is a key motivation that when undermined can be detrimental to reasonableness. Yet, while the desire to be heard is strong, the challenge is often to listen to others. Listening, however, is critical for developing shared mental models, and such models are needed for groups to work together and achieve mutually beneficial outcomes.

Helping fellow members of our species can be a meaningful experience. While such pro-social behaviour is by no means guaranteed, creating conditions of familiarity and trust between people makes such behaviour more likely (Helliwell, this volume, Chapter 5). Grinde's (2009b) comparison of social units (e.g. families, tribes) in Palaeolithic versus modern times suggests that, while the species has relied heavily on social relationships for survival, modern contexts and environments are often detrimental to such relationships (see also Bartolini, this volume, Chapter 6).

The desire to be needed and to be useful creates an enormous, and often underutilized, human talent pool. While this talent can be used for anti-social causes (e.g. gangs, terrorism), the meteoric rise of the NGO sector (Hawken 2007) suggests that pro-social outlets are not only possible but widespread (see also O'Hara and Lyon, this volume, Chapter 4). NGO projects and similar opportunities could foster well-being both at an individual level by meaningfully engaging human talents and at a societal level by dealing with problems that are salient enough to attract that talent.

The discussion of each of the RPM domains separately may obscure their strong interrelationships. From a policy perspective especially it is the connections among the domains that must be considered. For example, working together requires sharing knowledge with others (i.e. model building) as well as patience and self-restraint (i.e. being effective). It also demands a capacity for treating others with respect and recognizing

a universal desire to make a difference (i.e. meaningful action). While not specifically addressed, the necessity of model building is intrinsic to the issues raised in the next two sections. These sections discuss supportive environments in terms of ways they can sustain and restore our limited capacity for attention, and ways they can contribute to developing social capital and community.

REASONABLENESS, MENTAL CAPACITY AND EFFECTIVE FUNCTIONING

Acting reasonably is particularly challenging when it is important to inhibit counterproductive inclinations. Such self-regulation requires directed attention. In this section we turn first to ways that environments can help sustain this finite resource and then consider the role the environment can play in restoring it.

Environments to Sustain Directed Attention

An environment that sustains DA would reduce unnecessary pressures on it. For example, noise has been shown to have a strong negative effect on student performance (Haines et al. 2002; Clark et al. 2006). Children's inability to concentrate on their tasks in such an environment is presumably a contributing factor to the performance decrement. Siting noisy land uses (such as airports) away from schools and locating schools in quiet areas (e.g. through zoning regulations or other land-use policies) may be a fruitful way to preserve DA. Likewise, certain kinds of green roofs, because they have soft surfaces which absorb noise instead of reflecting it, can reduce sound by 5–50 decibels (Dunnnett and Kingsbury 2004; Getter and Rowe 2006). Many other distractions are endemic in the local environment. Policy makers may find the knowledge of local citizens a rich source of suggestions for ameliorating some of these situations.

Dealing with daily annoyances can also deplete DA. Commutes, traffic, and reliance on cars provide examples for many people. The hallmark of driving is its fast pace of travel that prohibits communication with others and often raises uncertainty and frustration (e.g. it is hard to know whether the other driver is honking at you or someone else). Dealing with this uncertainty does more than put one in a bad mood; it also uses up precious DA. Other means of transport – walking, biking, trains, sharing rides, and buses – circumvent many annoyances. Changing the reliance on driving necessitates numerous policy decisions with respect both to the availability of reliable, convenient and efficient alternative means of

transport and to work patterns which reduce the need for it (e.g. telecommuting) (Goldman and Gorham 2006; Zielinski 2006). The resulting changes not only serve to sustain DA; they can also benefit everyone's daily well-being as well as preserve environmental resources for future generations.

Getting lost, and even concern about getting lost, is another drain on DA. Finding one's way around can be challenging within buildings, campuses, neighbourhoods and many urban settings. Signage can be helpful in such situations. Unfortunately, it can also add to the confusion. Street mazes with incoherent directions, maps that are counterintuitive (e.g. north need not always point to the top of the map) or have lengthy complex legends, and systems that add to the memory load (e.g. remembering the colour associated with where one parked most recently) all exacerbate wayfinding problems. Designs that facilitate wayfinding, by contrast, may reduce the need for signage. For example, grid-based street designs are more navigable than cul-de-sacs (Tasker-Brown and Pogharian 2000). Furthermore, if people and their travel destinations (e.g. work, shopping) were closer to each other, both the need to drive and the likelihood of getting lost would be reduced. This has benefits not only for mental resources but for environmental resources as well.

Yet another drain on DA is the consequence of the difficulties of weighing among alternative decisions that need to be made. While choice is seen as a hallmark of freedom, having too many choices can have psychological costs. This is the primary insight from Schwartz's *Paradox of Choice* (2004), in which he argues that having too many choices leads both to an inability to make a decision and to feeling less satisfied with the outcome. Vohs et al.'s (2008) work on *decision fatigue* makes the link more explicitly to DAF, showing that making decisions expends a limited resource (i.e. DA) for self-regulation and thereby impairs one's subsequent capacity to regulate behaviour. Therefore another way to sustain DA is to reconsider environments in which choice may be overbearing (see also Hämäläinen, this volume, Chapter 2). For example, as exemplified by many software programs, default options may minimize the user's need to consider a multitude of possibilities, although these can still be available for those who wish to use them.

