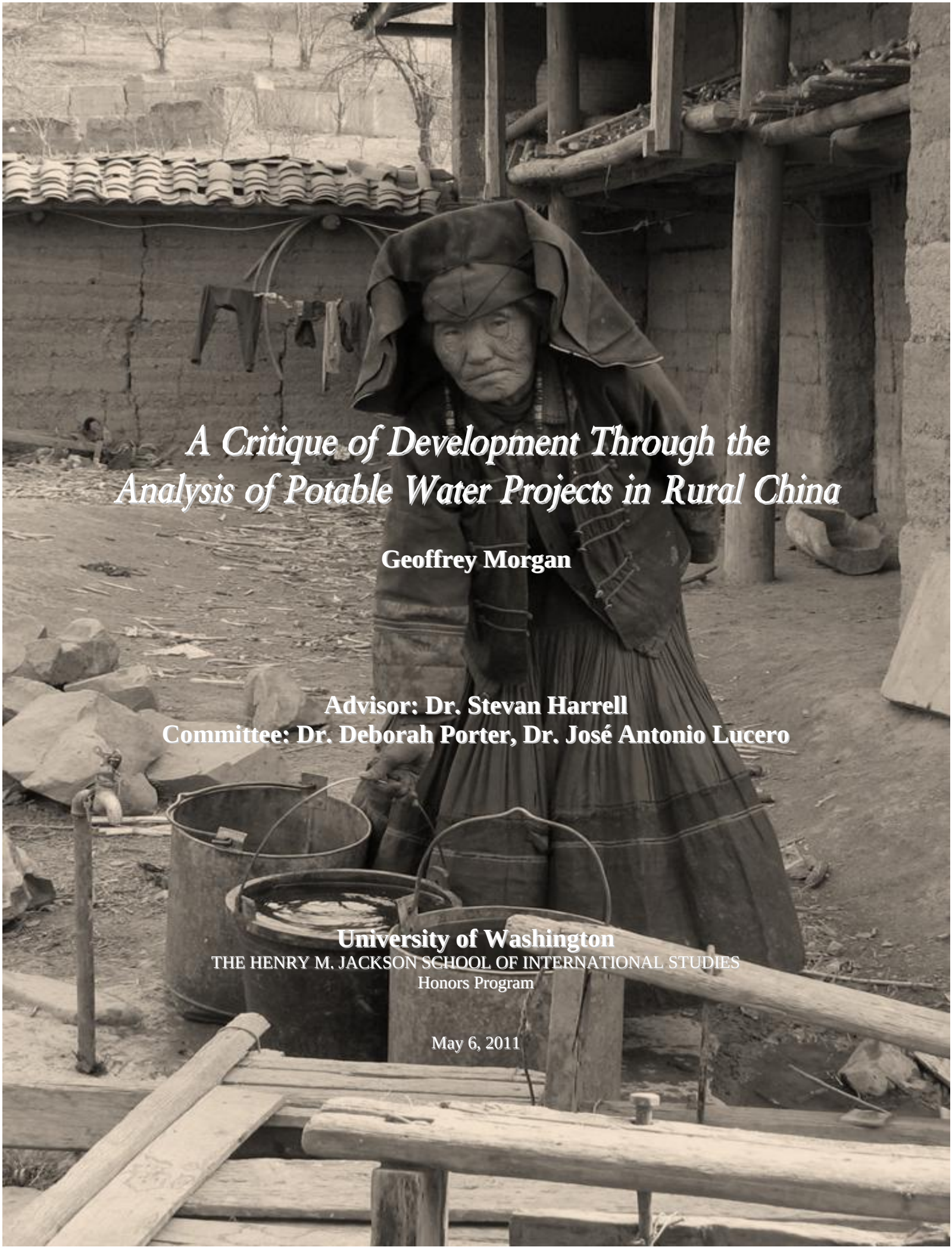

A Critique of Development Through the Analysis of Potable Water Projects in Rural China

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Advisor: Dr. Stevan Harrell
Committee: Dr. Deborah Porter, Dr. José Antonio Lucero

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List of Abbreviations

CCP	Chinese Communist Party
CMEF	Cool Mountain Education Fund
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GLF	Great Leap Forward
GMD	*Guomindang*
GNP	Gross National Product
HSF	*Hydroliques sans Frontières*
IDWSSD	International Drinking Water Supply and Sanitation Decade
IFTI	International Trade and Financial Institutions
IMF	International Monetary Fund
IRB	Institutional Review Board
MDG	Millennium Development Goals
NATO	North Atlantic Treaty Organization
NGO	Non-Governmental Organization
NIC	Newly Industrializing Countries
PAR	Participatory Action Research
PRSP	Poverty Reduction Strategy Paper
S&P	Standard & Poor's (Stock Index)
UN	United Nations
UNEP	United Nations Environmental Programme
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WTO	World Trade Organization

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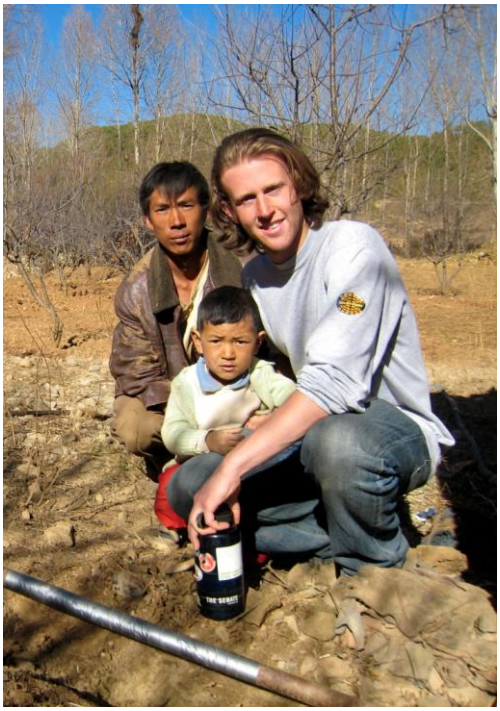

Introductory Anecdotes

Figure 1: Aga Collecting Potable Water

As she fills her water buckets at a faucet and places them on either side of the yoke, Aga, a mother of three of the Nuosu (Yi) Chinese minority, describes how clean water arrived in her village. Last summer, a group of foreigners had informed her and the other villagers that they could get a clean drinking water project if they contributed labor in its construction and a small monthly cash maintenance fee. Aga, with most of the other women in the village, helped in the construction by hauling building materials to the construction site while the men did the actual building. Since the completion of the project she is very pleased with the effects of the new water service. It cuts her time spent fetching water by more than an hour each day and she has noticed that her family is not getting sick as frequently as they were before the arrival of the project.[1]

In Pianshui, a village about a mile down the road, a girl is collecting water from a muddy pool to be used as drinking water, and for cooking at home. As she is scooping up the murky water she complains that another NGO, Hydrologists Without Boarders, had come to her village and built a similar water project to the one built by a group of foreigners a few years ago, but that it was no longer functioning in her area of the village. It no longer functioned because members of a different clan in her village, wanting full control of the project, dug up the piping in her part of the village and placed the dug up piping and faucets in their own homes, effectively eliminating the public's access to the potable water system. The other clan then continued to charge the lower caste/clan a maintenance fee for the project, promising them that they would repair it. She says that this happened three years ago and that she does not want another NGO to build a new project because she thinks that the upper caste would take control again.[2]

Figure 2: Girl Collecting Dirty Drinking Water

[1] Author's observations while in rural China 2007-2008
[2] Authors observations while in rural China 2007-2008

Introduction/Conundrum

The effectiveness of international development, in the form of aid, is subject to significant disagreement. Opponents critique development as a means for the developed world to keep the poor down, coming to the conclusion that development was a "poisonous gift to the populations it set out to help. For it introduced a paraphernalia of mirages into their natural environment, and at the same time dispossessed them of the things that gave them meaning and warmth to their lives" (Rahnema 1997: 381). According to Majid Rahnema, however, this view is certainly not shared by the institutions, the experts and the politicians involved in 'technical assistance', for whom development is still a 'sacred cow,' to be preciously nurtured for all the underprivileged of the world (Rahnema 1997). These institutions are ready to concede some of the failures of development, and agree on the need to give it a 'human face', but are not yet ready to 'throw the baby out with the bath water' (Rahnema 1997). They argue that it is dangerous to suggest that in the name of perfectionism, assistance should be stopped or diverted to other, often more questionable ends.

One of the 'sacred cows' of technological development assistance comes in the form of drinking-water projects. Water interventions in development have changed over time since the 1950s, when the central role of water in public health was identified during the 'health for all' campaign, but drinking-water projects are still one of the most highly regarded forms of technical aid. (Coles 2005: 2). The intended primary benefits of access to clean drinking water are to reduce mortality and morbidity due to water borne pathogens and to relieve people of the burden of carrying water. In a speech given in recognition of the 2010 World Water Day U.S. Secretary of State Hilary Clinton stated that "the lack of access to water supply, sanitation, and hygiene causes the deaths of more than 1.5 million children each year" (Clinton 2010). In South Asia alone, 683,000 children under five years old died each year from water borne diseases from

2000-2003 (Water for Life 2010). The importance of bringing potable water to the developing world is so high that the United Nations, as part of their Millennium Development Goals (MDG), set out to reduce the proportion of people without sustainable access to safe drinking water to half their 1990 levels by 2015 (The Millennium…2010). As of 2010, 884 million people still did not get their drinking water from improved sources (Progress 2010). According to the World Health Organization (WHO), meeting the MDG target would avert 470 thousand deaths and result in an extra 320 million productive working days each year (Health 2010). The director of WHO has stated that 'water and sanitation are among the most important determinants of public health' (Director WHO, 2004). An economic analysis also shows that there is an investment incentive to achieve the target. Depending on the region of the world, the economic benefits range from $3 to $34 for each dollar invested (Health 2010). The proportion of people who enjoy the health and economic benefits of piped water is more than twice as high in urban areas as in rural areas – 79 percent versus 34 percent (United Nations 2010). Therefore, despite overall progress in drinking water coverage and narrowing of the urban-rural gap, rural areas remain at a disadvantage in all developing regions.

In 1977, the World Water Conference adopted a declaration to initiate a new era in international co-operation to improve water supplies and sanitation in the developing world. According to the declaration the 1980s were to become the 'International Drinking Water Supply and Sanitation Decade' (IDWSSD) with the slogan 'Water and Sanitation for All' (Black 1998: 4). While many developing countries agreed to strive for 'Water and Sanitation for All' they could not realistically meet their goals independently. The majority of their citizens without water and sanitation are poor, and they have little to spend on public infrastructure (Black 1998:

5). In an attempt to fill this need many Non-Governmental Organizations (NGOs) began going into developing countries in an attempt to offer aid.

One country that has been particularly successful at working with NGOs and in being a leader in fulfilling the MDG for access to clean water is China.[3] According to the Asian development Bank the People's Republic of China has been working very closely with NGOs to help improve poverty alleviation, part of which is improving access to potable water (Participatory Development 2008). China has been so successful that from 1990 – 2008 over 425 million people gained access to improved drinking-water sources (Progress 2010). The number of people who gained access to potable water in China is impressive because it approximately doubled all those who gained access in Africa (280 million) and accounted for 25% of the world total during the same time period (Progress 2010). While a large majority of this success must be attributed to the Chinese government's attempt to increase its own infrastructure, there are still places it has not reached. It is these locations that NGOs strive to reach.

In China, most of the locations NGOs are working in are remote ethnic minority[4] areas. While studying abroad in China during the 2007/2008 academic year and again in August of 2010 I had the opportunity to visit several communities to do field research. Two of the communities I visited were named Yangjuan and Pianshui, located in the foothills of the Himalayas, in the Liangshan Yi Autonomous Prefecture of southwestern Sichuan. It was there that I was introduced to the work of a few compassionate foreigners and development organizations that provided potable water to the communities. The foreigners who took the lead on the water project construction were French Jesuits Benoît Vermander and Jacques Duraud, who arrived in the area in 1997 and 2000. In 2003 they brought in Hydroliques sans Frontières

[3] This being said, China has also been very leery of international organizations, fearing that they have hidden agendas and that their democratic ideals will destabilize the CCP Government.
[4] China has 55 officially designated minority nationalities.

(HSF)[5] to consult. HSF came back in the summer of 2004 to build a well in Pianshui that was open to everyone, and returned in 2005 to build a gravity pipeline, which originally supplied over 25 homes with potable water in Pianshui. However, after a year many of the villagers were no longer permitted access to the gravity-fed system and the well was in need of repair. In 2007 Duraud decided to build a gravity-fed water system in Yangjuan that supplied 36 homes and the primary school[6] with potable water. Two years later the water project suffered from improper maintenance and low flow issues, but was still functioning, and villagers who had access to it, according to a reliable village elder, were noticing improved levels of health (Mgebbu 2010).

The question, then, is this: Why did the water projects in Yangjuan and Pianshui succeed partially and fail partially? Or in a broader sense, what can the partial success of these projects tell us about the conditions under which development projects succeed or fail? Through answering these questions, my thesis constitutes a critique of development illustrated by the water projects in Yangjuan and Pianshui villages.

In my thesis I will expand on the framework of theorists Craig and Porter as a standard of evaluation for development projects by seeing whether the projects met their goals using my own list of community-based participatory development tools. Each tool is available to each outside agency building the projects and contributed to the success and failure of each project. Such tools available to the agencies include utilization of local knowledge (about water resources, construction practices, etc), using appropriate technology (for long term operations and maintenance), understanding the local culture and politics, community education and participation, utilizing women's roles, and a long term commitment to the project and the

[5] A French NGO specializing in water related solutions to development work - http://www.hydrauliquesansfrontieres.org
[6] The school previously had a well but there had been complaints of foul smelling and tasting water.

community. I examine each of these factors in turn to investigate how they contributed to the success or failure of each project.

The Development of Development

The scholarship relevant to my research involves four bodies of literature. First, I explore the scholarship surrounding the ideological progression of development from the West's perspective. Second, I review the body of scholarship critiquing development. Third, I will also look at the critique of the critique of development. And finally I will place development in the Chinese context.

Section 1: The History of Western Development Thinking

Development is an ideal and a myth about how the world works and what that means for societies and individuals. However, it is more than a set of beliefs; it is also a collection of policies and practices promoted by the development industry: multilateral institutions such as the World Bank (WB), and International Monetary Fund (IMF), state entities such as USAID[7], non-governmental organizations (NGOs), and developing countries' own state and private agencies. These entities are all working toward what Luis Camacho states is the process of overcoming the condition of deprivation that exists in many regions of the world (Camacho 2005). Development is aid given by governments and other agencies to support economic, social and political change in poor countries, focusing on alleviating poverty in the long term.

[7] United States Agency for International Development

The Origins and Persistence of the Idea of Progress

Despite claims by many academics that development is dead and that alternatives are rising in its stead, the idea of development persists (Rahnema and Victoria Bawtree 1997; Shanin 1997). Why is it then that this concept has remained so embedded in world thought if the function of the concept and the power of its institutions and supporters are insufficient? J.D. Huges offers an explanation, asserting that development is "the story line, or organizing principle, of virtually everything that aspires to be world history in recent times" (Huges 1995). Development, reflecting its early links to social evolutionary theory, is viewed as an ongoing techno-historical process and as an inevitable path that societies follow towards modernity. The idea is rarely clearly defined or questioned, and thus persists because it is more than an organizing principle for world history; it has also become an object of faith, like a religion or ideology (Shanin 1997). Teodor Shanin states that "up to a point, it [the idea of progress] became the 'normal science'…where once established, a field of knowledge defines its own questions, brushing aside as illegitimate other questions, and evidence, which do not fit its assumptions" (Shanin 1997: 65). Gilbert Rist offers a similar point of view. He views development as faith that is very difficult to question. He explains that progress remains a central tenet of many versions of development because faith allows believers to overlook development's many exploratory faults (Rist 1997).

Development had become a hegemonic discourse, a box outside of which it is impossible to think. In Edwin Abbot's 1884 book *Flatland*, the same concept is satirically depicted in a description of a two dimensional world where flat people, represented as polygons or line segments, are unable or unwilling to conceive of a third (Abbot 2010). Foucault takes this idea even further in his theoretical work on the dynamics of discourse and power in the representation of social reality. This theory has been instrumental in unveiling the mechanisms by which certain

order of discourse produces permissible modes of being and thinking while disqualifying and even making others impossible (Foucault 1991). Thus, even when development fails spectacularly, the practices and rituals associated with development maintain their validity.

