

Collaborative Team Process : a Framework to Create a Sustainable Economic System in the Third Industrial Revolution Era

by
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Introduction

Our western wealth has been created using the capitalist economic system ². The original wealth growth was partly based on colonialism. The colonies were places where natural resources were deemed to be free or cheap. Politically colonies have disappeared, but economically they still exist. Even in the “home country” the notion of free or cheap resources is still prevalent.

It is well documented that in the economic process environmental damage frequently occurs and that damage is too often still just seen as “collateral damage” in the name of progress. A quite old example, but still very visible after more than 100 years is in Queenstown, Tasmania, where amongst others sulphur released during copper smelting damaged the surrounding valley. In modern times that sort of behaviour is in theory not allowed. Even the thought that more money has to be paid to the government for the right to extract resources or abate pollution has the business community up in arms screaming. However not all economists blame lack of growth and progress to increase in resources prices, e.g. spiking fossil fuel costs (Kallis & Sager, 2016).

Capitalism has been around for centuries; in the years after WWII it was much restrained by socialist policies. But society became more neoliberal initially due to policies of Reagan and Thatcher and then over the last 25 years partially due to the collapse of communism in Eastern Europe. Capitalism now claims to be the best and only valid economic system. What are the side effects of this monopolistic economic system? In the meantime we have

become more aware of environmental impact of many businesses practices. Also economic inequality has risen steeply risen over the last decades. The capitalistic system gone even so far that you get police cars in Queensland covered with large stickers on their side of their sponsor a Coal-Seam-Gas (CGS) company Santos, while using these vehicles against anti-CSG protests. Or, should we say that our democracy is deteriorated so far that



it is normal for police cars to get sponsored by an industry and therefore its loses independence. In light of this the time has come to have a closer look at the capitalist economy's shortcomings and what alternatives or additional economic systems there could be. This paper also looks at the

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² In this paper everything is about the rich / developed west.

effects of the capitalist system on the environment. Existing environmental impact studies are often narrow in their focus, often based on industry's best practice. Instead there needs to be a *Gaia Impact Assessment (GIA)* which uses a process that looks at all aspects and impacts of a project, including the environment, people, population and government to avoid wrecking the future of Gaia. As some car-bumper stickers say "There is No Planet B". To achieve this new paradigm into sustainable economic activity there is a need for a robust but flexible process to guide projects from start to finish.

From a mankind survival point of view there is a need to change in the way economic activities are conducted. This is not from some ideological perspective, but sheer necessity for survival and as indicated before that capitalism has changed in history so why not now. If we want our generation for the rest of their time and future generations to live in the luxury we know, the economic modus operandi has to change now.

A general problem is that if one group in society can do whatever it likes, it results in oppression of the rest of society. The popular view is that "Big Business" controls and oppresses the world. To avoid such a situation one can handball the responsibility for more balance to the government. Unfortunately governments are often too close to big business and far removed both physically and emotionally from the place of people affected by the problems. A means of overcoming this is to have a cooperative environment between all parties involved, made compulsory by government regulations. On world scale we should acknowledge that cooperation among different countries and groups is difficult that not be a reason not to implement it. On a practical level one cannot just say "let's cooperate" that will mostly not work, there is no incentive for oppressors to cooperate. A framework is needed to create and facilitate a collaborative environment that can influence help and white a base for the collaborative process.

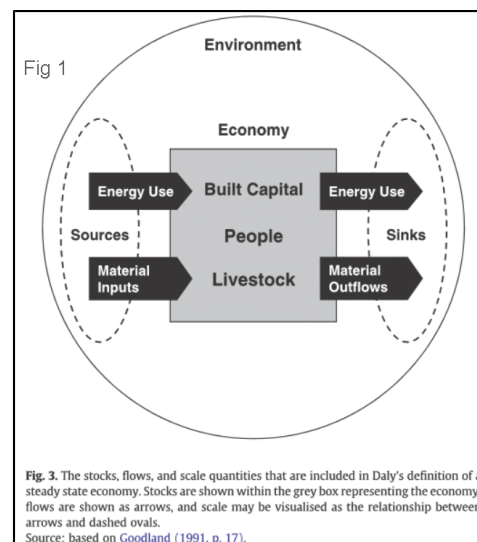
This paper is proposing a framework to create collaborative process based on a collection of ideas where there is a win-win for society as a whole and is described in the second half of this paper. The first part of the paper is a compilation of many economic facts, issues and concepts.