Environments to Restore Directed Attention

We have explored a variety of ways to sustain DA by reducing the many daily occasions that call upon these precious and finite attentional resources. Even if many culturally ingrained patterns that assault DA could be diminished, however, DA can be depleted through concerted and

intended effort. It is necessary, therefore, to permit DA to replenish or become restored. Here again, environments can be more or less helpful.

Attention restoration theory (R. Kaplan and Kaplan 1989; S. Kaplan 1995) provides an analysis of the kinds of experiences that lead to recovery from the fatigue of DA. It relies on an attentional mechanism that does not require the effort-driven and fatigable DA, but rather one that is more automatic, centring our focus on attributes of the environment that are inherently fascinating. This alternative kind of attention – proposed long ago by William James (1898) – requires minimal effort (e.g. watching the antics of wildlife in a nearby tree), and, while people are fascinated in this way, their DA can rest and replenish.

In addition, when the environment softly holds our attention (e.g. wind blowing through leaves), it frees the remaining mental space to reflect on difficult events or ideas that don't make sense (R. Kaplan and Kaplan 2011). It also allows the unconscious mind to work on unresolved issues. Such opportunities can help reduce the impact of mental stresses, as well as the cognitive dissonance issues raised by O'Hara and Lyon (this volume, Chapter 4). Thus, creating environments that engage our senses effortlessly and provide opportunities for reflection can help to restore DA.

Restorative benefits of nature

Many kinds of environments and activities have this restorative potential. In particular, a growing body of literature on restorative environments has focused on the beneficial impact of exposure to natural environments that contain trees, plants and other greenery (Pretty 2004; Frumkin 2005; Velarde et al. 2007; Abraham et al. 2010). Studies have consistently found that exposure to natural settings can reduce DAF and lead to various benefits, whether one is physically in the environment or otherwise engaged with it.

Taking a walk in nature has been shown to improve the capacity for directing one's attention. For example, Berman et al. (2008) compared walking in a serene natural setting to a walk of the same duration on a busy street and found that participants who walked in nature performed better on several attention-related measures. The authors attribute the improvement in attention to environmental factors; while the natural environment provided walkers with a multitude of fascinating objects to softly engage the senses, the busy street required walkers to maintain a constant vigilance (e.g. to avoid being hit by a car).

A substantial empirical literature has shown that opportunities to view nature from the window not only is restorative (Tennessen and Cimprich 1995), but also improves satisfaction and well-being (R. Kaplan 2001). Views can also have a range of health benefits, as evidenced by Moore's

(1981) study which showed that prison inmates in cells with views of a nearby farm field visit the infirmary less than inmates whose cells face a barren inside courtyard. In a more virtual environment, Berto (2005) showed that even viewing photographs of natural settings can restore DA.

Chicago's public housing projects presented a remarkable opportunity to test the effects of nature exposure in a gritty and challenging context. The layout of the project buildings provided some residents with views of some trees and green areas, while others had little if any nature available. In a series of studies, Kuo and Sullivan reported that residents with views of nature exhibited less aggression (Kuo and Sullivan 2001a), committed fewer crimes (Kuo and Sullivan 2001b) and felt more capable taking on challenges (Kuo 2001). The researchers attribute these benefits to restored attentional capacity amongst the residents who had nature views.

Matsuoka's (2010) study extended the context to high school students. He related the nature views at 101 high schools in south-east Michigan to student performance and behaviour measures. After controlling for socio-economic factors, he found that schools that have cafeterias with nature views are linked to better student performance. The author interprets this in terms of students' opportunity during break time to deal with their internal thoughts and recover from mental fatigue, which then increases their capacity in class for learning. This is corroborated by a study of students with attention deficit hyperactivity disorder (ADHD) which found that those who spend their break time exposed to green outdoor settings are less symptomatic than students who spend their break in built environments (Kuo and Faber Taylor 2004; Faber Taylor and Kuo 2011).

In a caregiving context, Canin's (1991) study found that in the demanding world of HIV caregivers those who reported walking, hiking, biking and other nature-based activities scored higher on measures of effective functioning and well-being. Nature walks and gardening have also been shown to improve the recovery of post-surgery breast cancer patients by reducing the mental fatigue that comes from the stresses of chemotherapy and the uncertainty associated with concerns about mortality (Cimprich 1993; Cimprich and Ronis 2003).

A large-scale study in the Netherlands compared the amount of green space near citizens' residences (based on GPS data) to various measures of the residents' health as collected in a national health survey. They found that those who live closer to natural areas such as gardens, neighbourhood parks or larger green spaces (what they call 'Vitamin G') are healthier on a wide range of measures (Groenewegen et al. 2006). This not only suggests that the benefits of nature exposure go beyond the realm of attention restoration, but also underscores the importance of creating environments

in which nature is equitably distributed such that all citizens can benefit from having easy access. Similarly, Stigsdotter et al. (2010) have shown, in a large-scale study based on a random sample, that the proximity of the natural environment is significantly related to reduced stress and enhanced quality of life.

Having nature nearby can be particularly beneficial to children. Louv's (2005) *Last Child in the Woods* bemoans the diminishing time children spend in the outdoors and describes the multiple benefits children receive from having time to play outside. It may be beyond the purview of policy to dictate what can or cannot be shown on television, even though many forms of programming can have a detrimental effect on attention level (Christakis 2011; Lillard and Peterson 2011), but having nature nearby can give children at least an option to do something other than sit in front of the television.