The key tenets of development originated from this idea of progress, which expanded during the Enlightenment to include the status of societies and the changes they undergo (Rist 1997; Shanin 1997). Social theorists used these new concepts of progress and development to rationalize the diversity of human social organization encountered beginning with 16th century European exploration, and later to explain the changes wrought by the rise of capitalism and the subsequent industrial revolution (Shanin 1997). Progress and development were thus seen as the natural path of human history, an organizing principle for human society that was thought to be directional, continuous, cumulative, and irreversible (Rist 1997). According to Rist "progress cannot be stopped: 'development' is not a choice but the finality – and fatality – of history" (Rist 1997).

This assumption of, or faith in progress, led in the late 19th century to theories of social evolution, advanced by noted anthropologists including Edward B. Taylor and Lewis Henry Morgan. The idea was further developed by Karl Marx, a figure worshipped by the Chinese communists, and one of the most influential social evolutionists, as well as the ancestor of socialist ideas of development. At the time however, the ancestors of development never actually used the word (it did not become 'common' until after WWII), there was simply the process of societies moving from a primitive state towards civilization. These ideas helped legitimize colonization as a means to improve or develop 'backward' societies, in which Europeans were best suited to lead because of their understanding of nature through the burgeoning European sciences (Drayton 2000).

Early critiques of progress or development emerged from European encounters with the tropics, based on environmental concerns witnessed under the colonial policies. Further cultural critiques by anthropologists initially exposed flaws in the idea of progress as applied to societies, and they provided the fountain for a theory of cultural relativity, the idea that society must be understood from within, according to its own norms (Escobar 1995; Barnard 2000). This critique stresses that cultures may have internally defined goals, other than the Western idea of progress, which mean that they are not part of an evolutionary continuum moving towards this end. Many critiques point out that in many cases progress was in fact not 'natural' like biological development, but possibly forced upon its constituents. Work has been done to explore the role of the environment, political, and economic systems in the formation of cultures (Harris 1968 & Wolf 1997). Finally, recent critiques have raised questions about the feasibility of progress worldwide, given the earth's finite resources and the not necessarily better quality of life generally associated with a 'developed' lifestyle that is centered on consumption (Rist 1997).

Despite these criticisms, progress remains the prevailing concept and motivational force for development. According to Shanin, the idea of progress serves multiple purposes with respect to human organization, since it explains the differences between nation-states and provides the main ideological reason to push for statehood, make people governable, and enforce privileges (Shanin 1997). Thus progress provides the rationale for the existence of the state, to facilitate development by creating the conditions for it to occur and to intentionally control the process (Scott 1998). Thus, ideas of social evolutionists legitimized interventions by more advanced nations into the affairs of those lagging behind.

Internationalizing Development

Starting with the end of the colonial development project in Asia and Africa, the term 'development' was naturalized into the English language and modified from its original definition, which normally applied to natural or biological changes. The first official steps to internationalizing development were taken by the Covenant of the League of Nations (1919), under Article 22, which gave authority for wealthier, more powerful nations to intervene in weaker ones that were not their current or former colonies (as cited by Rist 1997). The Covenant formalized the stages of development and identified some of the principal developmental activities still common today, including addressing security, public health, and drug problems.

The next phase of international development began after World War II, a second disruption in the prevailing world order. Europe, to free itself from Nazism, placed itself in the hands of the new powers, the US and the Soviet Union, which had no interests in protecting colonial empires.[8] Furthermore, according to Risk "[t]he discovery of the Nazi concentration camps … had shown the atrocities that followed when one race claimed to dominate others, and the general condemnation of racism placed a question over the very concept of race" (Risk 1997). Therefore, there was a shift away from individual endeavors by Western European countries in their colonies and toward international cooperation with the establishment of international development institutions following the Bretton Woods Conference in 1944. It was at this time that economic theory was applied to the problem of underdeveloped nations in order to manage the post-colonial world. Thus, the institutions created included the International Monetary Fund (IMF) and the International Bank of Reconstruction and Development, the precursor to the World Bank (WB) (Peet & Hartwick 1999).

[8] This did not mean however that they were opposed to neo-colonial spheres of influence. Both the US and the USSR installed and overthrew governments in their own spheres.

President Truman's Point Four

By the end of 1948, American foreign policy was in ferment due to major challenges everywhere in the world. Harry Truman's 1949 inaugural address was organized around a few clear points. The first three had unanimous support among his advisors: "the US would continue to back the UN; it would keep up the European reconstruction efforts by means of the Marshall plan; and it would create a joint defense organization (NATO) to meet the soviet threat" (Risk 1997). It was then that a civil servant suggested adding that technical assistance already granted to parts of Latin America be extended to the poorest countries of the world. It was agreed upon and taken on board as a "public relations gimmick," however, after the address everyone's attention the next day was on 'point four.' It spoke about increased economic production as necessary for peace worldwide, and about the need to help weaker nation-states with intervention and aid. The need for economic aid was further stressed in 1948 when the WB labeled countries as poor and undeveloped if their annual *per capita* income was less than $100 (Escobar 1995: 24). The speech also emphasized the use of science and technology, a Western rationality, a concept overtly embedded in development theory since this era. Thus, Truman's 'point four' has been credited with inaugurating the 'developmental age' (Risk 1997).

The Rise of Modernization Theory

The tenets of Truman's address became part of the modernization paradigm that dominated international development for the next two decades. To create a working definition for development in the 1960s, the Committee on Comparative Politics of the United States Social Science Research Council used a modernization approach, defining development as an "evolutionary process in which the human capacity increased in terms of initiating new structures, coping with problems, adapting to continuous change, and striving purposefully and creatively to attain new goals" (Coleman 1971). As David Harvey observed, "The development

of rational forms of social organization and rational modes of thought promised liberation from the irrationalities of myth, religion, superstition, release from the arbitrary use of power as well as from the dark side of our human natures" (Harvey 1990). It was believed that through these means development would increase equality and capacity, and modify parts of the bureaucracy for performance of particular functions of the state (Coleman 1971& Guha 1999). However, little to no concern was given to the environment and native cultures, or their limits as economic growth was seen to have unending possibilities.

Modernization theory stressed capitalism, industrialization, and economic growth supported by social and political changes to achieve these goals. Western Europe and the United States served as the models for poor countries (henceforth referred to by the euphemism 'developing countries')[9] to aspire to the path clearly outlined in historian W.W. Rostow's five point theory on the *Stages of Economic Growth* (Rostow 1960). With the economic theories of Keynes, Harrod, and Lewis still prominent in the 50s and 60s, the idea of public intervention in the economy was encouraged. In an effort to bolster poor countries' economies the IMF provided short term loans to help meet the conditions of debt incurred as they sought to develop. The WB, by contrast, financed specific projects, focusing on infrastructure in the 50s and then on education and agriculture in the 60s. There was almost no direct attention paid to the poor people themselves, due to the expectation that increased productivity would raise living standards, and the assumption that there were limits to the possible improvements in the human condition, even if improving the human condition was the whole point of development (Peet and Hartwick 1999). Additionally, modernization theory stressed that there was only one path towards development, which followed Rostow's five steps. There were no other ways for a country to develop — it

[9] The euphemism has been made possible by assuming that development is universal and inevitable.

either followed those steps and stayed on the path or it would fail. Furthermore, environmental impacts were ignored, as were the unique histories and cultures of the targeted countries.

The Importance of the Human Environment and Basic Needs

The critique of modernization theory began in the late 1950s, but gained momentum in the mid 1960s with severe political and intellectual criticism, most of it coming from dependency theorists or other political leftists. Attacks were launched on all aspects of modernization theory, from its origins in structural functionalism, to the politics of its policy prescriptions (Peet and Hartwick 1999). For Dependency theorists, the West's development was based on external destruction: brutal conquest, colonial control, and the stripping of non-Western societies of their peoples, resources, and surpluses. Developing countries sitting at the *periphery* of the world economy could not develop so long as they remained enthralled to the rich nations of the *center* (Velasco 2002). Dependency theory shaped the cosmology of a generation of Latin American leftists in the 1960s and 70s, placing all the blame for the problems of the periphery on the *hegemonic center*, and particularly on the United States. The next theory to criticize modernization theory was world-systems theory[10] led by Immanuel Wallerstein in the 1970s and 1980s. The theory stresses that world-systems and not nation states should be the basic unit of analysis. It builds off of dependency theory in its recognition of dividing the world into the core, semi-periphery, and periphery countries. Wallerstein critiqued modernization theory due to its focus on the nation state as the only unit of analysis, its assumption that there is only a single path of evolutionary development for all countries, and its total disregard of transnational structures that constrain local and national development (Wallerstein 1974).

By the 1970s these critiques gained validation, as it was recognized that international development had generally failed to alleviate poverty using policies based on modernization

[10] Referred to preferably by Immanuel Wallerstein as "world systems analysis"

theory. This failure led to two new strands of thought within the dominant international development discussion in response to the critiques made by dependency and world-systems theory. First, the 1972 declaration from the UN Conference on the Human Environment recognized the natural and man-made environment as important to human well-being and as a basic right for present and future generations (United Nations 1972). This included the realization that natural resources were not limitless and that pollution was an increasing problem. In an effort to combat these issues the United Nations Environmental Programme (UNEP) was created. The UNEP, in addition to a report published by the Club of Rome, *Limits to Growth*, declared population growth to be the root of the problem, particularly in respect to the demand for and availability of natural resources (Meadows 1972). This theme has persisted as a major theme in development and environmental conservation groups ever since.

The second strand of thought that developed out of the failure of modernization theory was promulgated by World Bank President Robert McNamara's 1972 speech on the idea of people's "basic needs" with respect to nutrition, housing, health, literacy, and employment along with focusing on the poorest of the poor (World Bank 2010). The ultimate goal, according to McNamara, was to raise the productivity of the poor, enabling them to be brought into the economic system (McNamara 1981). While this idea was arguably more realistic than the one it replaced as an attempt to help the poor more directly, the means employed by the World Bank continued to focus upon integrating less developed countries into the world economy and increasing economic growth. The 1978 *World Development Report* stated that the development effort should have the twin objectives of rapid growth and reducing the numbers of people living in absolute poverty as quickly as possible. To accomplish this feat the plan was to use resources made available by rapid economic growth to expand public services (World Bank 1978). The

World Bank, in an effort to give rural areas a boost, increased lending for agricultural and rural investment from $172.5 million in 1968, to $3.8 billion by 1981 (Peet and Hartwick 1999). However, neither "basic needs" nor the emphasis on the human environment led to actual substantial changes in development practices on-the-ground or in terms of investment strategies, even though these ideas persist. Loans for agriculture went predominately to large agribusinesses, where the rich profit and seldom the poor. There were, however, success stories of macro-development between 1960 and the 1980s: both Taiwan and South Korea actually developed, and they were soon followed by Thailand, Malaysia, and parts of Indonesia.

Free-Market Theory/Neoliberalism

Despite the advocacy for programs based on the human environment and basic needs, modernization theory continued to reign supreme into the early 1980s, when a transition occurred to a formerly relatively fringe academic theory, Free-Market Theory, later to become known as neoliberalism by its critics. According to Peet and Hartwick, free-market theory jumped to the main stage after the Bretton Woods agreement broke down in 1972 and the oil prices increased rapidly from 1973-74 and again in 1979, leaving waves of inflation in their wake and leading many people to believe that Keynesian economics was finished (Peet and Hartwick 1999). By the early 1980s major countries, such as the US and UK led by the conservative Reagan and Thatcher governments, began putting free-market policies into effect. According to Jeffrey Sachs, a University of Columbia economist and director of the Sustainable Development program, the neoliberal approach to development was "liberal" in the classic sense of lack of state control and reliance on markets and the price mechanism, "liberal" in the

contemporary sense that there was concern for the victims, but "neo" in the sense that it was accepted that suffering was an inevitable consequence of reform and efficiency (Sachs 1991).[11]

The primary method of neoliberal international development policy in the 1980s was implemented by the IMF, and to a lesser degree the WB, both using structural adjustments. The package of policies was a response to the debt crisis and the inability of countries to repay loans accrued from previous decades. Debts were rescheduled, but only if countries agreed to neoliberalizing policies such as wide-scale privatization. The radical shift towards less government intervention and freer trade relations resulting from these policies generally resulted in disastrous social and economic effects for many developing countries. However, some "pain" was considered normal by neoliberal economists as it was by the United Nations three decades earlier, "Ancient philosophies have to be scrapped; old institutions have to disintegrate; bonds of caste, creed and race have to burst; and large numbers of persons who cannot keep up with progress have to have their expectations of a comfortable life frustrated. Very few communities are willing to pay the full price of economic progress" (United Nations, Department of Social and Economic Affairs as cited by Escobar 1995).

By the end of the 1980s a system of recommendations based on neoliberal ideas coming out of Washington became standard in conventional international economic policy circles. John Williamson, a senior fellow at the Institute of International Economics, finally created a set of specific economic policy prescriptions that for him constituted the standard reform package promoted for developing countries; these prescriptions became known as the "Washington Consensus" (Williamson 1990). According to Williamson, "The economic policies that Washington urges on the rest of the world may be summarized as prudent macro-economic policies, outward orientation and free market capitalism" (Williamson 1990). The consensus

[11] Neoliberalism is a philosophy espoused by conservatives in the US who criticize statists as "liberals."

became widely interpreted by critics as the "essence" of the neoliberal development policy package (Peet and Hartwick 1999). Williamson's ten policy recommendations that make up the Washington Consensus are:

1. *Fiscal Discipline*: Government budget deficits should be no more than 2% of GDP.
2. *Public Expenditure Priorities*: Expenditures should be directed from politically sensitive areas toward neglected areas like primary healthcare, education, and infrastructure.
3. *Tax Reform*: Incentives should be sharpened and equity improved.
4. *Financial Liberalization*: Interest rates should be market-determined as far as possible.
5. *Exchange Rates*: Rates should be sufficiently competitive to induce rapid growth in nontraditional exports.
6. *Trade Liberalization*: Quantitative restrictions on imports should be replaced with tariffs in the range of 10% over a period of 3-10 years.
7. *Foreign Direct Investment*: Barriers to the entry of foreign firms competing on equal terms with domestic companies should be abolished.
8. *Privatization*: State enterprises should be returned to private ownership.
9. *Deregulation*: Governments should abolish regulations restricting competition.
10. *Property Rights*: The legal system should secure property rights without excessive costs.

Supporters of these free-trade ideals claim that implementing them increases economic prosperity as well as opportunity among developing nations, enhances civil liberties, and leads to more efficient allocation of resources. Economic theories of comparative advantage suggest that free trade leads to more efficient allocation of resources, which will result in benefits for all countries involved. Benefits include lower prices, more employment, higher output, and a higher standard of living. For neoliberals the state and customary institutions have largely stood in the way of the transformative and modernizing potential of the market to help countries develop. If the state stood aside such liberalization would fuel a redistribution of rural resources (especially land and water) to more competitive and larger economic giants.[12] This interconnectedness of global economies led to the idea of globalization.

[12] While empirically and normatively dubious, such interpretations command far more political influence than poststructural ones.

Globalization

According to Thomas Friedman, globalization is not a trend or a fad. It has its own rules, logic, pressures, and incentives that will, and do, affect everyone's country, everyone's company, and everyone's community, either directly or indirectly (Friedman 2005). However, there is now a lively discussion about whether it is good or bad. One thing everyone can agree on is that Globalization is a fait accompli: the world is flat – if you are a (Tom) "Friedmanite", or that the world is run by a handful of global corporations, if you are a (Naomi) "Kleinian" (Schumpeter 2011). The simple definition of globalization is "the interweaving of markets, technology, information systems and telecommunications systems in a way that is shrinking the world from a size medium to a size small, and enabling each of us to reach around the world farther, faster, deeper, and cheaper than ever before, and enabling the world to reach into each of us farther, faster, deeper, and cheaper than ever before" (Friedman 2005). For Friedman, the new, "flat" world is one where technology and collaborative economies have created an entirely new playing field in the sense that it will change all of our theories of economies, politics and jobs. The main premise behind the ideology is that it is driven by technology, which exists to blow away walls and to tie everyone together, thus allowing everyone access to the best technology and the cheapest wages. It therefore increases competition and requires not only an emphasis on new skills set, but a much more self-reliant, creative and innovative mindset (Friedman 2005).