Theories & Issues

At more than face value capitalism has served us well till today, so why then is there a need for change? Well, with the increasing world population, exponential increase in consumer society means the current economic system is not sustainable, environmentally as well as socially. In addition during industrial progress many poisoning substances were created, many just by-products or as collateral damage for the consumer products we enjoy. During history all resources have been treated and seen as a "free gift" and a "right". No impact analysis was done at the time. "The environment is part of the economy and needs to properly integrate into it so that growth opportunities will not be missed (Wright & Nyberg, 2015)". However, the overwhelmingly "natural" material used and disposed of in the past did not have such an environmental impact. Having said that, in history many societies have damaged their environment in such a way that their civilisations collapsed, e.g. Easter Island (Diamond, 2011). Mainly due to deforestation and water mis-management. In this paper the word 'sustainable' is used in the context of the environment being its people, animals and plants or ecological surrounds. Basically what Lovelock (1987) calls *Gaia*. Business and economists have in a way hijacked the word and giving it a fuzzy feeling while only relating just to the profitability of a business which could have an un-sustainable

impact on the environment. From a linguistic viewpoint a correct use. Or, maybe it were the environmentalists that originally redefined the word to only relate to the environment. Economists normally do not model the whole flow of materials and goods. They leave out the “free” inputs and the “free” outputs. It is well represented in Figure 1 from O'Neill (2012, Fig 3). The conventional economic model is based on assumption of eternal growth, not fully accounting for the input (natural resources) and not monetising for its output of waste products (pollution). It models itself as a closed system.

One of the neoliberal mantras is smaller government and less intervention. However the reality is that in the US, over half of all federal tax subsidies go to just four industries – finance, utilities, telecommunication and oil, gas and pipelines (Rifkin, 2015). Measuring a countries' wealth the GDP is used. To most of us it would be a surprise that increases in military costs, drug abuse, divorce lawyers, cleaning up of toxic spills and extra prisons are included. In essence GDP only counts activities where have money changes hands. For example one company makes lots of money cutting corners and cause pollution and then another gets paid for cleaning up the mess : GDP's double dipping. It also neglects informal activities that have no market value, but large social value, such as household and volunteer work (O'Neill, 2012). This may in total account for upto half of all work and could add upto 50% GDP (Bregman, 2016). In a similar fashion company financial reports won't tell you whether they've got assets that are spilling oil into the environment. It won't tell you whether they're looking after their employees with fair and equitable wages or whether they've got good gender balance within the organisation. Maybe there is a need to implement the recent suggestion by Jeff Kennett, ex-premier Victoria, that a CEO's performance should be linked to the *mental health* of their organisation. An indicator system like the Index of Sustainable Economic Welfare that can show shortcomings of using GDP and showing where “economic growth” has become “uneconomic” (O'Neill, 2012). Sir Michael Marmot (2016) notes that "Factors determining health and social justice are interdependent with factors determining environmental and economic sustainability”.



As part of the new economy there could be the implementation of *Universal Basic Income* (UBI) (Bregman, 2016; Economist, 2016; Titelius, 2016), where all adults in society get a fixed income from the government independent of what they earn. This would be a support for the poor and homeless and also for those engaged in child-care, care for the elderly or disabled and volunteer work of which the value to society is not recorded in the GDP. It could shift the balance of incentives away from status competition and towards a more cooperative and potentially more altruistic society (Nierling, 2011). This is not a hare-brained idea of the left. It was acknowledged by neoliberal economists like Friedrich Hayek and Milton Friedman and even Republican President Nixon tried to implement it (Bregman, 2016). Neoliberalism also has the effect that everything becomes a commodity and even 'values' change into a monetary quantity. Whereas 'values' are moral, cultural, and difficult to measure, 'value' is economic and quantifiable (O'Neill, 2012). Since the rise of neoliberalism governments are regarded as impeding value creation and economic prosperity, and its role in economic management has therefore steadily drifted to the formulation

of labour, product and financial markets that facilitate profit maximisation (Wright & Nyberg, 2015). Any movement towards greater wealth distribution (e.g. Occupy) has only limited value if it does not dispute the commodification of nature. In other words there should be no distinction between culture and nature (Wright & Nyberg, 2015). All economic systems have grown naturally through history without any predefined checks and balances and transparency. We are now in times of transition from the old economy (2iR) and social society settings to the TiR (Boogaerdt, 2015). That there is a need to change and where we exactly are going to is uncertain, there appears to be agreement on that. However there is no general voice indicating the direction we should go. Knowing that we are in a transition period to TiR it should be prudent to investigate the impacts of the current and previous systems to avoid the same or similar mistake for the future. This is not just the capitalist system problem; it is true for all economic systems. In broader sense it goes beyond the social licence that it had when capitalism started over 200 years ago. Thus time to redefining the conditions and boundaries of the social licence for capitalism and also apply them to alternative systems, to reflect current and future needs, realities and thinking.