Policy opportunities

Population growth and the concomitant urbanization of natural lands continue to dramatically change landscapes around the world. The desire to retain some aspects of nature in these increasingly human-built environments is now more than an expression of nostalgia or Luddism. Severing our connection to nature has substantial psychological costs; it impairs our capacity to think clearly and function effectively, which in turn diminishes the collective well-being. For policies geared towards improving well-being, the mandate then should be to preserve nature where it exists, revitalize nature where it has been disregarded, and integrate nature into the fabric of cities and neighbourhoods.

Preserve Creating nationally protected parklands or wilderness areas is certainly a desirable way to preserve nature and protect it from future development. Even when this is feasible, however, such areas are likely to be inaccessible to many people. Using a smaller-scale approach would provide benefits for more people, more readily and more frequently. An example of such an approach is to preserve smaller pieces of nature such as street trees, pavement shrubs and corner parks (R. Kaplan et al. 2007).

Arendt's (1996, 2004) conservation developments have provided a way of preserving existing nature in a residential neighbourhood, adopted in many parts of the US and in Canada. Such developments commit to preserving sensitive and desirable natural areas on a land parcel before it is divided into residential parcels. The resulting lot sizes of the houses are smaller; however, because the residents have access to, and views of, the common natural area, they receive both psychological (R. Kaplan et al. 2004) and economic (Mohamed 2006) benefits. In several rural communi-

ties in the United States, local governments have voted to require a certain percentage of new residential building be conservation developments.

Revitalize Overgrown lots and abandoned buildings, found in many urban areas, are linked to lower levels of well-being for nearby residents (Evans 2006). Reclaiming these derelict lands through brownfield redevelopment, urban greening and community gardens allows for the restoration of natural elements in the environment. New York City's MillionTreesNYC programme (PLANYC, n.d.) is an excellent example of a high-level policy geared towards this end. More generally, ecological restoration efforts can help to create not only more functional but also aesthetically pleasing areas in which people may be more likely to linger and build community. They can also have the further advantage of providing local residents with opportunities to participate in the stewardship of the natural settings they cherish (Ryan and Grese 2005).

Integrate The evidence discussed earlier has many policy implications for public institutions such as public housing, schools, hospitals and prisons. In each of these contexts, policy makers can have a direct impact on the well-being of residents, students, patients and even the incarcerated – who are less likely to commit crimes again if their well-being is improved in prison (Helliwell 2011a) – by integrating nearby nature into the design and management of the physical environments of such institutions.

The urban greening movement showcases many exemplary strategies of integrating nature into urban spaces (Rubin 2008). Green roofs, which transform building roofs by covering them with growing vegetation, are an excellent example of utilizing unused space to create a green space that has restorative potential and ecological benefits (Getter and Rowe 2006; Dvorak and Volder 2010). Across the urban greening movement, one of the most noteworthy patterns is that integrating nature need not require excessive time, space or financial resources; even small window-sill gardens, flower pots near doorways, or ivy on buildings can have a restorative effect.

Interventions like these may actually lower future costs. For example, hospitals can reduce the length of patient stays, and states can reduce the costs of prison health care. Costs of maintaining nature areas can also be reduced if local citizens are given the opportunities to participate in their care. In addition to cost savings, this promotes an engagement with nature, with all of its restorative benefits, and enhances the well-being of the community through opportunities for social interaction, which is a central theme of both Helliwell's chapter (this volume, Chapter 5) and our next section.

REASONABLENESS AND COMMUNITY

As an information-based species, we are necessarily dependent on each other. To the extent that reasonableness concerns how we trust and treat others and share knowledge with them, it is important to consider ways to foster community and enhance social capital. Central to social capital are social resources, networks and relationships (Field 2003). It is through these that our social fabric can develop and people can gain a sense of belonging.

The lack of social ties, furthermore, has been shown to relate to mortality rates (Whitehead and Diderichsen 2001) and social well-being. The correlates of subjective well-being include the size and use of one's social network (Helliwell and Barrington-Leigh 2010), level of trust in others (Helliwell and Wang 2010), and ties to friends, neighbours and work colleagues (Helliwell and Putnam 2004). While these studies take an individual perspective, the factors also address the needs for reasonableness. They may also have a self-reinforcing effect in that communities with higher social capital and sense of community can better convey similar values to newcomers, who can perpetuate the cycle.

Developing these connections requires getting to know people in one's community as well as the environment which one shares with them. Aung San Suu Kyi, the 1991 Nobel Peace laureate and democracy activist in Burma, has said that democracy requires broad-mindedness and acceptance of people of different cultures and backgrounds (Aung San Suu Kyi 1991). This in turn requires developing empathy and respect for the needs, values, cultures and expectations of others. What we know about others can greatly influence how we treat them. Treating others better (being civil, helping, listening) enhances mutual trust and good will; it is also a source of individual satisfaction (Peterson 2006). In this way, developing mental models of others can enhance the communal capacity for coexistence and reasonableness.

Developing such mental models draws on a variety of social skills. As Drayton (2011, p.37) notes: 'Whoever has not mastered the complex, learned skill of empathy will hurt others and disrupt groups – and will be marginalized regardless of the computer science or other knowledge they have.' Drayton also recognizes that empathy is essential for learning how to listen: 'People typically tend to hear only 20 or 30 percent of the words of the person they are conversing with. You can improve that dramatically . . . Listening is understanding. The skill of empathy is a must to be able to listen!' (Bagchi 2011).

Becoming familiar with other people, especially those very different from oneself, requires multiple and diverse ways to learn about them and

interact with them. Knowing others means being able to anticipate their behaviours and trust them, feel safe around them, relate to them and communicate with them. The process may also require changing some of the mental models we rely upon without realizing it. Despite these challenges and the time developing them may take, with increased familiarity our sense of being lost and confused is reduced and we can, therefore, feel more secure and capable of coping and acting.