Another take on globalization is made by Pankaj Ghemawat of IESE Business School in Spain who makes the point in "World 3.0" that the world is not as flat or interconnected as Friedman leads us to believe. Some simple statistics that he points out are that only 2% of students are at universities outside of their home countries, 3% of people live outside their country of birth, only 7% of directors of S&P 500 companies are foreigners, and less than 1% of all American companies have any foreign operations (The Case Against Globaloney 2011). In

fact after the 2008 financial crises foreign direct investment (FDI) fell from nearly $2 trillion to $1 trillion in 2009. It also now takes over three times as long to process a truck-load of goods crossing the Canadian-American border as it did before September 11th, 2001 (Schumpeter 2011). All of these statistics are used to convey the idea that the world is not as interconnected as we think it is. Yet the world is growing smaller (though not quite flat) and more interconnected, with actions made in developed countries having larger impacts on those in the midst of development.

Notable businessman and philanthropist George Soros has another take on the subject. He believes that globalization has been lopsided, with "international institutions not keeping pace with the development of international financial markets and our political arrangements have lagged behind the globalization of the economy" (Soros 2002). He states that globalization is indeed a desirable development because private enterprise can do better at wealth creation than the state. This is due to states' abuse of their power and globalization offering a degree of individual freedom that no individual state could ensure, thus, creating free competition on a global scale, which has liberated inventive and entrepreneurial talents and accelerated technological innovations (Soros 2002).

Soros goes on further to say that globalization also has a negative side. The first reason is that many people, particularly in less-developed countries, have been hurt by globalization without being supported by a social safety net, and many others have been marginalized by global markets. The second is that globalization has caused a misallocation of resources between private goods and public goods. Soros argues that markets are good at creating wealth but are not designed to take care of other social needs. The heedless pursuit of profit can hurt the environment and conflict with other social values (Soros 2002). The third is that global financial markets are crisis-prone. People living in the developed countries may not be fully aware of the

devastation wrought by financial crises because they tend to hit the developing countries much harder (Soros 2002). When all three factors combine, Soros argues that they create a very uneven playing field.

To try and balance the playing field, Soros argues that certain institutional reforms are needed to protect the developing world. The first is that measures need to be taken to contain the instability of the financial markets. The second is to correct the built-in bias in existing international trade and financial institutions (IFTIs) that favors the developed countries that largely control them. The third is that the World Trade Organization (WTO), which facilitates wealth creation, needs to be complemented with similarly powerful international institutions devoted to other social goals, such as poverty reduction and the provisions of public goods on a global scale. The fourth is to create institutions designed to specifically improve the quality of public life in countries suffering from corrupt, repressive, or incompetent governments (Soros 2002). These reforms would quite arguably solve a lot of current problems surrounding the issue of globalization, but since the publication of Soros' book *George Soros on Globalization*, where he made these arguments, little headway has been observed. Until that time other forms of interventions are needed to help improve the standards of living for the world's poor.

Sustainable Development

By the late 1980s a new flavor of development emerged, this time emerging from the notion that the continued deterioration of the environment in "developing countries" was not slowing, even with the success of the economic parts of the development agenda in many countries and the introduction of neoliberal policies to try to help the ones who remained poor. In recognition that environmental problems were global in nature and that it was in the common interest of all nations to find a solution, the United Nations assembled a commission headed by

Grø Harlem Brundtland to address the growing concern over "the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development" (UN 1983). This report introduced the term "sustainable development" into wide usage. Though the concepts and phrasing behind sustainable development had been used previously in international development and conservation circles, the Brundtland Report, entitled *Our Common Future,* marked its entrance into international development discourse and continues to provide the leading outline of and rationale for the theory. The commission defined "Sustainable Development" as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987:1).

While sustainable development expanded concerns with basic needs and the human environment, the new focus was on linking the natural environment with development. The report gives an exhaustive list of threats to the planet's ecological equilibrium including deforestation, soil erosion, the greenhouse effect, the hole in the ozone layer, population growth, food chain failure, water supply shortages, energy supply, urbanization, extinction of flora and fauna species, the massive stockpiling of weapons of mass destruction, etc (World Commission on Environment and Development 1987). After the report, governments were no longer able to ignore the ecological effects of their actions, and greater attention was given to the ways countries developed and their impact on the environment. However, the report continued to support economic growth and progress with undefined limits, recognizing only movable thresholds imposed "by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities" (World Commission on Environment and Development 1987).

The main contradiction in the Report then, as pointed out by development theorist Gilbert Rist, is that the "growth policy supposed to reduce poverty and stabilize the ecosystem hardly differs at all from the policy which historically opened the gulf between rich and poor and placed the environment in danger" (Rist 1997). This stems from the fact that the Report did not recognize limits on absolute growth or provide a clear means for achieving and measuring sustainability. The Commission's suggestions are limited to a series of hopes or solemn appeals for more efficient management of available resources. Thus, the Commission claims that there are problems that must be tackled at their roots, but does little more than list a few suggestions to international agencies, governments, NGOs, and individuals. However, the UN will never be able to sponsor anything that can recognize limits, due to the fact that there will always be some member nations who will object that the limits were put in place to prevent them from getting their share of the proverbial development pie. Despite these issues and the lack of clear policies or actors to implement sustainable development, the concept of sustainable development came to dominate international development discourse. According to Rist, the Brudtland Report, along with the Earth Summit in Rio de Janeiro in 1992, led the charge in caring about the environment: after its publication no development project was taken seriously or given funding anymore unless it had incorporated an "environmental aspect" as part of the proposal (Rist 1997).

The term 'sustainable development' owes its success to its having come to mean different things for different people. For ecologists sustainable development implies a production level that can be tolerated by the ecosystem and thus maintained over the long term. For economists, it is an invitation to continue developing with economic growth at a more 'sustained' pace until it becomes irreversible, because at the moment what developing countries are

suffering from is unsustained development, or stop-go development constantly unsettled by passing political measures (Sachs 1992).[13]

Section 2: Critique of Development

Escobar on Development – A Poststructural Critique

In the 1980s new ideology emerged in the context of the growth of post colonial studies and the indigenization of knowledge. The emergence of poststructuralism occurred during a period in which the field of development studies underwent a paradigm shift, so much so that the very idea of development was challenged when poststructural principles were applied to the critique of development. Gustavo Esteva, a postdevelopment activist, summed up the new perspective when he stated, "you must be either numb or very rich if you fail to notice that 'development' stinks. The damage done to persons, the corruption of politics, and the degradation of nature which until recently were only implicit in 'development,' can now be seen, touched and smelled" (Esteva 1997). This dismissal of humanist research pushed the criticism of development to new heights. Poststructural critiques of modern, humanist endeavors like development brought two kinds of change to the field. The first was a change in popular attitudes towards development. Development, as a form of progress and improvement, had been assumed to be automatically good at the level of the institution. However, from the perspective of poststructuralism, what was previously understood as "progressive, beneficial, and humane was now seen as powerful, controlling, and often (if not always) detrimental" (Peet & Hartwick 1999). For the poststructural critique, the state and development are viewed as the aggressive

[13] This view of sustainable development is in line with Chinese sustainable development policies, section 4 continues the discussion.

agents of modernization. Furthermore, the notions of "progress" and "beneficial" became suspect in terms of who actually got to determine what beneficial meant, and of who actually benefited.

The second change was in the methodology used in development studies. Again this involved analyzing what had always been taken for granted. Prior to poststructural thought, development had always been seen as a necessary dynamic of social life, something that occurred naturally in the modern world; according to Peet and Hartwick, "development was to sociology what evolution was to biology" (Peet & Hartwick 1999). Development occurred as a necessary process, in the modern understanding, unless blocked by countervailing forces which should then be identified and removed. However, to poststructuralists the term "development" itself had become an invention, a social construction which had a cultural rather than natural history. As a cultural logic it existed in two linked forms: as a set of ideas, social practices, and forms of behaviors operating in the economic world; and as the discourse representing these real practices that originated in academia, state bureaucracies, and institutions (Peet & Hartwick 1999). Valuing difference, poststructuralists are critical of modernizing notions of development, especially neoliberalism, on the grounds that they break down difference, impose cultural homogenization, and constitute a form of domination (Bebbington 2000). With these poststructuralist realizations, discourse analysis became a crucial component of development studies.

Arturo Escobar, one of the greatest critics of development, has always questioned the idea that development is automatically good, seeing it as a means to control people instead of achieving its stated goals. In his main theoretical work, *Encountering Development: The Making and the Unmaking of the Third World*, he employs poststructural and postdevelopment theory to argue that development has been able to control people more effectively than colonialism, which

it replaced. Whether viewed as "pioneering," "biting," or "an opportunity lost," his work has stirred the world of development studies (Bebbington 2000). He applies his ideas to the postwar discourse on development, paying particular attention to economic development theory and the systematic production of knowledge and power in planning, rurality, health, nutrition, sustainability, and women and environment. He asserts that the discourse of development is hegemonic, limiting who, what, and how one can think and speak about development, while preventing alternative approaches and knowledge from entering the field (Escobar 1995).

For Escobar, the Western dream of progress became a hegemonic global imagination, which had the heavy price of scrapping ancient philosophies, leading to the disintegration of the social institutions of two-thirds of the world's people. The deployment of development operated through three main strategies. The first was the progressive incorporation of problems as *abnormalities* to be treated by specific interventions. The second was the *professionalization* of development, the recasting by experts of what otherwise would be political problems into neutral "scientific" terms, the aim being a regime of truth and norms, or a "field of the control of knowledge." The third is the institutionalization of development, the formation of a network of new sites of power/knowledge that bound people to certain behaviors and rationalities (Escobar 1995). In essence, Escobar claims that development has come to represent the Enlightenment project, the process of imposing Northern interests on those of the South (Escobar 1995). Thus, allowing for the notion that there are people and places that are underdeveloped, "backward" and poor, and therefore in need of the salvation development has to offer.

> *At times, development grew to be so important for Third World countries that it became acceptable for their rulers to subject their populations to an infinite variety of interventions, to more encompassing forms of power and systems of control; so important that First and Third World elites accepted the price of massive impoverishment, of selling Third World resources to the most convenient bidder, of degrading their physical and human ecologies, of killing and torturing, of condemning their indigenous populations to near extinction; so important that many in the Third World began to think of themselves as inferior, underdeveloped, and ignorant and to doubt the value of their own culture,*

> *deciding instead to pledge allegiance to the banners of reason and progress; so important, finally, that the achievement of development clouded the awareness of the impossibility of fulfilling the promises that development seemed to be making (Escobar 1995).*[14]

For Escobar, all universal models, whether neoclassical or Marxist, denied peoples' capacities to model their own behaviors. He instead favored autonomous peasant development strategies that opened spaces for peasants to struggle, that saw peasants not in terms of lacks but in terms of possibilities, and that modified social relations of production (Escobar 1995). One thing that Escobar is missing is the recognition of the Second World, the socialist countries, whose programs were nearly identical in their local methods, even if they had very different structures at the macro level. I deal with socialist development in the section on China.

Escobar's analysis falls in line with the traditional critique that sees little possibility of improvements of well-being without radical political and economic change. His work questions the feasibility of alternatives within the system of language and institutions of development. One of the main problems with the ideas set out by Escobar and other post-development thinkers is that they do not examine the influence of alternatives to capitalist landscapes such as the work of the state (particularly socialist states such as China), NGOs, and churches. Additionally, they do not address specific benefits that have come because or in spite of development projects, such as potable water, electricity, education, vaccinations, etc. This type of thinking does not seriously address what peasant farmers must do in the short term to make a living and to sustain their communities. It is theorists such as Anthony Bebbington who have begun to respond to the discourse of the critique of development by looking at these concrete benefits as possibilities for improved development (Bebbington 2000).

[14] Though Escobar probably didn't realize it because China was socialist, this definition of development applied very much to China.

Section 3: Critique of the Critique of Development

What Has Gone Right - The MDGs

Despite the validity of much of the critique of development, many thoughtful practitioners and critics remained aware of poverty and its consequences, and were not disposed to give up the effort to reduce poverty and inequality. The largest and one of the most successful unified fronts at combating global poverty took shape in New York a little over 10 years ago. In September 2000, world leaders building upon a decade of major United Nations conferences and summits came together to adopt the United Nations Millennium Declaration. Adopting the declaration committed their nations to a new global partnership to reduce extreme poverty by setting out a series of time-bound targets with a deadline of 2015. To meet the goals governments agreed to work through their own institutions, international institutions, local and international NGOs, and other charitable organizations. The goals agreed on at this meeting have become known as the Millennium Development Goals. They are as follows:

1) *End Poverty and Hunger*
2) *Universal Education*
3) *Gender Equality*
4) *Child Health*
5) *Maternal Health*
6) *Combat HIV/AIDS*
7) *Environmental Sustainability*
8) *Global Partnership*

Since their inception in 2000 the last 10 years has shown tremendous steps towards reaching those goals. The overall poverty rate is on track to fall below 15 percent by 2015, resulting in only 920 million people living under the international poverty line – half the number from 1990 (United Nations 2010). There have also been advancements in key interventions for malaria, HIV control, and measles immunization, which have cut child deaths from 12.5 million in 1990 to 8.8 in 2008. Enrollment in primary education has risen to 89 percent with 28 million more children able to attend primary school since 1999 (mdgmonitor 2011). In 2006, nearly 61

percent of women gave birth with the help of a trained midwife or doctor, compared to 55 percent in 2004. Over the past 10 years the share of the urban population living in slums in the developing world has declined from 39 percent in 2000 to 33 percent in 2010, resulting in 200 million people gaining access to improved water, sanitation, durable and less crowded housing, or some combination. Additionally, over 1.6 billion people have gained access to potable water since 1990 (United Nations 2010).

What Has Gone Right - Cases of Large Scale Development: The "Asian Tigers"

While Escobar and others critique the efforts of large scale economic development as total failures there have also been some monumental successes. The most famous of these are the "Asian Tigers" or East Asian newly industrializing countries (NICs) – Taiwan, South Korea, Hong Kong, and Singapore. The examples of Taiwan and South Korea are especially noteworthy because in the early 1950s they were viewed internationally as "hopeless basket cases" of development (Li 1995). For example, in 1962, Taiwan's per capita gross national product (GNP) was $170, placing the economy squarely between Zaire and Congo. By 1997, the per capita GNP had soared to $19,197 (Simon 2002).

For the East Asian NICs the initial conditions working against them were their small size and their poor natural resources. One initial condition that they did have in their favor was the high quality of their human resources as inherited from the historical past (Li, 1995). However, according to neoliberalist arguments, it was primarily the policy changes over the last 50 years until now that built a favorable environment for development by moving consistently in the direction of creating a liberalized market economy (Simon 2002). For example, in Taiwan the government instituted several four-year economic development plans. In the first four years the government focused on increased agricultural production and hydroelectric power which resulted

in an increase of GDP by 37 percent and income per capita by 17 percent. In the following stages import substitution industries were encouraged, which emphasized labor-intensive export industries, basic services, energy development, and exploration and development of the island's limited resources (Gold 1986).

The development in the East Asian NICs is a true success story of economic development practice, and most economists will always point their fingers in the direction of the "Tigers" and say "see it works!" However, many theorists will argue that there were many other special circumstances that made those countries special. For example, it is argued by some theorists that it was the role of the ruling Guomindang's (GMD) policy which led it to become a developmentalist state. Other scholars have claimed that Taiwan's economic miracle is the result of a Chinese Confucian culture that emphasizes education, family values, and an industrious work ethic (Simon 2002). Berkeley sociologist Thomas Gold believes that there were too many unique elements and nonduplicable phenomena which shaped Taiwan's experience to simply try and attribute it to one or a few simple reasons (Gold 1986). Some of the unique elements include: "colonized by a developmentalist racially and culturally similar neighbor; a postcolonial externally originating state with a developed bureaucracy, elaborated development ideology, and no ties to the island's society; an implacable foe with a radically different vision of development; an additional foreign occupying power reinforcing and reforming the state; geopolitical prior to economic incorporation into the world system; breathing space to consolidate power, revive production, and restructure society without obstructionist foreign actors; fortuitous timing; and close ties to two core powers" (Gold 1986). Whatever the reason, the Taiwan economic miracle justified GMD rule of Taiwan in the eyes of some through depiction of the country as the embodiment of capitalist productivity, bureaucratic efficiency, and Chinese tradition (Simon

2002). This ideology linked capitalistic development to nationalist sentiment, making opposition to capitalism seem non-Chinese and unpatriotic.