State intervention has long been a stock standard response to market failure and corporate indulgence. As evident in the great depression and WW2, government regulation of economic behaviour has been crucial to the development of modern capitalism, saving it from its own excesses, recuperation it from crisis and passing laws to protect its legitimacy. The rise of capitalism was successful due to the creation of integrated organisations with a top down command structure, and also improving efficiency by scaling size upwards. The approach in communist states was in principle no different, only ownership was different. Ever since the emergence of mass democracy after World War II, an inherent tension has existed between capitalism and democratic politics; capitalism allocates resources through markets, whereas social democracy intends to focus more on population wellbeing (Fukuyama, 2016; Rifkin, 2015). Over the last century we have seen the rise and demise of the totalitarian communist alternative to capitalist system. Since the former system definitely did not work, the capitalist system has promoted itself as the victor of all systems. In the past resources were cheap and labour expensive, now many reasons resources are becoming expensive and labour cheap (Oerstrom-Moeller, 2016). The Globalisation of all economies has enforced the impact of the capitalist system (Rifkin, 2015). It should be noted that globalization itself has produced many benefits in many parts of the world. In principle no reason not to globalise, and with the advent of the IoT it is nearly impossible not to globalise. Rather the opposite we should globalise to become more sustainable.

It is not that we have to choose between capitalism and something else. New forms of economic activity will start operating as part of TiR in conjunction with capitalism. Uberisation of businesses fits well in the capitalist system. Rifkin (2015) says “While capitalism operates through the free market, free markets don't require capitalism”. New innovative ways of doing business are certainly disruptive for the incumbent. But they also provide great opportunities to do business this time in a sustainable way. Many of the incumbent industry leaders often strive to resist entry of new enterprises and innovations. But slowing down or stopping new, more productive technologies to protect prior capital investments creates a positive-feedback loop by preventing capital from investing in profitable new opportunities. It is also what the sabotaging Luddites have been trying to do, namely to stop innovation at various times in history. If capital can't migrate to new profitable investments the economy goes into a protracted stall. But if they do not adapt they will see that it will become more difficult to attract investment capital.

The rapid development in ITC forces society to change. One of these ideas is the concept of *Zero Marginal Cost* (ZMC) (Rifkin, 2015). ZMC is mostly referred to cases where the marginal cost of producing the good is actually close to zero but not quite zero, so that the production unit cost can be treated as if they had zero cost. The **IoT** (Internet of Things ³) is the technological “soul mate” of an emerging Collaborative Commons. To achieve these needs there also could be a framework of *Collaborative Commons* (CC). In old days commons were local community based so everyone could directly see the benefit. But now with dispersed commons community across the globe it is such harder to see the benefits of something that happens far away. So the process is more complex, but apps using the IoT can help to overcome this handicap. The ZMC saves money for the consumers and as Rifkin (2015) says what people save they will spend in cafes and the like.

According to Rifkin (2015) “In *Collaborative Commons*, sellers and buyers give way to prosumers, property rights make room for open-source sharing, ownership is less important than access, markets are superseded by networks and marginal costs of producing information, generating energy, manufacturing products and teaching students is nearly zero”. A good example is as well blockchain peer-2-peer electricity distribution currently trialled in Perth where neighbours become prosumers of renewable energy (Blockchain, 2016). For many business incumbents “The reluctance to come to grips with nearly zero marginal cost is understandable. Many, though not all, of the old guard in the commercial arena can't image how economic life would proceed in a world where most goods and services are nearly free, profit is defunct, property meaningless and the market superfluous” (Rifkin, 2015). What in general has not sunk in is that fossil fuel energies are never going to approach zero marginal cost, or even come close. Renewable energy can more or less be produced by anyone on Earth and they can share it across the IoT, again, at near zero marginal cost. The next great task for civilisation is transitioning from a mono-economic capitalist market to a poly-economic market which includes Collaborative Commons. The number of cooperative ventures is rising and they come in many forms. An example is building development cooperatives in Berlin over the last 20 years where the developers are cut out and the participants have control of the design and development (Ring, 2016). Another example is the above mentioned peer-2-peer electricity distribution.