These characteristics and benefits of familiarity apply not only to social contexts but to physical environments as well. Familiar contexts enable us to be more reasonable and function more effectively. Furthermore, the comfort of the familiar makes it safer to venture into the unknown – to explore new ways, perspectives and places. Conversely, feeling lost or unsafe can quell one's motivation to take a chance to explore a new place or learn something about a stranger. Over the long term such feelings can overwhelm the capacity for reasonableness.

Familiarity with one's neighbours, however, does not in itself address the meaningful action component of RPM and the sense of purpose that various researchers have found to be important to overall well-being (Antonovsky 1979; Deci and Ryan 2000; Helliwell 2011b; S. Kaplan and Kaplan 2009). Putting our knowledge and networks to use in order to make a difference for oneself and one's community is likely to enhance subjective well-being (Helliwell and Putnam 2004), while also improving community cohesion by developing mutual respect and increasing the expectation to give help to and receive help from others.

Here we consider two sets of environmental factors that aim to improve sense of community. The first examines the kinds of environments that help people get to know each other by promoting social interaction. This relies not only on building mental models of others but also on having opportunities to help others and receive help. The second explores environments that foster shared experiences and civic engagement, both of which address the need for meaningful action.

Environments to Promote Social Interaction and Model Building

Pruitt Igoe, the infamous public housing project in St Louis, was demolished in the 1970s because of issues of crime, poverty and segregation. One explanation for this failure was a lack of spaces for people to safely get to know each other, develop mutual trust, and value their shared resources (Yancey 1971; Newman 1995). This analysis suggested that the lack of social ties was partly responsible for the rampant vandalism of shared resources as well as for burglaries and rapes that occurred even amongst neighbours. In the words of one resident, there was 'nobody to

help' (Fisher et al. 1984, pp. 259–60). In a less dramatic but no less important context, Putnam (2000) connects the decline of membership in social organizations to an undermining of civic engagement and consequently the lack of a strong democracy. He attributes this in part to 'individualizing' environments; the time spent on our mobile phones, watching television, playing video games and browsing the internet reduces opportunities for quality face-to-face relationships (Bartolini, this volume, Chapter 6).

By contrast, our focus here is on the opposite kinds of environments, those that enhance connection amongst community members by creating places and contexts that offer opportunities for social interaction and relationship building. Social ties are formed through repeated face-to-face contact and short-duration conversations (Greenbaum 1982). How many neighbours one can identify by name has been positively linked to sense of community (Glynn 1986). Contact may or may not be planned and could occur between close friends or complete strangers. In any case, environments can offer the opportunity for positive social interactions, thereby building familiarity, trust and social cohesion. Policy mechanisms, often at a relatively local level, can foster the creation and stability of these kinds of places.

Mixed use, front porches and pedestrianism

Enhancing social connectivity is one of the principal motivations for the Smart Growth and New Urbanist movements (Duany et al. 2000; Calthorpe and Fulton 2001). These approaches to urban design promote pedestrianism, ample pavements, small setbacks, front porches, common shared spaces, parking behind the houses, and proximity between housing and services through mixed-use neighbourhoods. Studies of the impacts of such designs on social interaction and the overall sense of community suggest that the hypotheses posed by Calthorpe, Duany and others have significant merit (Litman 2011).

Mixed use – for example, a building with a storefront at the street level with housing above – can have a positive impact on sense of community. Wood et al. (2010) discuss the benefits afforded by creating retail areas that are set closer to the kerb and have limited surface parking. Jane Jacobs (1961) famously argued that mixed use was one of the main reasons for the vibrancy of Boston's North End neighbourhood. Even though it was considered a slum at the time, she claimed that residents' ability to talk to each other and keep an eye out for one another created a tight-knit neighbourhood.

Being able to watch what is going on in your neighbourhood is a key to developing the mental models necessary to build trust. A study of elderly Hispanics living in Florida found that residents with front porches

reported higher levels of perceived social support and lower levels of psychological distress (Brown et al. 2009). The authors' interpretation is that porches provide visual access to the thoroughfares and opportunities to meet neighbours.

In communities where people are able to walk to stores or parks, they are more likely to chance upon one another and share a greeting or a conversation. The link between pedestrianism and social interaction is supported by Kim and Kaplan's (2004) study. They found that, in the New Urbanist neighbourhood, which promotes pedestrianism through mixed use, grid-based street designs, and parking at the back of the houses, residents have a higher likelihood of social interaction than in a nearby traditional subdivision.

Similarly, Leyden (2003), in a comparison of eight neighbourhoods in Ireland that ranged from pedestrian-oriented mixed use to car-dependent suburban subdivisions found that residents of the more walkable neighbourhoods were more likely to know their neighbours and had higher levels of social capital, trust and social engagement. Lund (2002) showed similar improvements in sense of community in Portland, Oregon.

Gallimore et al. (2011) studied how easily children could walk to school in New Urban versus suburban neighbourhoods. They found that New Urban residents perceived their neighbourhoods to be more walkable and to offer greater traffic safety and crime safety. They also found that, if as little as 10 per cent of a walking route is perceived to be unwalkable, it acts as a barrier to walking at all.