Bebbington on Development – A Pro-Development Critique

For Anthony Bebbington, the ideal of development is not lost: he hopes to "reencounter" and rescue it from the clutches of pessimists who only point out the "disasters of development" (Bebbington 2000). Bebbington believes that neither neoliberal nor poststructural interpretations of development capture the full extent and complexity of rural transformation throughout the world. The poststructural critiques tend to view development as a process of cultural destruction and homogenization, while neoliberal interpretations identify a different development "failure" that points to "inefficient" patterns of resources use, and the "nonviability" of the global peasantry (Bebbington 2000). In both cases Bebbington points out that the state is seen as a problem: "as an agent of dominating modernization, or as a brake on market-led transformation" (Bebbington 2000).

To question the accuracy of arguments about cultural destruction or nonviability, Bebbington conducted a study to shed light on the transformations in governance, livelihoods, and landscapes in a handful of villages in the Ecuadorean Andes. Bebbington conducted participant observation, extended and repeated discussions and interviews, a short household survey in two of the communities, and some soils analysis (Bebbington 2000). The results of his studies suggest that the people of the communities have "built economically viable livelihood strategies that, while neither agricultural nor necessarily rural, allow people to sustain a link with rural places, and in turn allow the continued reproduction of these places as distinctly Quichua" (Bebbington 2000). The primary reason to which Bebbington points for this success is the increased indigenous control of political, civil, and economic institutions and the roles that

development interventions, including those of small NGOs, church groups, and the state, have played in fostering this control (Bebbington 2000). Therefore, he believes that the transformations and the interventions played by grassroots organizations are too complex and contingent to be judged simply as normatively desirable or not, as "success" or "failure," as "development" or "destruction" (Bebbington 2000). Furthermore, his critique suggests the need for more nuanced interpretations of development that explore unconventional approaches. I hope my own critique will be able to add to this field of literature.

Alternative Development Discourse Practices – Participatory Development

Ideas and practices of participatory development emerged from multiple critiques within and outside the development industry in the late 1970s and 1980s. During that time populist movements arose in various places around the world where local people stood up to voice their concerns with development (Blaikie 2000). The best-known calls for participation included applied and modernist critiques of development practices often called the "farmer first approach" (Crewe and Harrison 1999). These critics thought that the features of an academic subculture (ethnocentrism, culturocentrism, elitism) led to over-simplistic characterizations, which contributed to making development "the greatest failure of the century." But instead of discarding the whole idea as harmful, in the manner of some post-structuralists, these critics issued a new call for "development from below." They saw voluntary groups, or nongovernmental organizations, as having greater diversity, credibility, and creativity than official agencies (United Nations, International Monetary Fund, World Bank, etc.) in producing just "development" characterized by equity, democracy, and social justice as well as by economic growth (Clark 1991). Radical humanists, who had been dissatisfied with international efforts that left more poverty, hunger, and unemployment over the previous 30 years, advocated

local self-reliance as an organizational development tool (Galtung 1978). It was at this time that participatory action research (PAR) came into prominence among academics and development practitioners as an attempt to "form an endogenous intellectual and practical research methodology for the peoples of the Third World" (Peet & Hartwick 1999).

PAR defined peoples' power as "the capacity of exploited grassroots peoples to articulate and systematize their own and others' knowledge" so that they could become protagonists in defense of their class and in the advancement of their society (Peet & Hartwick 1999). The idea was originally derived from José Ortega y Gasset, a Spanish existential philosopher, who argued that to be able to intuitively apprehend the essence of things and place their beings in a wider context one must learn through actual experience (Peet & Hartwick 1999). It was designed to utilize all sources of local knowledge in which critical theory, situation analysis, and practice were used to educate the adult population so that they could conduct their own scientific research and carry out their political action. It was believed that ordinary people should participate in research from the very beginning by deciding what should be studied and how. PAR made use of explanatory scientific schemas, like cause and effect, yet preferred qualitative over quantitative analysis. Its techniques included critical recovery of history, collective research, valuing and applying folk culture, and the production and diffusion of knowledge (Peet & Hartwick 1999).

Thus the notion of PAR was that development organizations should participate authentically in the community as a real, endogenous experience, to turn people into local intellectuals, but without creating hierarchies. Participatory development grew out of these encounters. It promised a new bottom-up, endogenous vision of development, free from the shackles of colonialism. Development critic Piers Blaikie asserts that by the 1980s the movements had become so strong that "participation, flexible 'process-oriented' planning in

which local people use their own knowledge and skills to work out their own solutions to the problems that they set themselves, had become de rigueur" in all forms of development projects from agricultural to social ones (Blaikie 2000: 1044). A number of experts in the most powerful international organizations, such as the World Bank, began to recognize the importance of popular participation. Majid Rahnema argued that development institutions and governments no longer perceived participation as a threat, that participation had become politically and economically attractive, was a good fundraising device, and was in keeping with the move toward the privatization of development as part of neoliberalism. Thus, development gradually acquired a new face, "the face of a repentant saint, ready to amend, to work, in a new fashion with the poor, and even to learn from them" (Rahnema 1990). Participation was then later codified in dominant development discourse through such documents as the Brundtland Report, where a paragraph references the need to include locals in decision making (United Nations 1987). Again, a 1989 document prepared by the UN related to conservation stated that sustainable development projects should share their views with locals and include them in needs definition and planning participation (Redclift 1992).

Robert Chambers' work was one of the first to use this approach. In his book *Rural Development: Putting the Last First*, he lays out a point by point diatribe describing the disconnect between development staff and what happens on the ground, as well as their limited understanding of actual issues and problems stemming from poor research methods (Chambers 1983). His work calls for considering the priorities and strategies of locals, helping to mobilize and organize the poorest so that they can gain financial resources, and putting the last (i.e. the poorest, women, ethnic minorities, etc) first (Chambers 1983). His solution reversed the top-down management style making it more participatory or bottom-up.

However, according to William Easterly, these attempts by large international institutions to include the poor, actually further demonstrated how stubborn bureaucratic incentives that are the chosen vehicle for bottom-up participation is a detailed central government plan (Easterly 2006). For example, in the Poverty Reduction Strategy Paper (PRSP)[15] Sourcebook of the World Bank, it suggests some pretty detailed planning. In order to complete a PRSP it must include a medium-term expenditure framework in which "The sector ministries prepare medium-term strategic plans that set out the sector's key objectives, together with their associated outcomes, outputs, and expenditure forecasts (within the limits agreed upon by the Cabinet). These plans should consider the costs of both ongoing and new programs. Ideally, spending should be presented by program and spending category with financing needs for salaries, operations and maintenance, and investment clearly distinguished" (PRSP Sourcebook 2011). Centralized planning such as this inevitably implies giving more power to the institutions at the top, not less. The officials who talk about participation and "local ownership" are thus not able to actually shift power to the locals; the bureaucratic incentives against it are simply too strong (Easterly 2006). At some point donors will have to trust the recipients to be self-reliant enough to follow their own interests, and make the most of the opportunities presented with aid. It is much easier for small local NGOs to do this because they tend to already have an in depth knowledge of the people and the area and can be more liberal with the way they distribute their funds, however, this is not always the case.

The concept of participatory development is flexible, and thus allows for different interests to participate, provides some agency to different parties, and allows for a range of

[15] PRSPs replaced the Structural Adjustment Programs, and are documents required by the IMF and WB before a country can be considered for debt relief. According to the IMF PRSPs are "prepared by the member countries through a participatory process involving domestic stakeholders as well as external development partners, including the World bank and the International Monetary Fund" (PRSP 2011).

criteria for success. Understandings of participation may fall into one of three broad categories based on how local people are involved in a project (Gardner and Lewis 1996). First, participation may mean informing people and receiving their input but not giving them decision-making power. Second, participation may involve the targets of development in project activities but not transfer control to them. Finally, participation may provide local peoples with planning and project control, decision-making ability, and in its ultimate form, empowerment (Gardner and Lewis 1996).

For many, participatory methods seemed to be the key to unraveling the complexities of development. However, some began to question some of the central tenets of participation philosophy. One such person was Majid Rahnema. Rahnema argued that there was a real difference between institutional views of participation (where local communities were viewed only as "extras" or "human resources") and the more radical views of PAR theorists who had their own ideological conceptions of people's power and thought that free dialogue would persuade the "oppressed" to formulate and implement their own beliefs and ideologies (Rahnema 1990). However, according to Rahnema many PAR activists admitted that their knowledge was "irrelevant if local people did not regard it as useful and believe in full participation" (Rahnema 1990). Many PAR activists also attributed lack of cooperation to the people's primitive consciousness, and believed their obligation was in transmitting science, as the work of the world's "best minds," to the "nonconscientized" (Rahnema 1990). Thus, despite their undoubtedly sincere intentions, one of the questions that appear is whether the 'change agents' had really embarked into the unknown with an open mind, or were they more concerned with finding ways of convincing the "uneducated" of the merits of their own 'educated' views (Rahnema 1990). Sadly, the latter case was not much different from the traditional approach to

development (i.e. the idea that oppressed people did not have the consciousness that intellectuals needed to engage them).

Rahnema believes that most activists operate within a humanistic worldview, deeming that participation is only for those who act voluntarily (freely among responsible adults), in contrast to those who are oppressed. There evolved a distinction between "us" and "them", and the interactions between the two were rarely innocent. To Rahnema participation planned in advance was ultimately a dead tool, only able to foster chattering, frantic activism, "inevitably bound to fall into the hands of the highest bidder on the power market. It can never serve freedom, self-discovery, or creative action" (Rahnema 1990).

Development Projects Used as Measure of Success or Failure

Development projects are the privileged particles of the development process

- Hirschman 1967

In the current context of development, everyone working in development agrees on the ideals of participatory development, but success or failure still needs to be measured. One way to measure the success or failure of development is to analyze development projects. The reason for this is because the development project is a special kind of investment. The term connotes purposefulness, some minimum size, a specific location, the introduction of something new, and the expectation that a sequence of further development moves will be set in motion. Additionally, using development projects will be useful since there are project 'inputs' (including people), and the procedures and mechanisms for changing development practice (Craig & Porter 1997). This task has been made all the more difficult because the end goals are presented with considerable wholeness and simplicity: incomes must increase, health and welfare have to improve, democracy and good governance have to be fostered, and all in a sustainable way that allows a

fair share for women, minorities, the environment, and any other interest that tends to be overlooked when development goes off course (Craig & Porter 1997). For many observers development projects became “development itself” (Hirschman 1967). Thus, development projects, such as providing potable water, are a great framework for applying tools to determine what about the development process works and what does not.

Development projects are designed in terms of a number of conventional rationalities. According to Craig and Porter these are “performative,” in that they define ideals, goals, fields, and mechanisms of project activities (Craig & Porter 1997). These rationalities generally are of two different but mutually dependent kinds. The first are project goals, which reflect implicit values such as empowerment or growth, or improvement in the satisfaction of 'needs'. Unlike, but implicit in, the specific objectives and inputs of projects, these goals are timeless and highly moral. 'Improved standards of living and peace and order' reads the goal statement of one project, typical of many (Craig & Porter 1997). The second kind of rationality is the specific objectives of the project. These are generally observable, objectively defined ends which are to be realized by the specific mechanisms of the project. They include target populations and areas (beneficiaries), and are logically linked to the supply of resources or inputs, a limited number of desired outputs, and a list of specific project activities carried out over the duration of the project (Craig & Porter 1997). It is thus hardly surprising that development projects have evolved a strong set of formal procedures, documents and techniques for development to be ritually achieved.

Section 4: Chinese Socialism and Chinese Development

High Modernism and the Socialist Countries

The history of development and its critiques that I have presented so far has been part of the larger history of the capitalist world-order in the 20th century and beyond. For most of that century, however, a different process of development was going on in socialist countries, particularly those ruled by Communist Parties. Far from being simple radical politics, Karl Marx and Friedrich Engels developed a materialist philosophy of social existence and a dialectical theory of human development. They were enlightenment modernists who believed in social progress and the perfectability of humankind, in the transformative potential of science, and in the material plentitude made possible by technological advances (Peet and Hartwick 1997). They saw the modern advancements of production as emancipation from nature and as a process of human self-creation. However, for them it was directed by a few powerful people, which limited its potential. Therefore, they aimed at liberating the ideology from the rich and famous and giving it to the working class so that it met their needs.

In a certain way, the Cold War can be seen as a development contest, with the US and USSR competing to show poor countries who had the best development plans and strategies. The US employed a capitalist form of modernism, while the USSR a socialist. The socialist conception of and application of modernism had many of the same negative results as the capitalist form, but is often ignored by leftist critics whose main target is capitalism. Seen from a more neutral stance, however, capitalism is not the exclusive problem in development; socialist command economies actually put forth equally counter-productive development schemes and projects. The Great Leap Forward (GLF) in China, collectivization in Russia, and compulsory villagization in Tanzania, Mozambique, and Ethiopia are among the greatest human tragedies of the twentieth century, in terms of both lives lost and lives irretrievably disrupted. It is normally

easy to understand why so many human lives have been destroyed by mobilized violence between ethnic groups, religious sects, or lingual communities, but it is more difficult to understand why so many well-intended schemes to "improve" the human condition have gone so tragically awry. James Scott puts forward a very convincing argument about the elements that contribute to the failure of state-led projects, especially in Communist countries.[16] The first necessary element is the administrative ordering of nature and society – transformative state simplifications, such as the standardization of languages and legal discourse, the design of cities, and the agricultural simplification of flora and fauna (Scott 1998). The second element is what Scott refers to as "high-modernist" ideology, or the strong belief of "scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the expansion of production, the mastery of nature (including human nature), and, above all, the rational design of social order commensurate with the scientific understanding of natural laws" (Scott 1998). Essentially, this theory is the faith that science and technology can be used for the comprehensive planning of human settlement and production. These first elements by themselves do not necessarily have adverse outcomes, but if combined with a third element, the product becomes potentially lethal.

The third element is an authoritarian state that is willing and able to use the full weight of its coercive power to bring these high-modernist designs into being. During times of war, revolution, depression, and struggle for national liberation the authoritarian state seizes the opportunity to employ emergency powers. The fourth element is closely linked to the third: a prostrate civil society that lacks the capacity to resist these plans. War, revolution, and economic collapse weaken civil society as well as make the populace more receptive to a new dispensation.

[16] Scott's critique applies more widely than just Communist countries, but I am concentrating on the latter, because I am trying to trace the history of development in a particular part of China.

In sum, a society provides the ability for large-scale social engineering, high-modernist ideology provides the desire, the authoritarian rule provides the determination to act on the desire, and an incapacitated civil society provides the social terrain on which to build (Scott 1998). China is a prime example of all four pieces coming together to create the perfect storm.

Socialist Development in China, 1949-1980

Few socialist experiments in history have had the scope and penetration of Chinese socialism. From when the Chinese Communist Party defeated the Guomindang in 1949 until 1976 when Mao Zedong died, Mao and the party sought to re-engineer China by remolding Chinese society, human nature, and the nonhuman world (Shapiro 2001). These aspirations came with severe consequences for both human beings and the natural environment. There were numerous campaigns that suppressed elite scientific knowledge and traditional grass-roots practices concerning the physical world, stifling dissent through political labels, ostracism, and labor camp sentences (Shapiro 2001).

In the early 1950s, Mao, beholden with Stalinist ideology and Soviet style planning, stressed the key role of heavy industry, making steel production the centerpiece of the deluded effort of their attempt to develop by conquering nature. Mao's adversarial stance towards the natural world is an extreme case of the modernist conception of humans as fundamentally distinct and separate from nature. To conquer nature, the power of ideas was unleashed through mass mobilization in socialist political campaigns, often accompanied by the use of military imagery: nature was to be "conquered"; wheat was to be sown by "shock attack"; "shock troops" reclaimed the grasslands; "victories" were won against flood and drought; insects, rodents, and sparrows were "wiped out" (Shapiro 2001). This polarizing language captures the core dynamics of Mao's War against nature using the ideals of modernism as his driving force.