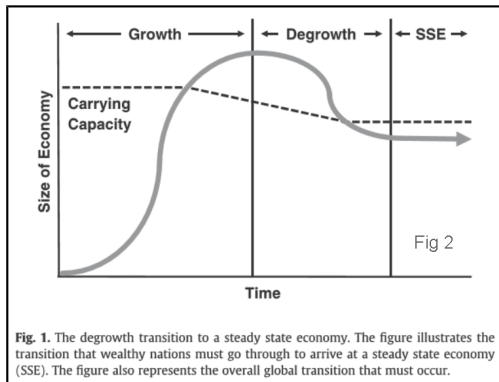
The current economic model is based on eternal growth and that is not possible in a finite world. That is the reason that new economic models like 'Degrowth' are been worked on. The advent of CC and ZMC will make it more likely that Degrowth can be achieved. Degrowth can generally be defined as a collective and deliberative process aimed at the equitable downscaling of the overall capacity to produce and consume and of the role of markets and commercial exchanges as a central organising principle of human lives Degrowth, however, is a multidimensional concept. The basics of the proposed ideas have diverse roots, including anti-utilitarianism and anthropology. In the anti-utilitarian tradition, degrowth is a critique to the central role of economic (monetary, or market-based) transactions in human relations and society (Domènech et al., 2013)

Degrowth is also transition state from Capitalistic Growth to the Steady State Economy (SSE) (O'Neill, 2012) as show in Fig 2, an important point is that a *Steady State Economy* is not just an economy where throughput is kept constant; it is also an economy where throughput is

3 IoT = The internet of things (IoT) is the internet working of physical devices and network connectivity that enable these objects to collect and exchange data. In 2013 the Global Standards Initiative on Internet of Things (IoT-GSI) defined the IoT as "the infrastructure of the information society."

maintained within ecological limits. If flows of matter or energy exceed ecological limits, then degrowth is required before a steady state economy can be established. According to the strong sustainability view, natural capital and built capital are complements (as opposed to substitutes), and only by maintaining both stocks intact can long-term economic welfare be guaranteed.

In Thomas More's "Utopia", written in 1516, uniformity was strived for, diversity was forbidden and personal freedom was at a minimum (van der Berg, 2013). Not dissimilar to the Communist world where the state was also sacrosanct. It is well established by management consultants that diversity is essential for a successful enterprise. That would be the same for countries as a whole and parts of it. The western countries basic freedom and social morality are based on the major principal statement "Do unto others you would have them do unto you". Marshall (2005) says "It implies a norm of unconditional cooperation since cooperation is what is wanted from others". Interestingly this philosophy is part of Buddhism, Christianity, Islam and Judaism and there are no gods is involved. It remains the dominant ethical view in the Western world. Europe & UN have declarations human rights in which stated that one cannot harm one other and the state guarantee freedom. In the case of corporations that are in legal terms persons, so they should do no harm to individuals. If they do, they should bear the consequences. Francis Fukuyama (2016) argued some years ago that America was suffering from political decay and summarizes "The country's constitutional system of checks and balances, combined with partisan polarization and the rise of well-financed interest groups, had combined to yield what I labelled *vetocracy*, a situation in which it was easier to stop government from doing things than it was to use government to promote the common good." What Fukuyama says about the USA is similar for the whole of the western world where the public is disillusioned with the political establishment which is perceived does not work for them. As result we see a rise in fringe parties.

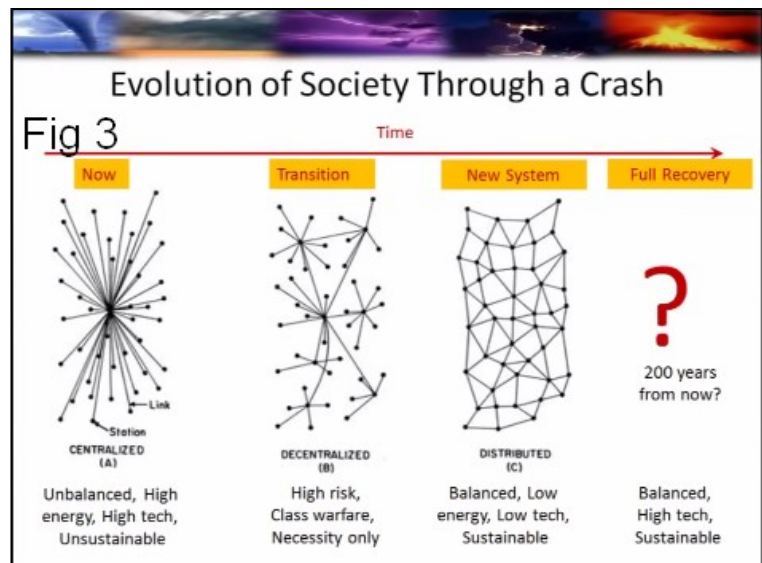


The 2009 Economics' Nobel Laureate Elinor Ostrom points out that individuals will be more likely to create and conserve the commons when they have credible and reliable information about the costs and benefits of resource decisions. In these days this information can easily be distributed over the IoT. There is a trend for consumers to become prosumers and being the custodians of urban commons. Local governments are the next layer; they play according to Gorissen (2016) a catalytic role from regulators to innovators and facilitators. They say also that experts have to come down from the

'ivory towers' and become knowledgeable co-producing intermediaries. Individuals and local governments form the base of the *polycentric systems* referred to by Ostrom. Who describes them as, 'polycentric systems are characterized by multiple governing authorities at differing scales rather than a monocentric unit'. An important aspect of polycentric analysis is its ability to incorporate a wide variety of formal/informal and state/non-state actors whose power to decide different resource governance outcomes varies in relation to different modes of governance (Forsyth & Johnson, 2015).