Shared green spaces

Shared spaces offer community members opportunities to get to know one another through planned gatherings or serendipitous events where they may meet others and be exposed to ideas and cultures they might not otherwise experience. The presence of trees and greenery enhances common spaces by making them more preferred, reducing the fear associated with barren treeless spaces, encouraging people to spend time in them, and thereby promoting more social activity, building social relationships and enhancing sense of belonging (Kweon et al. 1998). Residents of subdivisions with green open spaces tend to have a higher sense of community than residents of subdivisions that do not incorporate natural areas (Kim and Kaplan 2004). Sense of community has also been shown to be enhanced in apartments with inside courtyards that have trees (Nasar and Julian 1995).

Studies at the Robert Taylor Homes, a low-income public housing project in Chicago, found that common spaces with more trees and greenery attract residents to the outdoors and provide more opportunities for

interaction, thereby developing stronger social connections (Coley et al. 1997; Kuo et al. 1998; Kweon et al. 1998). These effects are particularly noteworthy in light of the wariness of one's neighbours that often accompanies living in these housing projects. The advantages of nearby green spaces in reducing fear, crime and aggression levels (Kuo and Sullivan 2001a) suggest that policy initiatives that emphasize green common space will be beneficial on multiple accounts.

Safety and aesthetics

The safety and aesthetics of environments play an important role in determining their use. Whereas crowded, noisy and dangerous settings promote social withdrawal and inhibit the formation of social connections (Evans 2006), safe and aesthetically pleasing environments encourage people to linger, develop social connections (Wood et al. 2008; Sullivan and Chang 2011) and enhance place attachment (Low and Altman 1992).

Broken window theory (Kelling and Wilson 1982) links aesthetics and crime levels, stating that visible signs of disorder and petty crimes alter social norms and are self-reinforcing – that is, they lead to more crime. Explaining this phenomenon, Cialdini (2007) says that, 'if a lot of people are doing this, it's probably a wise thing to do'. From a mental model standpoint, it makes sense that repeatedly experiencing such disorder may diminish one's perception of place, how safe one feels in it and how much one cares for it. In a series of studies Keizer et al. (2008) demonstrated the effect of a disorderly environment on the propensity for not returning shopping carts, littering and stealing. The authors suggest that minimizing visible signs of lack of care is key to reducing the development of negative social norms.

Third places

In *The Great Good Place* (1989), Oldenburg contrasts the two core centres of American life – home and work – with 'third places' which provide 'the core settings of informal public life'. Coffee shops, general stores, post offices, community libraries, pubs and dog parks are all examples of third places. Oldenburg describes the capacity of third places to 'promote social equality by leveling the status of guests, provide a setting for grass-roots politics, create habits of public association, and offer psychological support to individuals and communities'. In short, such places present a lively hub of social interaction while, at the same time, decreasing the social segregation associated with many neighbourhoods and workplaces.

The description that Ewing et al. (2005, p.273) provide of 'main streets' as 'highways and streets whose adjacent land uses require accommodation of pedestrians and bicyclists, serious consideration of

street aesthetics, and a degree of traffic calming' exemplifies the third place. A study by Pendola and Gen (2008) provides useful insights based on a comparison of four San Francisco neighbourhoods differing in whether or not they had a single main street. The presence of such central gathering places was related to residents' perceptions of shared values, ability to get help if needed, knowing more people by name, and feeling that neighbourhood problems could be handled without external help.

Creating third places in the commercial sector depends on many factors that are at the discretion of individual and corporate owners. However, design guidelines and land-use policies can also have an impact on decisions about offering opportunities for informal encounters. Policy, such as mixed-use zoning, can create the conditions that reduce the distance between home and work to third places. Policies to enhance the attractiveness and safety of public spaces can also be effective approaches. Reducing parking fees, creating pedestrian-only main streets and having town fairs are further ways to bring people and their vitality to third places.

Wayfinding and exploration

Being lost or confused is not a desirable state, yet disorienting and confusing environments are not a rare occurrence. The feasibility of enjoying nearby nature spaces or third places depends on being able to find one's way there. Familiarity and connections to place occur through repeated experiences that will not happen when people cannot find their way around. Such environments can enhance social interaction and sense of community.

In *The Image of the City*, Lynch (1960) identified a variety of physical features that can make places more legible and help people build mental maps of them. Landmarks can help distinguish one place from the next and give locals and travellers alike waypoints to recognize and use in finding their way back again. Unique city districts with clear boundaries can also serve to distinguish one area from the next. Since our cognitive apparatus tends to store objects of some significance and ignores what comes in between, having such distinguishing characteristics is important. Well-designed signage can also be helpful for anticipating people's navigational needs and point them in the right direction.

Legible cities and neighbourhoods, where things are familiar and people know their way around, create a sense of security and familiarity. Yet this familiarity grows slowly and incrementally. From a familiar home base, people feel safe enough to explore new parts, extending their range of comfort. Over repeated experiences, this self-initiated, self-paced

exploration helps to extend one's mental maps. At the same time the process of discovery can lead to finding new places and opportunities for interacting with others.

Knowledge of an environment also increases people's attachment to it (Low and Altman 1992). From a sustainability perspective, what we know about our environment can influence how we care for it (Walker and Ryan 2008). Moreover, people who know their way around may feel more comfortable walking and are more likely to receive physical health benefits (Frank et al. 2007). It also warrants repeating that a legible environment reduces the mental resources required for navigating and thus sustains our precious DA. Given our reliance on the mental maps of environments that we need to navigate, investment in creating legible environments can have multiple rewards, at the individual as well as social level.