By the late 1950s, Mao was already repudiating warnings of the dangers of overpopulation and exhorted the Chinese people to bear children so that, by their sheer numbers, they could increase production and withstand Western and Soviet threats.[17] As a means to control production collective agricultural organization started in stages between 1953 and 1956, then two years later Chinese leaders called on peasants to "leap" into almost fully communist society (Parish 1978). In 1958-1960 the GLF raised farmers' hopes for national transformation through rapid industrialization of rural areas. Instead of working in the fields, tens of millions of peasants were ordered to mine local deposits of iron ore and limestone, to cut trees for charcoal, to build simple clay furnaces, and to smelt metal. Peasants were ordered to abandon all private food production, and newly formed agricultural communes planted less land to grain, which at the time was the source of more than 80% of China's food energy (Smil 1999). It was believed that through the technologies and tools of modernization, nature could be conquered to produce more, while also reducing labor inputs. Despite some small scale successes, Mao only succeeded in decimating China's forests, turning 30-40 percent of all houses to rubble, and causing widespread starvation (Becker 1996). The result was an extensive famine in which 30 million Chinese starved to death and about the same number of births were lost or postponed (Smil 1999). In addition to starvation, Frank Dikötter estimates that at least 2.5 million people were beaten or tortured to death and 1 to 3 million committed suicide (Dikötter 2010). Furthermore, huge hydropower projects removed millions of people from their homes but were useless or caused disastrous floods when poorly constructed dams broke (Shapiro 2001).

After the GLF was over, rural Chinese leadership faced the breakdown of the commune system and modified it to try and restore production and morale. To accomplish the task the communes were rearranged into production teams of only 20-40 households and the labor

[17] Thus creating conditions for later birth control policies and intensified struggles over land and resources

management and income sharing-units were decentralized (Parish 1978). Doing so allowed the peasants to return to familiar forms of agricultural practice, since these changes were similar to the collectives and cooperatives of earlier years, which were based on village and kin-group alignments (Parish 1978). This style of agriculture remained more or less stable for a period of about 15 years (Chan 1992; Friedman et al 1991; Parish 1978). However by the mid-1970s industrial growth had once again outpaced agricultural output and the swelling ranks of the industrial workers were putting pressure on the food supply. The growing population and limited agricultural supply limited China's growth and created a period of stagnation. Chinese leadership started to recognize the problem and began to reform government policy.

The reforms began with changes in family planning policy and attempts at reducing the rapidly growing population were made. In 1971, the State Council issued a directive on the nationwide campaign of fertility planning making birth control readily available (Greenhalgh 2008). In 1974, Chairman Mao reversed his former GLF population policy and blessed the new one by stating "population must be controlled by all means" (Poston 2006). At that time Chairman Mao was still a god-like supreme center of power in China and his endorsement commanded the eager following of not only the party officials but also the masses, especially the city folk who were primarily employed by the state (Poston 2006). Although Mao died in 1976 and had given his support of population control, there were still people around who could use Mao's words to cause trouble for population controllers, population would continue to be a dangerous topic (Greenhalgh 2008). In 1978, Deng Xiaoping and his followers took control of population planning and applied China's famous 'one-child policy' to help alleviate social, economic, and environmental problems. Chinese authorities claim that the policy has prevented more than 250 million births from its inception to 2000, roughly 90% of the United States'

population in 2000 (BBC 2000, US Census 2000). The historical progression of China's fertility and population policy is summarized in Figure 3.

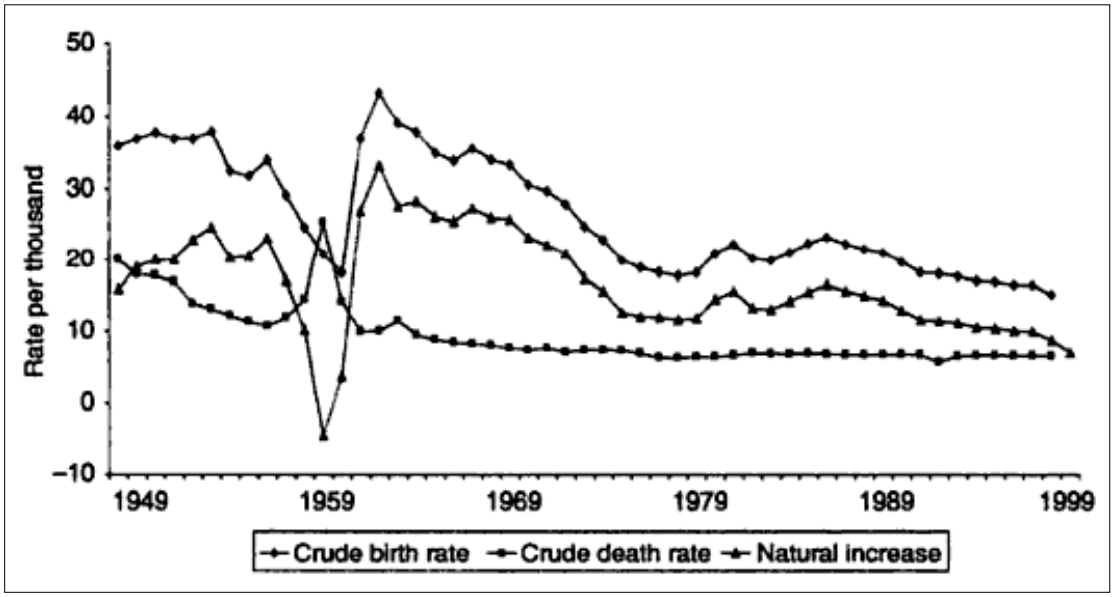

Figure 3: Crude rates of birth, death, and natural increase in China, 1949-2000 (Poston 2006)

Many internal political struggles prevented a thorough reorientation of Chinese economic policy. The aging Mao refused to acknowledge any criticism of policies associated with the Cultural Revolution and encouraged the "Gang of Four"[18] to obstruct trends towards economic rationalization (Naughton 2007b). This deadlock was finally broken in 1976 after Mao's death. Within days the new leadership threw the Gang of Four into prison and quickly turned its attention to economical matters. Under the new leadership of Hua Guofeng 120 new major projects were scheduled with the hopes of paying for the latest Western technology with oil reserves. However, the oil reserves were insufficient and China's first attempt at the "great leap outwards" collapsed of its own weight (Naughton 2007b). Finally in 1978, Deng Xiaoping came back to power as the prominent leader and began a wide-ranging reassessment of nearly every aspect of the command economy.

[18] The name given to a political faction composed of four Chinese Communist Party radicals. Mao's wife, Jiang Qing, was the leading figure of the group (Naughton 2007b).

Since China launched quasi-neoliberal economic reforms at the end of 1978, market transition has extended over almost 30 years. For rural reforms, the government decided that it should reduce pressure under which farmers had operated for the previous 30 years, allowing for a 'freer market'[19] and to "give farmers a chance to catch their breath" (Naughton 2007b). After the reforms agricultural production surged and by 1984 grain output increased by more than a third of what it had been in 1978. Now there was enough grain for everyone in China (Naughton 2007b). The success of the agricultural reforms reinforced the reform process and the government quickly turned to larger economic reforms. Reformers saw this success and sought to extend the same approach to industrial and commercial reforms. In doing so they created a pattern of economic reform that was decentralizing, shifting power and resources from the hands of central planners to local actors, while core interests were protected (Naughton 2007b). This process lowered entry barriers and allowed free market forces to grow.

Foreign-Based NGOs in China

As China turned away from strict socialist economic and social controls in the late 1970s[20] and with the slow collapse of the 'iron rice bowl,' gradually the gap between those who had wealth (in connections, opportunities, and money) and those that did not, increased greatly (Naughton 2007a). Social inequality grew, particularly between cities and the countryside and between the regional cores and the peripheries. Within China these peripheries slowly became known as the "developing areas," and thus subject to the same discourses and practices mentioned above. Despite many efforts by the Hu-Wen administration to address growing inequality, results were modest, particularly with regard to regions that have historically lagged

[19] Collectives were allowed to experiment with different payment systems for farmers and better ways of organizing and market output (Naughton 2007).
[20] Following new party leader Deng Xiaoping's belief that China could not improve without learning from more developed Western countries.

behind the wealthier coastal provinces, macroregional cores, or urban areas. During Chairman Mao's reign China's government had carried out a closed-door policy, especially after the withdrawal of Soviet advisors in 1960, not accepting any international help for anything was a matter of national pride. However, to help reach these "developing areas" the newly reformed Chinese government permitted international development organizations to step in and provide support, particularly in education, health care, and poverty alleviation (Ma 2005).

Many international NGOs target the periphery areas of China which are lagging behind. These areas include the mountains and prairies populated by the ethnic minority peoples, who have not been able to convert their bountiful natural resources into wealth. While very rudimentary services were established by the government in the 1950s and 60s, as the central state began reducing subsidies to local governments in the 80s and 90s, education and health services were affected in remote regions. The standard of living in these areas was perhaps always low and improved only slowly, but it was less noticeable when virtually all Chinese had a low material standard of living. Families had little ready cash; schools suffered from run-down facilities, lack of material, and lack of trained staff (Hannum 2003).

Chinese Participatory Development

Go to the people. Live among them. Learn from them. Love them.

Start with what you know. Build on what they have. But of the best

leaders when their task is done, the people will remark: 'We have

done it ourselves.' – Lao-Tzu

In China, the participatory method began to be adopted by development programs by the mid 1980s as a reaction not to the top-down development of the state and international agencies, as in the capitalist countries, but as a reaction to the top-down, "one-knife cut" development

programs of the Chinese Communist Party (CCP), from the first Five-Year Plan onward. Development researcher Liu Jinlong estimates that approximately half of Chinese rural development programs with international aid have implemented the participatory method (Liu 1999). Most of them are poverty alleviation and public programs such as nature conservation, ecological rehabilitation, and public health. Programs are gradually extending to the fields of agriculture, forestry development, rural energy, health care, women's education and child care, water supply, and education (Lin 1999). However, even though these concepts are supposedly being incorporated into Chinese development policy, locals' voices are not really being heard, as is comically conveyed in the title of one of Lin's publications, "Farmers decision is the best – at least the second best" (Lin 1999). When the farmers had one belief and the development workers another, the result was that communities were reluctant to do what was asked of them. According to Lin, many development programs start with government officials and scientists bringing "wonderful plans, asking peasants to realize this beautiful picture…to improve themselves" (Lin 1999). However, due to poor implementation of the programs, officials were becoming disappointed and attributed the program failure to the "non-civilization of the peasants" (Lin 1999). As a means to re-conceptualize rural development the CCP decided to alter how they approach development work by incorporating *Xiaokang* ideology.

Current Chinese Ideas About Development

In China, scholars and the government mainly stress poverty reduction and people-centered sustainable development (Li 2006). Whether or not this is actually the case is up for debate. Obviously, one of the greatest barriers to achieving this type of sustainable development is that the central government constantly focuses on economic growth. As a result, it becomes difficult to balance economic growth, social welfare, and environmental protection.

Xiaokang Development

Current rural development projects in China are often guided by the ideas of *Datong* (大同), *Xiaokang* (小康), and *Wenbao* (温饱). The concept of *Xiaokang*, or being relatively comfortable or well-off, has existed in Chinese tradition for 2,500 years (Li 2006). The word was first used in the *Shijing* (诗经) or *Book of Songs* and later used in the *Li Ji* (礼记) or *Record of the Rites*[21], and meant that the economy is ample and life is comfortable, or that the "economy provides warmth and sufficient food (*Wenbao*)" (Li 2006). When analyzing the Chinese origins of the word the meaning refers not only to a material level of comfort, but to a sense of security that such a lifestyle can be sustained. In comparison to *Datong*, the Confucian ideal of "great unity" where all within a society are equal and free, *Xiaokang* does not go as far as to imply total equality in prosperity but that people are comfortable, while still understanding there will be social and economic disparity.

During the time that Deng Xiaoping was leading China, *Xiaokang* became a mark of economic goals for China, with political and economic significance. Deng Xiaoping believed that for China to achieve *Xiaokang* Chinese per capita average GDP needed to reach $800 by 2000, which was achieved (Li 2006). In 2001, the fifteenth Party Congress designed a new *Xiaokang* goal, that the size of the economy be quadrupled between 2000 and 2020, and that the primary objective is to attain a $3,000 per capita gross domestic product by 2020 (Park 2005 & Li 2006). According to the Chinese government, three major components are deemed essential to realize this goal: "fostering a stable external political and security environment necessary for internal economic development; integrating China further into the international and political order to help secure stable markets…; and developing broad and deep relations with the United

[21] The classical explanation of *datong* and *Xiaokang* appears in the Li Ji

States to eliminate the need for excessive military spending" (Park 2005). However, the Chinese idea of *Xiaokang* is not only an achievement of GDP. According to indicators measuring modernization of the Chinese situation, scholars pose and list nine criteria for overall achievement of *Xiaokang*:

- *GDP per person is US $3,000.*
- *City people should have an income of 18,000 yuan per person per year.*
- *In rural areas, personal net income should be 8,000 yuan.*
- *Each person has 30 square meters for living in the city.*
- *50 per cent of people are living in cities.*
- *20 per cent of families have computers.*
- *20 per cent of students may have the opportunity to study at university or college.*
- *Every one thousand people should have 2.8 medical doctors.*
- *95 per cent of people in the city should be guaranteed the minimum livelihood. (Yongxiang 2006)*

To totally achieve *Xiaokang* the Chinese government has realized that it needs to focus on rural areas because the rural peasants or *nongmin*,[22] constitute the majority, especially in western China. This is becoming especially important in the context of rapid economic development and the widening of the rural-urban wealth gap. If the *nongmin* cannot achieve *Xiaokang*, then China cannot be said to have achieved *Xiaokang*. For most *nongmin* the goal of *Xiaokang* is very high. It would mean that they receive a net income of 6000 yuan per person per year, which requires GDP to increase 9.6 percent, and income levels to increase by 7.3 percent each year (Li 2006).

The concept of *Xiaokang* is a crucial to understanding Chinese development because the goal of *Xiaokang* is to achieve all of its elements by 2020, which will not happen unless greater concentration is paid to poor rural areas with their direct participation. In an attempt to improve the success rates of the development projects in China, the CCP sent over 100 of its senior

[22] The term *nongmin* is a Chinese word for peasant, which entered China in association with Marxist and non-Marxist Western perceptions of the peasant. It thereby put the full weight of Western heritage to use in the new and harshly negative representation on China's rural population. The term has continued to be used negatively and has grown into a communist construction implying inferiority (Cohen 1993).

development leaders to be trained by the UN to better understand *Xiaokang* and participatory development to ensure that they made rapid progress towards meeting their *Xiaokang* and Millennium Development Goals (Wang 2006). The program also supported domestic training activities for over 600 senior Chinese leaders so that they might then train others on the principles of *Xiaokang* (Wang 2006). One of the most important parts of the training was the inclusion of adopting a multi-stakeholder approach for rural development. The training emphasized that rural development must rely on pro-activeness and cooperation of multi-stakeholders including government, farmers, and civil society. This dissemination of *Xiaokang* development theory amongst the Chinese leadership down to the local level is also seen as a means to increase the welfare of their minority groups. It included the idea that the government should provide policy guidance and support to rural development and agricultural modernization, and provide high-quality services in science and technology, education, training, poverty reduction, and health care (Wang 2006). By focusing on this methodological approach to development, the Chinese leadership has set up the building blocks for development "take-off" in a similar manner that Rostow advocated for with modernization theory.

China's Particular Adoption/Adaptation the Sustainable Development Practice

The concept of sustainable development is widely discussed at the central state level by scholars and by governmental officials. In 1992, China established the ten countermeasures to environmental degradation due to development, and in 1994, the government published Agenda 21, establishing the general goals and framework of development related to sustainability in different industries and areas (Li 2006). In 2003, the Chinese government published China's Action Outline of Sustainable Development in the Early 21st Century, which summarized the results over the last ten years and its goals for the future.