As humanity we assume the right to do what we want to do. However, as part of a natural system we can only exist if we cooperate and respect the other parts of Gaia (Wright & Nyberg, 2015). And according to Rull (2011) even if capitalism, as the dominant economic model, incorporates

natural capital into its cost-benefit analysis, nature still loses out; unlimited (human) growth – one of the pillars capitalism – and sustainability are incompatible. A major problem with current economic system is focussed on *short-termism*. What if collateral damage is larger than the benefits to society that cost to tax payer (not just short term but also long term). There has to be a long term view. This is a case where one currently (business) benefits but the group (society) loses. An example is the billions of dollars that the Queensland taxpayers have to pay for rehabilitation of minesites; the original bonds paid by companies cover only upto a quarter of the cost. For all the above reasons the economic system has to change, economic model based on growth because population growth, now with negative growth and limited resources a new economic model has to be formed. This statement is part of today's reality. It sort encapsulates the problem of “short-termism”, “profits now”, “cost too much now”, etc. If we take a long-term holistic view doing everything correct in the first place it will be cheaper. A collaborative cooperative society has a wider perspective and takes a longer-term view. Michaux (2013) found that there are a core series of concerns and solutions when comparing what various groups say. The groups can be very diverse from environmentalists to financiers, form from social workers to economists. Michaux insists that the system has to change and visualises society’s transition from current unsustainable to a more sustainable form using the network-graphs (see Fig 3). This a good basis for understanding the need of cooperation.



The question is how we get people to cooperate; in the next section a framework is set out that hopefully makes it possible to cooperate.

Method and Processes

In order to achieve a more equal and fair society where the population feels empowered with poly-economic systems including Collaborative Commons or equivalents, a different way in operating to what is current practice is needed to achieve this goal. This operating framework has been named the *Collaborative Team Process (CTP)*. Why another process there are tools like 'Sustainable Opportunity and Threat Analysis' and 'International Mining Framework for Sustainable Development', however they focus mainly on business processes issues and seek to address social and environmental issues (Evans, et al., 2003). In addition they do only an initial snapshot and are not a cradle to grave process. In *CTP* the players start not only as equals but also at the same time. For the process to work it can use many other methods like Social Multi-Criteria Evaluation (SMCE) (Domènech et al, 2013) and Scenario planning, Multi-Criteria Optimisation (MCO) (Parrot & Meyer, 2012). The well known Game Theory (GT) could be used in certain cases to help background modelling of scenarios. The drawback of GT is that it is sequential and the first player has a benefit of steering the game in a certain direction or maybe used a sub-process tool. So philosophically GT

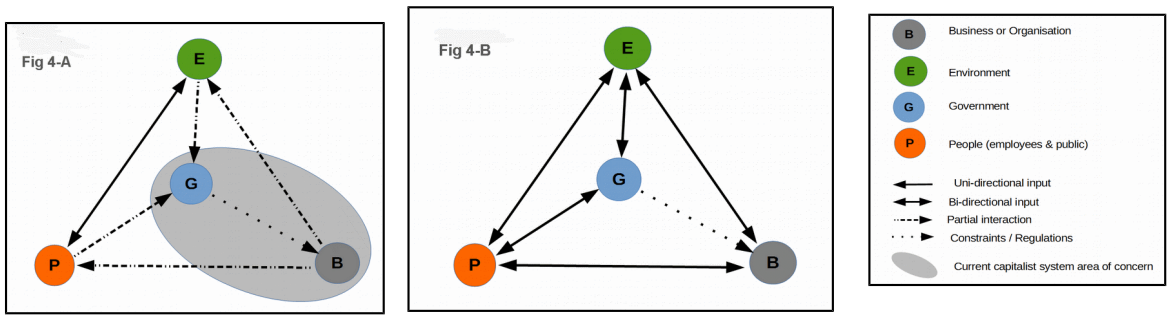
does not really fit in the cooperative *CTP*. However, any tool used has to provide opportunity for transparency and fairness. So one of the first steps in *CTP* is to set Superordinate Goals which are goals that get two or more people or groups from opposing sides to come together and work toward a common end result (Psychology). In addition there are outcome scenarios which basically are superordinate goals set at the start of the process. Currently society has become more unequal and the trend appears not to slow down according to Hartz-Karp (2007). To get a more equal and cooperative society there need to be more trust. The *CTP* model restraint is that issues need to be resolved and without trust everyone loses. Stallman & James (2016) found that farmers would cooperate with other participants on the basis of trust was more important the materialistic willingness to cooperate. It should be noted there is no set definition of trust amongst behavioural scientists, but they all acknowledge that there are about five different types. As previously mentioned one need to start with superordinate goals. Being future-oriented is not being optimistic or pessimistic, but living in uncertainty. *CTP* is a process which is flexible, but *CTP* could easily become a bureaucratic nightmare. That does not have to be like that, it can be computerised with smart apps using AI to cut down on bureaucracy.