Environments to Promote Meaningful Action

The desire to cooperate with others is part of our genetic make-up, and our species is one of the few that helps non-kin members (Pennisi 2009; Helliwell, this volume, Chapter 5). Our ancestors survived wars, floods, famines and plagues because they were predisposed to help each other. Yet this inherent motivation often goes unrealized because opportunities to help others are inadequate, foiled or not readily apparent. Put another way, people want to help others and engage in meaningful activities (Antonovsky 1979; Deci and Ryan 2000; R. Kaplan and Kaplan 2008) but too often find themselves in situations where it is difficult to take actions. The resulting sense of helplessness can be debilitating and demoralizing. Here we consider a few environments that help people work with others, develop a sense that they can make a difference, and benefit the larger good. While the previous subsections have focused on physical characteristics of the environment, this subsection also applies the broader notion of environment with examples of social mechanisms that create opportunities for oft-marginalized groups to be heard and make a difference.

Community gardens

Few contexts offer the richness of benefits and opportunities that community gardens have provided in many countries and diverse populations. These settings have served, among others, low-income and homeless groups, where they not only increase food security but also serve to teach about nutrition (Schmelzkopf 1995). Such gardens have served recent immigrant groups, offering opportunities for maintaining and sharing cultural patterns (Baker 2004). Stuart (2005) discusses community gar-

dening programmes in the context of domestic violence shelters, where 1500 women and children in a number of California cities participated. Community gardens have been incorporated in school settings and after-school programmes to encourage young people to diversify and improve their diet (Boden 2009).

A common attribute of community gardens is the diversity of psychological and social benefits that they afford. This parallels the psychological benefits associated with nature settings that were previously discussed. Community gardens, however, bestow additional benefits that are the consequences of their being communal. Stuart (2005, p. 80) shows that for the women and children in the shelters the gardens 'helped to boost morale, create a stronger shelter community, and build stronger ties to the surrounding neighborhood'. Schukoske (2000, p. 352) speaks of the gardens as enhancing intergenerational and multi-racial collaboration and 'foster[ing] a spirit of community cooperation'. Blair et al. (1991) found that, in comparison to a control group, randomly selected urban gardeners were significantly more likely to participate in neighbourhood improvement and social events and to consider their neighbours as friendly. Similarly, residents who spend more time caring for lawns, flowers or trees have stronger social networks (Brunson et al. 1998). Twiss et al. (2003) specifically mention the role of community gardens in building and nurturing community capacity.

Community gardens exemplify a diversity of ownership and management patterns. In some cases they are a feature of a residential community or housing complex, so the land is mutually owned by the residents or by the management corporation. In many cases, however, community gardens occupy urban 'open space', often the consequence of neglected vacant lots. Such areas lead to blighted communities and demoralized citizens. Using community gardens or other projects such as tree planting programmes can transform the area, reduce the stigma of living there and bring people together (Schukoske 2000; Austin and Kaplan 2003; Semenza and March 2009). Management of these areas has taken many forms, including land trusts, conservation easements and public-private partnerships.

New York City's GreenThumb programme is fascinating for its origin and the success it has achieved. Initiated more than 40 years ago as a result of the city's widespread abandonment of public and private land, it now claims to be the largest community gardening programme in the United States, with over 500 gardens all over the city (US Forest Service, Northern Research Station 2009, p. 122). While a partnership with the city's Parks and Recreation Department, it is managed entirely by community members; they design, plan and govern the gardens. Nearly 90 per

cent of GreenThumb gardens offer consistent public programming aimed at improving quality of life for residents of all ages ('GreenThumb community gardens', n.d.).

Given their capacity for neighbourhood and community development and role in food security, it is not surprising that cities around the world have formulated policies related to community gardens. There are numerous examples of land-use and planning policies (Public Health Law and Policy 2008), and resources available to help frame policies to promote community gardens (Wooten and Ackerman 2011). From a policy perspective, ceding control of lots to local citizens represents a way to simultaneously reduce management costs and foster participation. An important benefit of such an approach is that locals tend to have a greater knowledge of the unique needs of their territory and also have more invested in its upkeep than professional hired help.

Youth involvement

In the eyes of their elders and communities, youth are sometimes considered lacking in reasonableness. They can be rash and risky in their behaviour; they can also be unwilling to do what they are told. From the youth perspective, however, adults may also seem unreasonable in a variety of ways, certainly including their expectations of youth. Countering such stereotypes and perceptions are frequent examples of young people whose efforts have made remarkable contributions. Such stories are so pervasive that drawing on the energy, insights, creativity and talents of local youth could reap many benefits both to them and to their communities.

Growing Up in Cities is a UNESCO-funded project involving research at 14 sites around the world. Chawla (2002) and Driskell (2002) document the potential of participatory processes in creating environments that bring out the best in local youth. When children are free to explore and their involvement is sought and accepted by the community, not only are they more satisfied, but the benefits spread to their families and communities. Children's perspective and their knowledge can greatly enrich community planning and development. Driskell's book is intended to be a practical manual for making such participation useful.

Earth Force ('Earth Force', n.d.) is a US non-profit organization dedicated to enabling youth to make positive environmental change in their worlds. Its efforts are noteworthy not only for the process of engaging youth but also for the approaches it uses to situate the children's efforts within their communities. Thus their efforts extend beyond the youth and their projects to diverse community-based organizations as well as the corporate partners. The young people's projects entail a six-step process, Community Action and Problem Solving (CAPS), that guides students to

identify and democratically select a problem that is of both local importance and sufficient interest to them, to learn and analyse existing conditions and policies that relate to the problem as well as ways to influence a decision, and to plan potential solutions and ways to take action. This problem-solving process guides each project; it also teaches the young people steps that are applicable in many other contexts (Bardwell and Kaplan 2008).