Many scholars, both domestic and international, believe that China has many serious problems with its attitudes towards the environment and sustainable development (Tilt 2010). Unlike many international scholars, Chinese scholars stress that the state's concept of sustainable development is people-centered development, and poverty reduction with economic development is at its core (Li 2006). China's Agenda 21 stresses that for developing countries such as China, the premise of sustainable development is development. Attention needs to be placed on agriculture, rural areas, and farmers[23] (Zheng and Zhao 2004). However, China faces several difficulties in regards to this idea, including the population and its impact on employment, the shortage of agricultural land, environmental pollution, and contradictions between food demand and supply (Hu 2004). Another aspect of sustainable development is that it is related to *Xiaokang*, and the difficulties and importance of achieving both *Xiaokang* and sustainable development are concentrated in the rural areas (Hu 2004; Zheng and Zhao 2004).

One critique that explains why the Chinese view sustainable development in this manner is due partially to a linguistic problem with the translation of the term. Sustainable or *kechixu fazhan* (可持续发展) is translated directly as "the continuation of development". Kechixu in Chinese means "can be continued" which is only a small portion of the Bruntland understanding of sustainable. It is also argued that the other part comes from the Chinese government utilizing the sustainable development discourse as a means of further propagandizing their need for further economic development. When people on the street are questioned as to what sustainable development means, the answer received is often the ability to develop the economy forever (Schmitt 2011).

[23] So called the *san nong wenti* or the three rural problems

Section 5: Setting the Stage for the Baiwu Valley

China's development efforts in the reform period have catapulted millions of people out of absolute poverty and constitute one of the most drastic episodes of social and economic transformation in history. In measurable terms of economic development and social change, China's economic achievement has been unprecedented in speed and scale. Many of these significant changes have been captured by statistics measuring various aspects of the Chinese economy. The aggregate size of the Chinese economy in 2002 was more than eight times the size it was in 1978 (Pei 2006). Between the years, 1978 and 2003, per capita income rose more than 600 percent from $151 to $1,097 (Pei 2006). In addition, between the years, 1980 and 2005, China has become one of the leading trading nations in the world, as well as one of the most popular destinations of foreign direct investment (FDI). Prior to 1978, China was a closed economy that, relative to the size of its economic system, conducted a small amount of foreign trade. However, after a quarter century of reforms, Chinese foreign trade increased 41-fold from $20.6 billion in 1978 to $840 billion in 2003, making China the 4th largest trading nation in the world (Pei 2006). China's economic growth over the last twenty-five years has been globally impressive and has raised the standard of living for much of its population. However, contrary to Maoist ideology, not everyone has shared equally in the newfound wealth.

Socialist development during the Maoist period was based partly on an egalitarian ideal. As recently as the 1980s, China was among the world's most egalitarian societies economically (Yang 2007). However, since then inequality has increased dramatically. In a paper presented at the Conference on Paradigms in Flux, Barry Naughton sums this up quite succinctly: "China has lost its status as a relatively equal developing country, inequality has increased rapidly, and China is now a relatively unequal middle-income country. Government policy has been focused on market liberalization, social protections have been ineffective and eroded, and an unfair and

unequal market economy has emerged in China" (Naughton 2007a). In the mid 1980s, China's Gini index[24] of income inequality was less than 0.3, much lower than developing countries in other parts of the world (Yang 2007). However, in slightly more than a decade's time China transformed into one of the most unequal societies in the world. By the mid-1990s, China joined Bangladesh, Indonesia, the Philippines, and the United States as one of the countries with the highest levels of income inequality (Yang 2007). The World Bank, for instance, reported a Gini index of 0.415 in 2007, ranking China third in the world among major regions in income inequality[25] (Yang 2007). China's recent rapid development has improved the lives of many Chinese and has raised a larger number of formerly poor people, almost a quarter of the population, over the one-dollar-a-day line of U.N designated poverty, however, the majority of the population (75% - mostly in rural areas) has experienced a decline in their access to basic needs such as healthcare and education (Dirlik 2007). According to the World Bank's recent analysis of the Purchasing Power Parity size of China's economy has determined that 13-17% in 2004 or by extrapolation 11% in 2007 of its population is living under the dollar-a-day standard (World Bank 2008). This number correlates to approximately 100 million people living in absolute poverty.

Almost all of the people left behind in China's rapid development live in rural areas. However, to speak simplistically of rural poverty in comparison to urban affluence is misleading. Measured quantitatively, the Gini coefficient of household income in 2006 for rural areas was 0.37 while in urban areas it was only 0.32 (Grub et al 2011). Differences between wealthy and

[24] A tool one can use when measuring income inequality is to look at a country's Gini index. The Gini index is a measure of wealth inequality. A Gini index of 0 corresponds to perfect equality (i.e. everyone has the same income) and 1 corresponds to perfect income inequality (i.e. one person has all the income, while everyone else has zero income).

[25] Other sources have reported a much higher figure for China's income inequality, for example a national survey conducted in 1995 by Chinese and American economists reported a Gini index of .452 (Yang 2007).

poor villages can be dramatic. At the rich end of the spectrum villages have prospered greatly by accumulating capital to fund local industries, attracting investment by domestic and foreign firms that bring employment opportunities, and participate with their urban neighbors in the consumer revolution that has engulfed China in the last ten years (Ravaillon and Chen 2007). Furthermore, few have migrated out because there has been no need. All the amenities to build a good life are there and major cities are close and accessible by convenient public transport.

At the other end of the spectrum are places such as the Baiwu Valley, site of the villages of Yangjuan and Pianshui, and the topic of the case-study analysis in my thesis. Villagers there live in mud houses with dirt floors and single electric bulbs hanging from the ceiling. To heat their homes and cook they must travel great distances to collect firewood. The only available bus runs from the township center to the county seat, although there are dirt roads leading to all the main villages in the valley. In 2008, 113 households in Yangjuan were surveyed, of which it was discovered that there was only one car, two motorcycles, and four tractors. Until recently,[26] most of the population remains fairly uneducated with only a "few exceptional children moving beyond elementary school" (Grub, Blumenfield, and Harrell 2010). There are no local industries in Baiwu Township and industries in Yanyuan County only employ a few hundred people. For families living in Yangjuan the economic choices narrow down to migratory temporary labor and/or farming.

Baiwu Township and Yangjuan and Pianshui Villages

Yangjuan is one of twelve villages located within Baiwu Township, in the north-central part of Yanyuan County, Liangshan Yi Autonomous Prefecture, southwestern corner of Sichuan Province. Please see Figures 4-6 for the location of Yangjuan and the Baiwu Township. Yanyuan

[26] With the help of the Cool Mountain Education Fund more students are able to continue their education past primary school

has approximately 30 townships and is located in the western part of Sichuan's southwestern Liangshan Mountains. Yangjuan is located approximately four kilometers away from the Baiwu town center and sits at the bottom of a river valley of limestone cliffs at an elevation of 8370 feet/2550 meters.

Figure 4: Location of Liangshan Yi Autonomous Prefecture

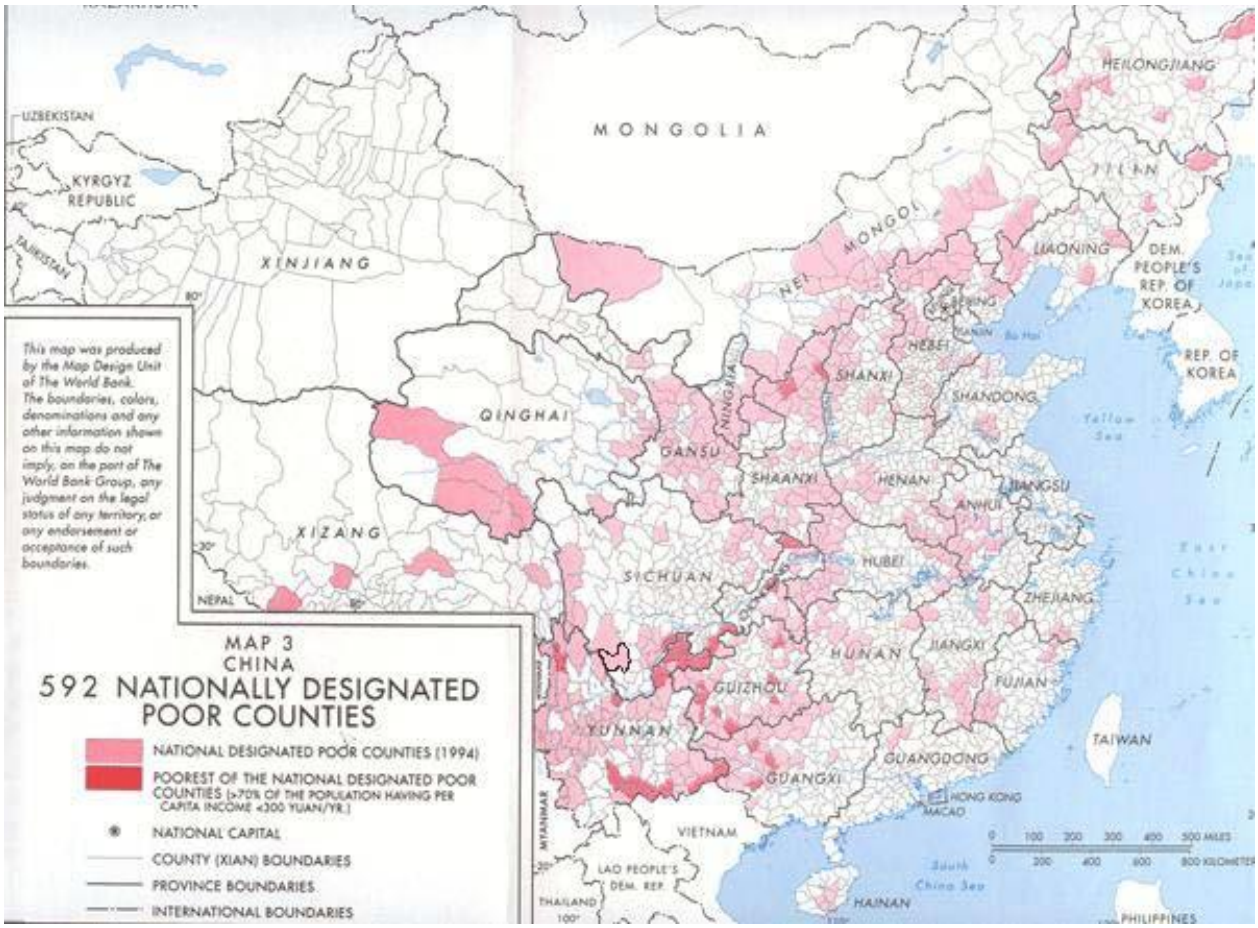

Figure 5: World Bank's 1994 592 Nationally Designated Poor Counties. Yanyuan County is outlined in black within Sichuan Province (World Bank 2001)

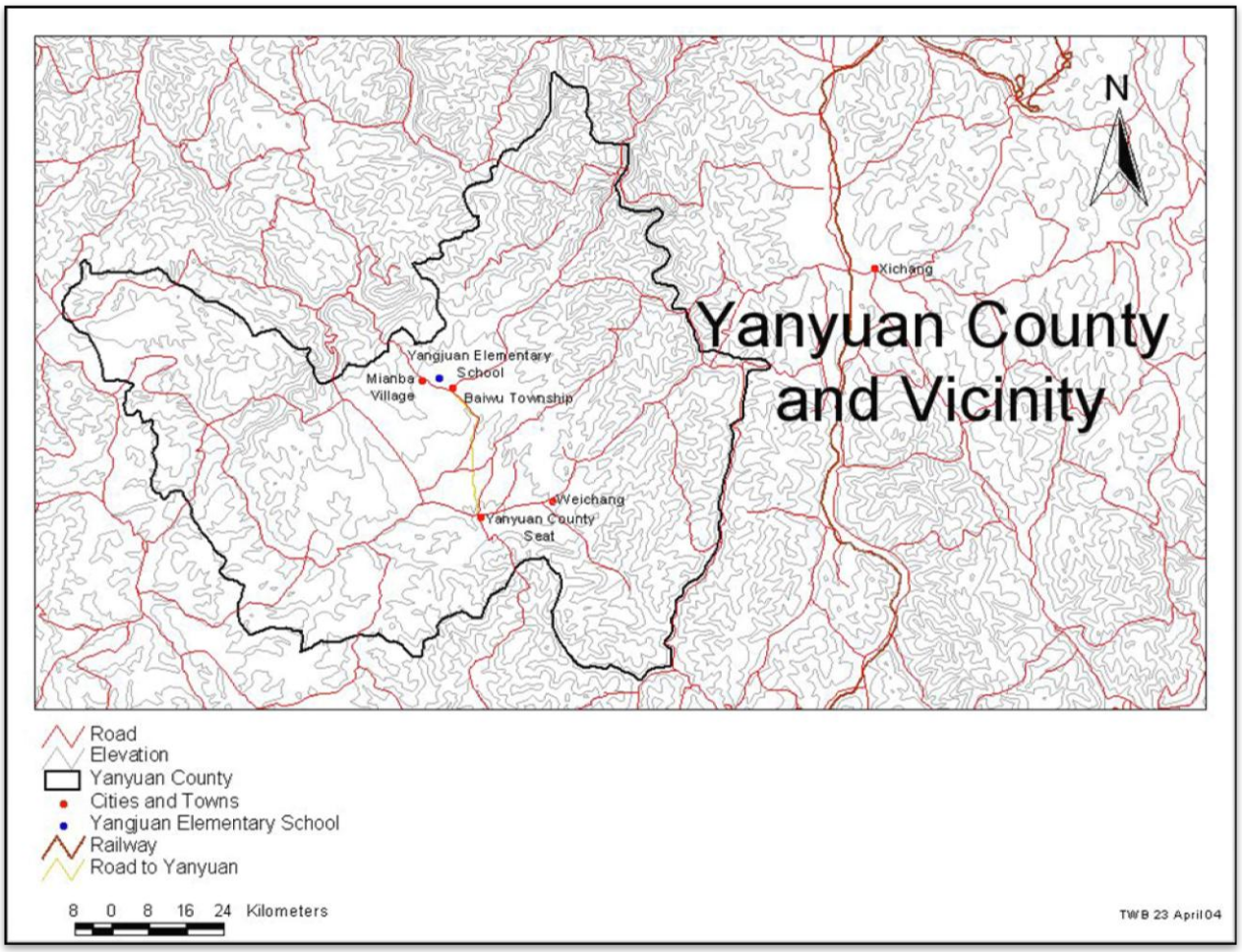

Figure 6: Yangjuan County (Warren 2005)

One reason for the Baiwu Valley's economic status is evident by how difficult it is to access. To travel to the village from Chengdu's metropolitan area is a long and arduous process. First it requires a 10-hour overnight train-ride to Xichang, the prefectural capital of Liangshan, on the Chengdu-Kunming railway. Next is a drive of approximately 150 kilometers southwest to Yanyuan, the county seat. The drive usually takes five hours by public bus in which many of the occupants get carsick due to the constant switchbacks and bumpy road. The road often becomes impassable due to rock or mudslides. From Yanyuan the traveler must then take an hour-long, 32 kilometer bus ride to Baiwu Township along a road which in August 2010 was still in the

process of being paved.[27] After arriving in Baiwu one can try and get someone to give them a 15 minute ride on the back of a motorcycle or walk the four kilometers to the Yangjuan Primary School. If the traveler got lucky and hit all the transfers just right they could make the trip in a little less than 24 hours of continued travel. Before there were motor roads in the area, and before the opening of the Chengdu-Kunming railway in 1970, this same journey could have taken several weeks.

Visitors arriving between May and October find the area in its entire splendor. The high limestone cliffs frame an alluvial valley full of color; green corn, yellow sunflowers, and white potato blossoms. The plateau above is a patchwork quilt of oats, buckwheat, and more potatoes. Compared to several other nearby villages situated at higher elevations, Yangjuan has the advantage of growing more water-intensive crops. Mountains rise up abruptly surrounding the village on all sides but the east, filled with recently regrown forests of Yunnan Pine (Grub et al. 2010). Sheep, goats, horses, cattle, and even pigs happily graze the pastures in the headwaters of the valley, along the meandering streams, and valley bottom or side canyons. There are copious amounts of wild mushrooms, berries, and honey collected locally for the enjoyment of villagers. The arrival of guests from afar usually prompts the killing of at least a few chickens, or if feeling particularly

Figure 7: Yangjuan and Painshui's Alluvial Valley

[27] Before paving started this piece of the journey would take up to three hours

giving, a sheep or pig. On very special occasions when large numbers of people need to be fed, an ox will be slaughtered, or a yak (or several) will be brought down from their pastures at 3000 meters (Grub et al. 2010).