The *CTP* is not prescriptivist in the sense that there is only one way of tackling the problem. It is a framework of continuous checks and balances in which many different techniques, amongst others the ones mentioned before, can be used. In addition it is crucial if the participants can decide the rules of the game and that 'individuals compare expected benefits and costs of actions prior to adopting strategies for action'. Ostrom argued that *rules matter* because they reduce the uncertainty that stems from the unpredictable behaviour of others and resource systems (Herzberg, 2015). Humans working together in groups are better in surviving Oerstrom-Moeller (2016). How to select members of the community to participate in *CTP*. Hartz-Karp (2012) describes a system where citizens get chosen to participate in public decision making. *CTP* is also about having checkpoints during the process in order to reach the end goal. One of the necessary and compulsory threads from start to finish is the impact on the environment. The impact should be minimal and with all impact a cost is associated. *CTP* is to be involved during the life of a project. So it becomes part of the monitoring and maybe adjusting parameters over time. It is far more than a PR exercise at the start of and during a project, and companies trying to greenwash the population. *CTP* has many similarities with the Dutch "Polder Model"⁴.

The aim of *CTP* is not for outsiders to decide how to run a company or organisation. It is a process that ensures that whatever the company does is in the best interest of the stakeholders, i.e. the community at large. The approach therefore is multidisciplinary. Bureaucrats and company representatives have to be made aware and comfortable with sharing responsibility.

Figure 4-A shows the current state of affairs of interaction between four parties. *CTP* would transform these interactions into what is shown in Fig 4-B.

⁴ Polder Model refers to a unique aspect of the Netherlands, that it consists in large part of polders, land reclaimed from the sea, which requires constant pumping and maintenance of the dykes. So ever since the Middle Ages, when the process of land reclamation began, different societies living in the same polder have been forced to cooperate because without unanimous agreement on shared responsibility for maintenance of the dykes and pumping stations, the polders would have flooded and everyone would have suffered. Crucially, even when different cities in the same polder were at war, they still had to cooperate in this respect. This is thought to have taught the Dutch to set aside differences for a greater purpose. In the 1980s and 1990s this consensus decision-making, was used in consensus-based economic and social policy making



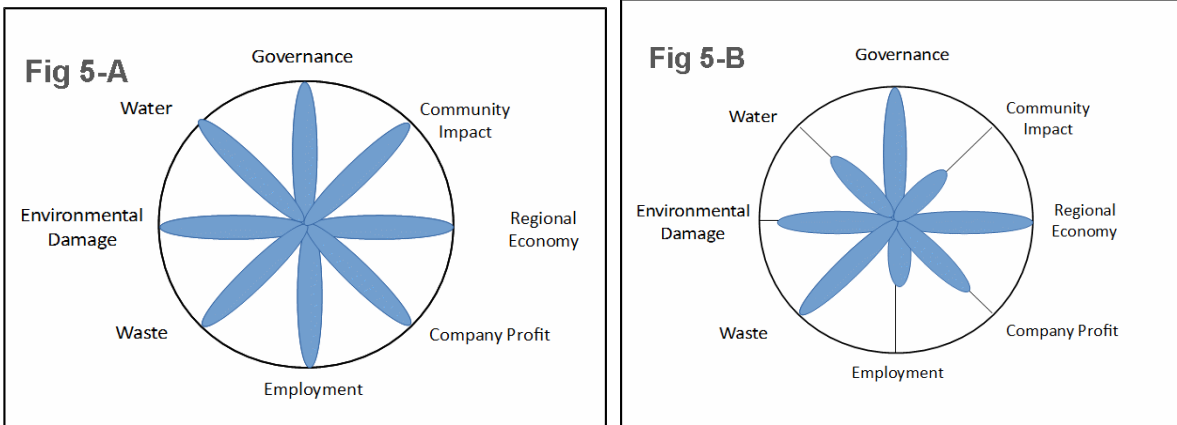
Because all situations are different, the methods to achieve the goals through *CTP* need to be flexible. In collaborative commons where there is bi-directional interaction between all stakeholder parties. As mentioned before one non-negotiable parameter is transparency, so trust can be built up. Because without trust there cannot be cooperation. Eden & Ackerman (1998) say "Conflict and consensus co-exist, but implication is that the process of negotiating action is central to organisational behaviour and so central to strategy making – a process of *negotiation* influenced by power of all sorts". New models of collaborative engagement will be dependent on developing our capacity to understand, integrate and find synergy between diverse viewpoints. After using the cognitive mapping 'oval-sticker' technique (see image; Eden & Ackerman, 1998), all the ideas could be put in software like Decision Explorer which handles multiple nested-ideas. The final diagram is likely to be very complex. So it could be simplified for overview into a flower-diagram which as part of the process overtime can be used to check on progress or shortcomings. See figures 4-A & B of the flower-diagram are adapted from Parrott & Meyer (2012). Eden & Ackerman (1998) say wisdom is also about *managing complexity not reducing it*'. With flower diagrams we are not reducing complexity; it is merely to provide a