Youth advisory boards and youth serving on boards of community organizations have become more common. In the context of their schools, children and youth may also have opportunities to raise issues and participate in activities that effect change. It would be misleading, however, to assume that it is only the exceptional young person who has the ability to make a difference. Both the Growing Up in Cities projects and Earth Force reach diverse groups, often in underserved communities. There are countless other examples that document that children's talent, vitality and willingness to engage are widespread.

Positive outcomes, however, depend on some key ingredients. An often-repeated theme is the importance of how youth are treated. Perhaps even more than older members of the community, young people are sensitive to token efforts to invite their involvement; they know when they are talked down to and when their input is ignored. Listening to their perspectives and permitting their involvement are ways to show respect and establish trust, qualities that are likely to foster reasonable behaviour, meaningful action and future positive engagement.

Microcredit and gifts that multiply

Now widely adopted, especially in the developing world, the microcredit movement offers a compelling story of the power of making a difference on multiple levels. The Grameen Bank (Yunus 1999), which in Bengali means 'village bank', has to date loaned over \$10 billion, in very small amounts, to nearly 8.5 million poor people in Bangladesh. The approach, initiated by Grameen and subsequently followed by various microcredit institutions around the world, not only fulfils a need of many for working capital but also features some noteworthy social mechanisms both to keep the institutions sustainable (i.e. maximize loan repayment) and to empower the populations they serve.

First, since the recipients have neither possessions nor credit history, the banks do not require any collateral for their loans, nor is there any written contract for the loan. For the poorest of the poor, the interest rate for the loans is zero. Moreover, the loan recipients become part owners of the Grameen Bank. Such policies are a sign of trust and respect to people who would simply be turned away from traditional banks. Given the typically

large income and trust gap between loan officers and loan recipients, this exchange of dignity could well serve to bridge two very different classes of a community and foster a sense of shared purpose.

Second, 97 per cent of Grameen loans go to women. Heifer International, an organization that provides 'living loans' in the form of livestock, also directs its resources towards impoverished women (Heifer International, n.d.). Both organizations find that, because women tend to make the majority of household decisions, particularly with respect to the care and education of children, they have a greater influence on the long-term well-being of the community.

Third, the Grameen Bank utilizes 'solidarity lending', which requires borrowers to be part of a group. If any member of the group fails to pay, all of the members risk losing their line of credit. This ingenious use of peer pressure improves repayment rates for the bank and also provides a context in which people must work together towards a common purpose. Also, because Grameen promotes a culture where successful entrepreneurs help bring up those in need, there is a multiplier effect for each investment Grameen makes. Similarly, Heifer requires that recipients 'pass on the gift' by giving offspring of the livestock to others in their community who could use it. These contexts create an opportunity for respect building – those who can successfully utilize their loans can both earn the respect of their peers and develop a sense of self-respect.

Finally, the distributed nature of the microcredit model means that many would-be entrepreneurs receive small loans to try out their ideas. Having a large number of diverse, small experiments running in parallel leads to an ecosystem of ideas that can address a variety of community needs (Lindblom 1959; Irvine and Kaplan 2001). By spreading resources across the community, it not only increases the chances of success for difference-making endeavours but also creates a sense of possibility in communities that might otherwise feel hopeless. As Bornstein and Davis (2010, p.17) point out, 'Rather than implement preset policies through bureaucracies in a top-down fashion, they grew solutions from the bottom in a process characterized by trial and error, continuous iteration, and a sharp focus on results.'

Kiva, which was founded in 2005, offers a relatively recent addition to the microcredit movement. According to its website (kiva.org) the organization has made over a million loans in more than 200 countries, with a 98.9 per cent repayment rate. What makes the Kiva example particularly striking in terms of our discussion here, however, is the source of the funds for the loans. Over 750 000 individuals have participated in Kiva's online system, which requires a minimum of a \$25 loan. What is the return on investment for these lenders? Certainly meaningful action

has to be a major explanation for making loans that are repaid without interest.

Moreover, although there is some effort to personalize the relationship in as much as the lender identifies a person or group, there is no personal contact between individual lenders and the recipients. This lack of a social bond between lender and recipient differentiates this example from the other community-oriented examples in the chapter. The success of these organizations in spite of such barriers shows the powerful motivation of meaningful action and suggests a wide range of institutional arrangements that can provide people with meaning and motivation.

Goldschmidt (1990) describes the desire for respect as one of the primary motivations for human action. In other words, one is more likely to engage in an activity from which one derives respect. Grameen and similar institutions are examples of environments that not only provide opportunities for people to pull themselves out of poverty but also convey trust and respect to those who would normally not receive it. While escaping poverty is by no means straightforward (Chavan and Ramakumar 2002), the modest resources provided by microcredit institutions – a few dollars and a little dignity – are small differences that have made big differences in bringing meaning and well-being to the recipients and their communities (Hossain and Knight 2008).

Enabling community participation

Town halls, envisioning meetings and public forums are environments meant to foster citizen participation, yet they often fail to do so. There are many reasons. Meetings can be dominated by a small number of strong personalities whose views do not always reflect the needs of the general public. Despite good intentions, facilitators may be condescending, talking over the heads of participants or conveying a lack of respect for their knowledge and concerns. Participants too often feel that their needs are ignored and that their involvement is pro forma, making little difference to the ultimate outcome in the current situation, thus also diminishing motivation for future participation. These patterns can be reversed by creating contexts that engage the help of an able and willing public.