In the wintertime living conditions are completely different. Due to its high elevation it is cold every day, with dry winds blowing from the north stinging the skin and chilling to the bone (Grub et al. 2010). The fields and pastures that were once lush and green are now barren, brown, and dead. The plateau that was once a patchwork quilt is now a mantle of solid earth. The only green that can be found is on the tips of the trees as pine needles or small shrubs on the mountainsides. Most streams have all but dried up and the Baiwu River is meek and timid, barely supplying enough water for basic needs. Herdsmen will still take their animals out every day, but it becomes more and more difficult to forage, which makes the animals thin. Many people will try and slaughter the animals before they become too skinny, while there is still enough meat (Grub et al. 2010).

Figure 8: Valley During Winter

The reason for the drastic difference between the two extremes is due primarily to the climate in the area. As can be seen from Table 1 and Figure 9 the temperature and rainfall for Yangjuan varies drastically from winter to summer (Climate Charts Worldwide).[28] During the spring and summer months the rains rush into the valley and provide all the water the community

[28] Original data was for Xichang and then extrapolated for the elevation difference between Xichang and Yangjaun

needs for farming. At times the flow of water can be so great that it causes erosion problems along the river banks. Furthermore, as the rush of water flows off the plateau down into the valley it carries the nutrient soil along with it. In the fall the rains begin to slow and finally stop around the beginning of December and don't start again until March. The lack of water and cold temperatures are what causes the death of most plants and the drying out of the land making life so hard for those who inhabit the area.

Table 1: Monthly Rainfall and Temperature for Yangjuan

	Yangjuan	
Month	Rainfall (mm)	Temp (°F)
Jan	6	32.72
Feb	5	37.4
Mar	12	44.42
Apr	28	50
May	96	53.78
Jun	183	53.96
Jul	210	56.48
Aug	177	55.58
Sep	154	51.26
Oct	78	46.04
Nov	20	38.84
Dec	6	33.26
Total	975	-
Average	-	46.145

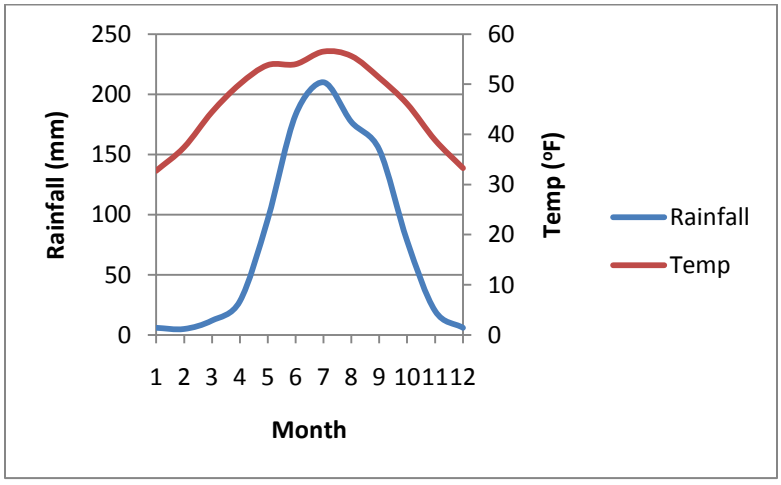

Figure 9: Monthly Rainfall and Temperature for Yangjuan

The people who inhabit the Baiwu Valley officially belong to one of China's 55 ethnic minority groups, the Yi. However, the 1,050 people of the Baiwu Valley usually think of themselves as Nuosu, a subset of the Yi ethnic minority group and maintain their own ritual, ceremonial, and artistic traditions.[29] Of the 7.5 million Yi, 2 million are Nuosu. The Nuosu migrated to the Baiwu Valley in the 18th and early 19th centuries from their original homeland father east, and now form the great majority of the population there. They all speak a Tibeto-Burman tongue, Nuosu, as their everyday language and almost everyone has a varying degree of fluency in the local Liangshan dialect of Sichuanese Chinese. The Nuosu were effectively independent of Chinese state control until 1956, living an almost purely self-sufficient lifestyle growing relatively few cash crops[30] to trade with their Han neighbors. Beginning in 1956 the Chinese government began to implement reforms. In the communities there were residents that were wealthier than others, but wealth was measured in prestige goods, not subsistence goods. In the case of the Nuosu these items included livestock,

Figure 10: Traditional Nuosu Celebration Dance

[29] In the 1950s when the Chinese government categorized the 56 ethnicities, some ethnic groups were combined under a common name. For example, the Yi ethnic group includes the Yi in Yunnan and Sichuan provinces who identify themselves by many different names and have been incorporated into the Yi category even though they differ greatly in many cultural practices. Furthermore, the Yi of Liangshan identify themselves as Nuosu, and these people in fact differ in ethnicity, despite their identical legal classification.

[30] Opium was one notable cash crop grown in the village before the communist party take over

gold, silver, and access to labor, such as the loyalty of serfs and slaves. In terms of consumption, however, there was not much inequality of people of different social statuses in the community. According to Grub et al. the Baiwu Valley had a "low level of consumption, but it was not underdeveloped: People did not compare themselves unfavorably to Han in more central areas, and Baiwu was not yet dependent on them" (Grub et al. 2010). Once the Chinese government forced upon Baiwu the Democratic Reforms and nucleated the villages of Pianshui and Yangjuan this all changed.

In accordance with the Chinese government's plans the Baiwu Valley was supposed to develop as part of the multi-ethnic socialist motherland. Thus with the stroke of a pen the people of the Baiwu Valley became poor, dependent, and in "need" of development, or in accordance with dependency theory, the valley had become underdeveloped (Frank 1966). Efforts to help promote development first occurred with collective agricultural reforms[31] introduced with the People's Commune in 1958. As was the case all over China, this reform, in addition to the hyper-modernist development schemes of the Great Leap Forward, caused drastic reductions in food production in 1959 and 1960, resulting in eight deaths from starvation in Yangjuan. Looking for more resources to help further their industrial growth during the Great Leap Forward the Chinese government cut down most of the forests on the plateau and some nearby parts of the mountains to feed the kilns used in producing roofing tiles and lime, and to fire the furnaces of their steel factories. Deforestation in the area caused ecological changes such as increased erosion, the retreat of macrofauna, altered watercourses, and changed the composition of the forest.

After the failings of the Great Leap Forward the Baiwu Valley was left alone for the most part in the 1960s and 1970s and not much development occurred. There were some failed attempts to increase and secure agricultural production by growing rice between 1963 and 1966

[31] Communes (Biawu Valley), the largest collective units, were divided into production brigades and production teams.

but due to the high altitude and cold temperatures the yields were very low. This left the valley not much different and allowed for some of the ecological damages to recover except for the forests which continued to disappear and increase erosion.

It was finally in the early 1980s that new reforms came late to Baiwu Valley. The Household Responsibility system did not replace collective agriculture until 1983 and 1984 and according to Grub et al. "there were few if any projects aimed specifically at development until the latter half of the 1980s, when apples were introduced to the area" (Grub et al. 2010). For a few years apple farmers prospered, but eventually the market collapsed because other areas in China more easily accessible started to produce apples as well (Ho 2004). Almost overnight the Baiwu apple growers were at a comparative disadvantage and squeezed out of the market.

Just as Baiwu farmers were cutting down their apples trees another economic opportunity presented itself, hybrid corn bred during the Green-Revolution. Nuosu people had been growing corn for more than 300 years, but in 1994 high-yielding hybrid varieties had made their way into the Baiwu Valley. They began to be planted over large areas in 2001, by way of an extension agent sent to Baiwu to improve agricultural practices and increase livestock feed production. To the villagers the corn tasted so terrible that they thought it inedible for humans and thus only suitable for feeding pigs or selling at market. The average family sold about 80% and kept the other 20% for animal feed (Warren 2005). The final outcome of producing hybrid corn has not yet been determined. The farmers are concerned though that their location will again hurt them as crude oil prices raise the costs associated with transportation of goods, fertilizers, and plastics. In 2008 many farmers were worried that unless the price of corn rose above 1 *yuan* per *jin*, they would not make money off their crops (Grub et al. 2010).

Other efforts at producing cash crops included sunflowers and *huajiao (*花椒). In 2005 many farmers started planting sunflowers to sell the seeds at 1.8 and 3 *yuan* per *jin*. By 2006 the market had already collapsed and people complained that it was difficult to keep the harvested sunflower heads from mildewing (Grub et al. 2010). By 2007 and 2008 many of the farmers returned to growing corn. *Huajiao*, translated directly as "flower pepper," is commonly translated into English as Sichuan Peppercorn. *Huajiao* distinguishes itself from the other cash crops because the demand is local. Sichuanese cuisine differentiates itself by combining the *Capsicum* hot pepper with *huajiao* which produces a *ma la* or 'numbing and hot' flavor. From small street-stands to opulent hotel restaurants, this distinctive flavor has come to be found in all Sichuanese cuisine. *Huajiao* are easy to grow, since seedlings cost only 0.1 *yuan* and only require a little fertilizer. The quantity of peppercorns the farmers collect is much less than corn but the market value for dried peppers is between 10 and 22 *yuan* per *jin* (Kyllo 2007). Picking the peppercorns is not particularly difficult, but it is tedious, and results in black stained hands and fingernails along with some scratches from the thorns on the tree. The story of the market for this crop is similar to corn: as more and more areas started to produce peppercorns, the supply well outgrew the demand and prices fell. The problem

Figure 11: Woman Sorting and Drying *Huajiao*

is that Sichuanese cooks can only use so much in their food and are probably reaching a limit. Thus farmers from Baiwu and elsewhere will continue to see prices fluctuate and potentially drop. Farmers in Baiwu again are at a particular comparative disadvantage by having high transportation costs associated with their product. Thus while temporarily beneficial, many of the crops have not been a means for Yangjuan farmers to pull themselves out of poverty. The factor of their isolation is still far too great, and it will take time for the Chinese government to improve their infrastructure so that members of the Baiwu Valley are no longer easy victims of market forces. Location has placed Yangjuan in a vicious poverty trap. In the first years of the 21st century, it seemed to some that the only way to bring development and to raise the standard of living in the area would be from within with small development projects to temporarily increase the standard of living and ease workloads. This brought the Baiwu Valley into the story of international development in China.

The Beginning of Foreign Involvement in Yangjuan

In 1991, while conducting feasibility studies for research on the Nuosu Minority in Liangshan, UW anthropologist Stevan Harrell met a local man named Ma Lunzy (Bamo et al. 2007).[32] When Harrell and Ma began research on ethnic relations in 1993, Ma took Harrell to see his home village, Yangjuan. Later in 1997, Steve and Bamo Ayi[33] introduced Benoît Vermander[34] to Ma Lunzy so that they could study and translate Nuosu ritual text for exorcising ghosts (Bamo et al. 2007). As a result of this visit and many subsequent visits, books were published, and friendships were created which built an attachment for Harrell and Vermander to

[32] Eldest son of village leader. He was the first to leave the village and receive a college education. Since then he has become a renowned anthropologist in China and expert on the Nuosu.
[33] Bamo Ayi is the daughter of former Liangshan Lieutenant Governor Bamo Erha, and got her Ph.D from Zhongyang Minzu Xueyuan in 1991, the first Nuosu to ever get a Ph.D. Ayi and Harrell first did field work together in 1994. She did not continue being active in Yangjuan, and in fact has not visited since that first time in 1999. She is now vice-head of the International Relations Division of the State Commission for Ethnic Affairs in Beijing.
[34] Jesuit priest and then director of the Taipei Ricci Institute, now Professor of Comparative Religion at Fudan University in Shanghai.

the people and the area (Harrell 2009). In an effort to give back to the community, Vermander and Harrell expressed a desire to Ma Lunzy that they wanted to give something back to the Nuosu people. After discussing what would be best[35], a decision was made to build a primary school in Yangjuan, to serve the villagers of Yangjuan and the neighboring communities of Pianshui, Zhuchang, and Gangou. Vermander raised the majority of the needed funds, and Harrell raised the rest. The original preparatory committee included: Lunzy, Vermander, Li Xingxing[36], Ayi, Ma Vihly[37], and Harrell. Construction on the school started in 1999 and finished in September 2000 (CMEF).

It was at this time that another important foreign figure entered the scene. During the opening ceremony for Yangjuan Primary School, on the 22nd of September 2000, Vermander brought another Jesuit, Jacques Duraud, with him. The following summers (2001 through 2003), Vermander and Duraud together brought teams of Taiwanese teachers and others to Yangjuan to offer summer programs.

Figure 12: Yangjuan Primary School

Soon after, it was seen that simply founding the school would not be enough for it to be sustainable, or for the community to fully utilize the benefits of educating its children.

[35] Another idea had been to build a drug rehab center because Liangshan is the endpoint of the Heroin Road and many inhabitants suffer from addiction (Harrell).

[36] Li Xingxing is Senior Researcher at the Sichuan Nationalities Research Institute. He has been doing ethnological research in and around Sichuan, Yunnan, and Tibet since about 1980. He and Lunzy met through the academic conference circuit in Sichuan, and Lunzy invited him to be part of the Yangjuan committee. On his second visit to Yangjuan (a few days before the school's opening) he adopted Jiejiemo (a local girl in village) as his gan nüer (goddaughter).

[37] Ma Vihly, or Ma Wei'er or Mgebbu Vihly is Ma Lunzy's nephew--He has been vice head of the forestry bureau in Yanyuan, then head of the animal husbandry bureau, then Vice-Chair of the County People's congress. He was responsible for getting most of the construction done on the school.

Furthermore, there were no good middle schools, and no high schools in the immediate Baiwu area and continuing education beyond the 6th grade meant sending the child two hours away to a boarding school in the county seat (Yanyuan) or further. Most families in the area lacked the means to send their children to these schools. To address this issue Harrell and a group of University of Washington students, who had conducted research in the village on Harrell's study abroad program UW Worldwide, founded the Cool Mountain Education Fund (CMEF) as a means to address this problem and to help facilitate the development of the Yangjuan and Pianshui area.

When the poor are faced with the decision of sending children away to boarding school or keeping them at home to work in the fields and support the family, the choice is very difficult. Thus, to try and make that decision a little easier and support families who would not ordinarily have the means to send a child to school beyond 6th grade, CMEF decided that it would provide scholarships to students in need so that their families would be economically stable enough to send their children to school.

As time progressed, CMEF's goals to provide further education to the children of the area came to fruition. In 2005, when CMEF was founded, it gave 14 scholarships to graduating primary school students (CMEF 2011). In 2006, CMEF was able to support 8 graduates of the Yangjuan Primary School who scored

Figure 13: Harrell Presenting Student with a Scholarship

exceptionally well on the middle school entrance exams and are all now attending outstanding middle schools (Harrell 2009). In 2007 the number of graduates grew exponentially to a total of 63 graduates and to 80 in 2008, 14 of whom were the first to attend high schools (Harrell 2009). In addition to providing scholarships to students to better "inform the population," CMEF also pays the salaries of the unofficial teachers whose positions are not funded by the Yanyuan County Education Bureau but are an integral part of the Yangjuan Primary School's programs (Harrell 2009). By providing additional teachers, CMEF is allowing there to be enough classes so that all the children in the area can attend school. Class size though is limited by room size, and the rooms up to the 4th grade are always full. There have also been attempts at creating innovative curricula in arts and language, so that the students can receive a more individualized education, allowing them to internalize more of what is being taught, but on the whole these have not taken hold.

To further promote development in the area and to supplement the programs at the school, CMEF has completed and supported several other developmental projects with the idea in mind that by giving them the tools necessary the villagers can then work and support themselves. Among these have been the water projects begun by Jacques Duraud.