visual snapshot of in what state *CTP* of the project is. The use of MCO is part of toolset to visualise the win-win (Parrott & Meyer (2012)). Figures 5 adapted from Parrott & Meyer show a possible flower-diagram. After the initial discussions the main category petals are decided on and shows a balanced model in Fig 5-A. Figure 5-B shows an unbalanced version indicating which areas need to be renegotiated on to achieve the balance again. Figure 5-C shows a flow from a balanced flower-diagram at the start through unbalanced steps to a balanced end-goal. This is about planning stages, because actual collateral damage during implementation of the project is not acceptable. A similar process is to be followed during the lifetime of the project to ensure all criteria are adhered to. This linking and visualisation is possible with cognitive mapping tools like Decision Explorer software (Banxia Software).

Strategic management is about people creating outcomes, not just about outcomes. (Eden & Ackerman, 1998). When decision makers are confronted with high environmental uncertainty cognitive biases occur in the strategic planning and decision making processes (Meissner & Wulf, 2012). Because all aspects of a project are taken into account, it is necessary for all parties to

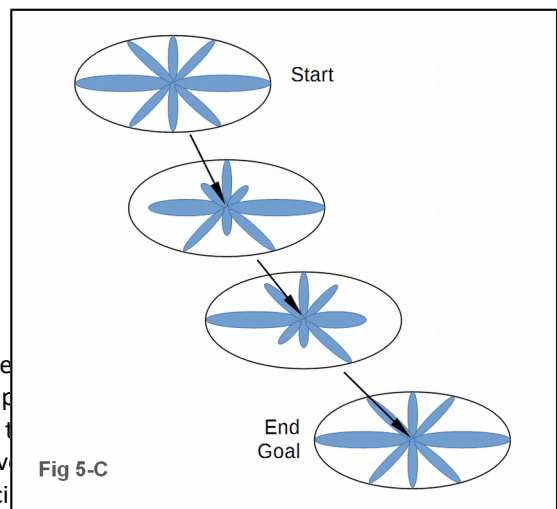
cooperate. To successfully cooperate, trust is needed.



Often non-experts are looked down upon in community consultation discussions. They may lack certain technical expertise, but they can detect flaws in arguments and reasoning. Therefore their questioning is of great value. Sometimes experts are also caught up in their little world that they do not see the wood for the trees. John Wright describes the ‘three legs of the tripod’: science, policy and management. Both policy and management require science, but in different ways. Scientists, policy makers and managers have many things in common. All grapple with uncertainty and seeking to reduce it (Rayner, 2016, Lackey 1997). Yet there are clear differences as well and can they work together effectively? As often is the case the question or comment arises that it is difficult to get groups to cooperate and trust each other. That is the reason there needs to be a flexible simple framework that guides the process of collaboration. It is not good enough to say 51% majority is the winner; there is a need for a consensus approach, like the Polder-Model. Top-down only approaches tend to fail, i.e. they cannot be optimally balanced for all stakeholders, as has been proven by the failure of communist states. As Eden & Ackerman (1998) say 'stakeholders' different interests that will, often, place them in conflict with another and with the organization itself. It is the strategic management task of the organisation to manage successfully these conflicts and if necessary actively manipulate them'. In the interactions between all stakeholders there will be lots of negotiations. Lawyers should be kept out the process at all costs in the negotiations. However where there are disputes *mediators*⁵ need to be engaged, because they have the skills to facilitate a good outcome for all parties, agreed to by these parties and they are independent.