Enabling participation by a large, diverse set of people in the participatory process (e.g. different ages, cultures, political sensibilities, socio-economic backgrounds) requires multiple means (e.g. newspapers, blogs, social media) for informing them about the opportunity. Many venues for citizen input do not depend on the traditional public meeting. For example, public spaces (e.g. libraries, meeting rooms in civic buildings) can facilitate the preparation and dissemination of ideas. Virtual spaces

(e.g. e-democracy.org, idealist.org) can also be used to help people discuss and share their ideas. Furthermore, opportunities such as volunteer days can direct participants towards specific community needs. When public meetings are utilized, vital issues include building trust and communicating that public input is valued. For example, a readily accessible location for public meetings, timing them early enough in the process to signal that input can inform critical decisions, and sensitivity to cultural differences are all crucial for achieving satisfying outcomes.

Many deficiencies of the participatory process derive from the difficulties of conveying information to the public as well as permitting the public to convey their knowledge and perspective to the experts. Ignoring the differing mental models of the citizens and the policy makers, planners and other professionals can result in frustration and a sense of futility for all concerned. The differing experiences, familiarity with local conditions, perspectives regarding policy, and perceptions of risk (Slovic 1987) all have an impact on effective information sharing. Participants can be overwhelmed by the quantity of information and confused by the jargon. The experts' reactions may be that the public is incompetent, since they assume the information is elementary. The process can be more satisfying if the leaders see their role as facilitating an exploration of existing conditions and possible solutions rather than to educate the public. Therefore sensitivity to the challenges associated with absorbing new information and providing opportunities to study and explore it are crucial characteristics of an effective participatory process.

Such exploration also provides opportunities for two-way exchanges. While public meetings often involve informing the public, listening is a crucial and often missing component. Listening, however, does not depend on public meetings. For example, photo questionnaires, which involve rating pictures of different kinds of environments, provide an effective way to inform participants while also gaining insight into their perspective (R. Kaplan 1979; R. Kaplan et al. 1998, pp. 58–66). Internet-based tools can also be used to gather public input (Snyder n.d.; Snyder and Herman 2003). For example, Allourideas.org presents two ideas side by side and asks users which one they like better. The process repeats as long as people want to continue. Participants can also submit new ideas to the voting process. This innovative process allows local governments to easily gather and act on the collective knowledge and preferences of thousands of people (Emery 2010). The diverse knowledge of the public is an essential resource for taking on local problems; at the same time, the global aggregation of that diversity is pivotal for societal learning, innovation and ultimately transformation (O'Hara and Lyon, this volume, Chapter 4).

ENVIRONMENTS AS SMALL EXPERIMENTS

Our focus has been on creating the conditions, contexts and environments that foster reasonableness and well-being by helping people function effectively and work with others to make a difference in personal and community-oriented challenges. Creating environments is also the subject of Alexander et al.'s classic *Pattern Language* (1977), in which they propose a variety of architectural elements designed to meet human needs. While the designs are quite detailed, the authors make explicit that the ideas presented are hypotheses meant to be tested. Although there is substantially more empirical evidence to support the claims in this chapter, we share the environments and contexts presented here in the same spirit.

We expect that our conceptualization applies broadly, but the realizations of the concepts will necessarily differ. Given the enormous diversity of communities, a universal solution is neither likely nor desirable. Environments which improve well-being in one community may be less effective in others. And solutions that are viable at a given time may need to be rethought as communities change. In order to account for a variety of circumstances, it is necessary to try things out at a manageable scale. Such small experiments (R. Kaplan 1996; Irvine and Kaplan 2001) are intended to have relatively modest aims and require modest resources. Engagement of local people is fundamental, since they have on-the-ground knowledge that is often invisible to officials. In cases where policies may require significant change, the small experiment approach proposes limiting the scale of changes initially. Finally, experiments involve keeping track of what worked, what did not work and the circumstances that led to positive changes. Thus, rather than failure being debilitating, the process permits learning and adjustment. It can also foster reasonableness. As the efforts to assess and improve well-being through policy are still quite new, it would be prudent to take an approach that is both cautious and enlightening.

Policy makers at the state and national level have the influence to improve many lives through well-crafted policies. However, since local issues are often more central to well-being than those at higher levels (Helliwell 2011b), local officials may have an even more powerful impact. Their decision making with regard to planning systems, design standards and participatory processes can directly affect how supportive the environment is on a daily basis. As many of the examples presented in this chapter and throughout this volume show, these decisions have an effective impact on individual well-being while simultaneously benefiting communities.

This chapter has shown how environments can bring out the best in human behaviour. It is interesting to consider whether such behaviour

might also foster taking better care of the Earthly environments that sustain us. One could imagine a virtuous cycle in which environments support human reasonableness and humans, in turn, care for the planet's well-being.² Such a cycle could serve as one potential pathway towards sustainable well-being.

NOTES

1. Although RPM evolved independently from Antonovsky's sense of coherence (SOC) (see Hämäläinen, this volume, Chapter 2; Eriksson and Lindström, this volume, Chapter 3) and the two frameworks draw on different empirical bases, they offer many parallels, especially with respect to some similarities between their domains: *model building* and *comprehensibility*, *being effective* and *manageability*, and *meaningful action* and *meaningfulness*. SOC focuses on utilizing one's resources to confidently navigate life experiences and improve one's well-being. RPM addresses informational needs that have an impact on both individual and communal well-being, and these, in turn, help identify ways in which environments are more likely to foster reasonableness.
2. We thank Andrew Lyon for suggesting this notion of a virtuous cycle after reviewing an early draft of this chapter.

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