Business often say it conforms to safe/best practices so it is all OK but regularly it shows it is not. Actually they should be obliged to do a worst case scenario where spills/disasters could happen and publish these as part of the project application. And come up with a clean-

5 *Mediator* = Mediators do not advise upon, evaluate or determine dispute and conflict resolution whereby the participants agree upon. It is essentially a process that maximises the self-determination of the participants. *Mediation* = A mediation process is a process in which the participants identify issues, develop options, consider alternatives and make decisions about future actions and outcomes. The mediator acts as a third party to support participants to reach their own decision.



up and budget if a disaster takes place that they pay for. Also what is the likelihood of a disaster happens in let's say 10 years from now when the infra structure is getting on. May be put more money aside inform of a bond or insurance. Business will be quick to point out that they will lose competitive advantage over foreign companies from countries where environmental costs are not part of doing business. If foreign imported goods are "free" of this cost, because their governments do not require it, imported goods will be charged the same percentage environment levy it would costs for Australian companies. This scheme is not dissimilar of the Fee & Dividend schemes for carbon pricing proposed by the Citizens Climate Lobby (2016). Or, what Oerstrom-Moeller (2016) describes about products produced that can be more wholly recycled get tax credits.

Scenarios to ascertain who pays for the clean-up, rehabilitation and health issues are very important, because until now these are seen by business as collateral damage and the business should not have to worry about it. *GIA* scenario planning plays a role in establishing and the results are completely practical: choices about actions that have financial consequences. A likely first response from business leaders is that *GIA* is too costly. In the current economic framework that statement is correct. However, as stated before it is well documented that the current way of doing things is not sustainable. Business leaders have to ask the question "what does the alternative cost?", i.e. continue the way we are doing things. In the current business settings they



pay minimal for natural resources extraction and pay minimal for waste disposal. The result is that the tax payer will foot the bill for rehabilitation and waste disposal now and in the future. Think for example about the billions of tax payers of Queensland money that has to be spend on mine rehabilitation because companies did have to provide the full cost. As already shown in Figure 1 not everything is accounted for. A better scenario is that business pays the full price for the extraction and waste disposal. If projects are costed fully according *GIA*, then the burden on the taxpayer is reduced. This should lead in lower taxes, something business always wants. All at the start and/or during the life of the project. Comparing the total costs of both scenarios, the cost of the second scenario will be

significant less than the first one. Because cleaning a mess up afterwards is always is always more expensive than not making a mess in the first place. This highlights a real shortcoming of the current economic modelling. That is not even to take into account ir-repairable damage that could occur to unique environments.

In whatever we do there is a cost involved, be it physical, emotional or monetary. Even a wild animal has an ecological footprint, but we as humans have a moral obligation to keep our ecological footprint to a minimum, so that future generations can enjoy their time on earth. Companies and business and organisations are all persons in legal terms, and therefore must have the moral obligation to keep their footprint to a minimum. The business community will complain that there are costs involved in this. All of us including business, have to keep in mind that only the sun rises for free and every else has a cost associated with it. A business social license is that the overall cost is positive or at least neutral for all stakeholders.

Even though this paper dealt only with western perspective and issues, *CTP* that underlies the *GIA* is also of great importance to developing world. Foremost because western businesses will have to go through the same process if they want to operate in the non-western world.

Conclusion

The *Collaborative Team Process* as a possible process has been described to form a framework in which the *Gaia Impact Assessment* can be carried out. There is a need for a *Gaia Impact Assessment* because most projects when costed do not take into account all direct or indirect costs, but only if we as a species wish to continue to occupy this planet.

In the western world there is in general apathy towards politics. People are resigned that they cannot have any influence on what is decided for them. A process like *CTP* can help with making the population more involved. This premise has also been demonstrated in the work of Hartz-Karp (2007, 2013) about deliberative democracy. Which the author says “distinguished from the usual community consultations, in at least three ways : it is inclusive, deliberative and influential.” All the issues highlighted here are not easily solved. And there will be a need for an intellectual debate, sharing of ideas and acceptable ethical fundamentals for all sides involved. Even though Smiley (2013) wrote this in relation to an academic debate this premise should also be followed when following the *CTP*. There needs to be more research with pilot projects to test the proposed process.

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List Abbreviations

AI	Artificial Intelligence	
2iR	Second Industrial Revolution	Rifkin, 2011
CTP	Collaborative Team Process	
GIA	Gaia Impact Assessment	
IoT	Internet of Things	
MCO	Multi Criteria Optimisation	Parrott & Meyer, 2012
SMCE	Social Multi-Criteria Evaluation	Domènech et al, 2013
SSE	Solid State Economy	O'Neill, 2012
TiR	Third Industrial Revolution	Rifkin, 2011
UBI	Universal Basic Income	Bregman, 2015