Water Projects[38]

In 2001 and 2002 Vermander and Duraud brought two nurses and two medical students to Yangjuan to conduct a health survey of the children as part of their summer program. After the survey it was concluded that that the villagers were frequently becoming sick due to water borne pathogens and needed access to potable water. Therefore, they came up with the idea of bringing a French engineer to the village. Their first idea was that they thought it possible to build a dam

[38] I will have a map at the beginning of this section showing the villages, team boundaries, and water project locations.

along the river feeding a small power plant. That idea brought to Yangjuan in the following years the "*Hydraulique sans Frontières*" (HSF), an organization founded by a retired hydraulic engineer, Mr Wang, born in Guangdong but brought up and educated in France. Upon arrival Mr. Wang quickly discerned that building a dam with associated power and water distribution system was impractical for the situation. Therefore the first practical solution for the group was to dig a well.

The school already had a well, and according to Lunzy the quality of the water was not that bad in Yangjuan, but there were worse places. Another place that was suggested was Pianshui, located further from the river. People in Pianshui thus had to walk much further to collect water and spend a significant portion of their day continually collecting water. The well location was selected by the then village leader and was at the lowest elevation of the village. It took two summers to complete due to time constraints and in the interim the hole had become a trash hole that needed to be cleaned out. Once finished in 2004, the well operated with a simple hand pump.

One of the major problems with the well though is that it was constructed during the summer months when the water table was high. Therefore, during the dry winter months when the water table dropped the well ran dry. Another issue with the well is that the pump was

Figure 14: Pianshui Well

not durable: when I went to the village during the summer of 2007 it only operated when used in conjunction with a large stick levered over a rock, since some of the metal parts had broken. According to Duraud the positive result of the project was that it demonstrated to the villagers the difference in quality of water from underground sources instead of from the river. The villagers agreed that the water from the well was much cleaner and healthier than the water from the river, which led many villagers in the lower sections of the village to dig their own small wells to alleviate the women's and children's chore of fetching water from the river.

The next summer, however, Duraud returned to build another large well but received a flat refusal from the villagers. Already getting water from the well during certain periods of the year the villagers, especially those in the 4th team[39] belonging to the lower caste before the Cultural Revolution forced the dissolution of the Nuosu class system, wanted a water system that further reduced time fetching water. Wanting to adhere to the desires of the villagers, Duraud and HSF found a small stream above the village upon which they built a water holding tank with gravity system that piped water down into the village. The completed project included eleven faucets located beside, inside, or between the houses in the village serving approximately 20 households. A year later in 2006 on a quick trip to the village Duraud noticed that the villagers had replaced the faucets with the kind that required a

Figure 15: Pianshui Collection Tank

[39] The 'team' is an anachronistic designation applied to what are now officially called *cunmin xiaozu*, or 'village people's small groups'. The term 'team' survives from the days of collective agriculture, when production 'teams', or *shengchan dui* farmed their fields in common. When agriculture was decollectivized in 1983, people nevertheless retained the old term in common usage.

key for use. At the time Duraud hypothesized that it was to prevent kids from playing with them and wasting the stored water in the tank. Although the system had similar problems to the well, due to similar water cycles and only operated during certain times of the year, the *Duizhang*[40] (队长) of the 6th team met with Duraud asking for a similar project to pipe water into their homes.

Duraud returned in March and July of 2007 to build the project in the 6th team without HSF but with the help of Yun, a Taiwanese aborigine with a background in building similar water projects in Taiwan. The project capped a spring in the valley above Yangjuan in two places and then piped the water down to a holding tank just above the village. Within the village there were 30 faucets placed in each family's home. Furthermore the system was designed so that the 15 houses farthest from the river would still receive water, even during the dry winter months.

Geoff Arrives In Yangjuan

I arrived in August 2007 to conduct my field research for this report on the water projects in rural China. I arrived just after the completion of Duraud's gravity feed project that served the houses in the sixth team above the Yangjuan Primary School. At the time the flow coming from the project was 4.2 liters/min and the villagers were very happy with the project. They made comments about how much time they saved not having to fetch water from the river and that the water tasted and seemed to be much better than what they drank before. Over the course of my year in China I made five trips to Yangjuan and spent a total of six weeks in the field. I later returned in August 2010 to conduct follow up research and make repairs on a system I modified to supply a greater quantity of water. The following are my observations made during this time.

[40] Team leader

On a walkthrough of the Pianshui gravity pipeline project in August 2007 it was observed that one of the main pipes that ran through the middle of the village had been severed and leaked in several other places. The break in the line effectively cut off 12 downstream households[41] from receiving water. On a return trip in October it was discovered that not only had the piping not been repaired but the pipe had leaked so badly that the road it was buried next to had flooded and turned into a mud pit. According to one of the members of some former slave households that lived in the village, once the road had become saturated with water and no longer passable, members of one of the more dominant clans came in and removed the remaining section of piping from the street and faucets that were connected to it. These materials were then used to "improve" the infrastructure in the powerful clan's part of the village. The former slave households were left without access to the project and forced to walk about a kilometer to the river to collect water. There was a great deal of discontent from the villagers from the former slave families, who were complaining that this had happened and that the man in charge of the project continued to charge them a maintenance fee even though they were restricted from using the water.

Several other problems were discovered with the project in 2007. When inspecting the project a pig's wallow was discovered above the water source and the muddy water was seen entering directly into the pipe. When questioning the village Party Secretary, a member of the dominant clan, about the pigs he said

Figure 16: Pig Wallow Above Project Source

[41] I will have a more specific map here

he was not concerned about them, only about the fact that the project was not producing enough water. This produced an important observation: the people locally don't care about water-borne diseases; they don't even know about them. They just want to reduce the labor of carrying water. Additionally, upon further inspection of the system an empty slow-release iodine packet was located in the collection reservoir. It was put in there originally to kill any pathogens in the water but had long since ceased to have any effect.

During the summer of 2010 I was able to interview a member of one of the dominant clans, who was the water system manager until 2009. He said that the communal system that the HSF had placed along the main road was always suffering breakdowns because of children playing with it. Therefore they had a *dui* "team" meeting in 2007 and decided that they would no longer have communal faucets, but that people would be responsible for bringing water piping into their own houses. At that time, of the 46 households of the *dui*, 38 had faucets of their own. There was still one communal faucet by the west entrance to the village used by four households. The faucet had broken off and the standpipe joint to the main line no longer threaded very well, so water ran through it most of the time. When questioned about this people seemed relatively unconcerned. Additionally, there are two Hxielie households, former slave families, down at the bottom of the system, that still use the well.

With the new system in place there were some administrative changes. The manager was now responsible for anything occurring at the source or on the main line. The people were responsible for keeping their own piping and faucets in repair. This does not seem to have solved all the problems though, since people now abuse the private system. While walking through the village it was discovered that some households would periodically turn on the faucet to fill a bucket of water but would leave for an extended period of time. The bucket would overflow and

waste large quantities of the already scarce water, as well as turning the lane to mud. To maintain the system the manager was originally paid five *jin* (two kg) of corn, then 10, and now 20 per year per household on the system.

The project above Yangjuan in the 6th team functioned well until the winter of 2008, at which time the flow reduced to about 1 liter/min, with water only flowing from the top reservoir. Due to the reduced quantity of water the flow was diverted so that the 15 homes that were farthest from the river were still receiving water and those closer were not. Even though half of the project had been shut off there still was not enough water for daily needs. To try and increase the quantity of water the villagers took it upon themselves to try and make the necessary improvements. However, because of their limited knowledge of groundwater flow and the reservoir being made of earth and not something stronger, the workers who went up to fix the project made matters worse by accidently causing the reservoirs to collapse, further reducing the flow of water to about .5 liter/min.

In July I returned with the support of CMEF and a Rieser grant to try and make improvements to the project above Yangjuan. The project included rebuilding the two collection reservoirs that had been damaged during the winter and building two more in an adjacent valley. Using

Figure 17: Villagers Participating in New Reservoir Construction

the funds from the Rieser I purchased the materials and 30 villagers supplied the labor (one from each household connected to that water system). The design of the new reservoirs used concrete to improve stability and make them more difficult to alter later. The new, more efficient reservoirs tripled the previous flow rate measured the summer before with a rate of 13.5 liters/min. The project also extended the piping in the village to include the primary school and five more households. After the project completion the villagers were excited about the increase in the amount of water and quickly paid the project manager the 20 *yuan* yearly maintenance fee.

August 2010 I returned to the area to do follow-up research and maintenance on the project above Yangjuan. I discovered that the pipe from the reservoirs down to the village had been gnawed by squirrels and leaked badly for several months. It was finally repaired when Amanda and Josh Schmidt went to the village to conduct some follow-up research of their own. The Schmidts supplied the funding for the replacement of the pipe and the villagers the labor. Upon further inspection of the project it was revealed that in the two years since my last visit the project had been poorly maintained. The collection reservoirs and tanks were a mess and filled with sediments. It took a day of working with a couple of villagers to clean them out and get the project flowing again. Discussing with the villagers as to why proper maintenance had not occurred, it was discovered that the project manager had been having family issues and had left to find work in Chengdu. The villagers rather sheepishly agreed that they needed to find a new manager.

Though many of these water projects have suffered significant setbacks their addition the communities are working to lower illness by water born diseases so that health rates would rise as well as school attendance. In addition, instead of carrying buckets of water from the river the

children can spend time studying and doing other activities to promote their family's quality of life.

Discussion

How do theories and critiques of development help us understand the stories of the water projects in Yangjuan and Pianshui, and what can those local stories tell about why development projects succeed or fail? I will first use the evaluative criteria set out by Craig and Porter and expand on them to measure the success or failure of the Pianshui and Yangjuan projects, and then reflect on what this tells us about the theories and critiques of development. In doing so one can gain a better understanding of how participatory projects in China are undertaken and their effectiveness.

I will expand on the framework of Craig and Porter as a standard of evaluation for development projects by seeing whether the projects met their goals using the list of community-based participatory development tools I presented in my hypothesis to evaluate the success and failure of each project. For Craig and Porter, development projects are typically evaluated in terms of how well they "initially framed the local situation and brought about stable outcomes in accordance with the early frame of the project" (Craig & Porter 1997). The project is generally framed in two "performative" ways. The first is a rational method usually tied to moral goals which reflect values such as empowerment or growth, or the improvement in the satisfaction of needs. In the case of the Yangjuan and Pianshui water projects the goals reflected the values of improving the standards of living of the villagers by reducing time spent fetching water, and the amount of sickness due to water borne pathogens.

The second framing for the evaluation of a project encompasses the specific objectives of the project which are observable, objectively defined goals. These generally include the list of

specific project activities carried out over the duration of the project. It is this idea that I would like to expand on and use my own list of criteria for the specific project activities which include: utilization of local knowledge (on water resources, construction practices, etc), using appropriate technology (for long term operations and maintenance), comprehension of the local culture and politics, community education and participation, utilizing women's roles, and whether or not there is a long term commitment to the project and the community. In the following section I have analyzed each criterion to see if those practices were employed, and to what degree the project either succeeded or failed. As we will see, projects are a particularly powerful way of binding together particular purposes, ideas, resources along with people and places.

Utilization of Local Knowledge

Engineers normally do not work for development organizations, but rather volunteer their time and knowledge to a group or project. During most of the year engineering professionals have limited time to take off work to travel abroad to complete the project and collect primary data. Therefore, most implementation trips take place during the summer months when it is more acceptable to take time off from work, with durations varying between one to two weeks and a couple of months, depending on the scale of the project. Experts in international development seem to have a wide range of opinions on the effectiveness of trips based on duration. Many critics believe that short trips are ineffective in regards to identifying and solving root problems, lack accountability, and are unable to meet community expectations (Amadei 2009). Whether or not this is truly the case, many international development organizations are limited by time constraints and it is how they utilize local knowledge that determines their success.

International NGOs work in many different regions of the world, each with its own natural resources, climate and weather patterns, types of skilled labor, and culture. For example, each locality has specific water patterns and it takes local knowledge to understand what types of

projects are needed and where to build them so that they are the most beneficial for the community. In the Liangshan prefecture in Southwestern China, the winters are long, hard and dry, the opposite of the climate in Western North America. This can throw off engineers who arrive during the wet summer months and see water everywhere not realizing it may not be there during the winter. Frequently, small streams that surround villages are tapped to serve as the source for the village's fresh water project. However, during the dry season these streams cease to flow and the villagers are again forced to drink out of the polluted river.

In Yangjuan and Pianshui each of the three projects discussed in this thesis suffered from this fate. The well in Pianshui village was dug during the summer months when the groundwater table was high. When the winter came the water table dropped below the bottom of the well leaving it dry. The pipelines above Yangjuan and Pianshui were also installed during the summer in creeks that had plenty of water. During the winter the flow of the creeks dropped down to a mere trickle, not able to supply enough water for everyone. The projects were thus useless for approximately three to four months forcing the villagers to drink water from the river which when I tested it in March 2008 contained 2,010 CFU/mL of coliform bacteria, when levels over 100 CFU/mL are considered dangerous. By working more closely with the villagers the NGOs could have found more reliable sources of water so that the projects never went dry.

Appropriate Technology

Some of the primary objectives of importing foreign technology into developing regions are to help provide essential amenities such as potable water. However, historical trends bear witness to the fact that a majority of these efforts have failed because such technologies are not sustainable. A foreign technology is sustainable if there is a well-established framework for maintaining the technology in the community where it is being used, such as: the accessibility of component parts, the availability of the needed infrastructure, the availability of technical know-

how to accomplish such service, and the elapsed time between repairs (Dunmade 2002). For instance, if an NGO group built a water project in an isolated region that relied upon micro-filters to remove hazardous particulates; if that filter clogs or breaks, then the replacement would be nearly impossible to construct or costly to replace. When this happens, unless replacement parts are accessible, the service life of the equipment will end abruptly. Villagers may even remove the broken component without finding the costly replacement and forgo the benefits of having clean water to having easy access to potentially hazardous water.

This activity is evident in the gravity fed pipeline in Pianshui. Upon inspection of the collection tank located above the village in March 2008 an empty slow-release plastic bag stained a yellow-brown was found inside. The bag must have been placed there on purpose for it was too large to have entered through the pipe and the lid to the tank was made of concrete and too heavy for someone to simply open it and thrown some trash in.[42] Stained yellow-brown and having the smell of iodine it is logical to assume that the bag had once been filled with iodine to purify the water. However, the bag had long since emptied, ceasing to purify the water as had been its purpose. When asked, the villagers had no idea that there had been a treatment method in place for the water or where they might be able to obtain more iodine to refill the filter. The primary driver for engineering innovation in the developing world must be the end user. Therefore, the engineer must work closely with the community keeping them informed and a part of the discussion so that only technologies that are truly appropriate are considered.

Socio-cultural and Political Factors

No matter how good a water project may be, both socio-cultural and political factors have a major influence on its acquisition and sustainability in a society. A number of projects have been introduced in the past, but ultimately failed because NGO groups have not analyzed social

[42] There is no conclusive evidence that HSF placed the iodine packet in the tank but it appears likely.

structures (Dunmade 2002). Each community is different and each community will have different attitudes towards the types of development that are acceptable, the methods through which the projects can be carried out, and have their own historical and religious perspectives on the importance of water to personal well-being. To know the way that the community uses water in day to day activities, from cooking, drinking, bathing, and doing laundry are all useful and necessary pieces of information used in designing and implementation of a project. Additionally, each locality will have some form of social hierarchy that needs to be understood so that the project can be implemented without ostracizing anyone from the group. Furthermore, when introducing a new resource into an area, it is possible that different groups are going to want to gain control of that resource and improve their well-being over another group. Understanding local politics is also important to the success of a project because of the potential for the project to be used for political gain. Additionally, if it conflicts with local authorities then it could be destroyed. As seen in the anecdote from the woman in Pianshui, when NGO groups try and build projects without looking closely at the socio-cultural and political factors of the region, they can be unaware that by trying to help they could actually create conflict over a new resource.

Community Education and Participation

The installation of a first time project in a poorly educated rural area often needs accompanying education for the project to be a success[43]. The concept of "teach the teachers" or "train the trainers" allows communities to be an integral part of the current development process while building capacity to solve their own problems. Initially, by teaching the villagers the principles behind the construction and functionality of the project they will be empowered to fix it if it breaks.

[43] In accordance with Craig and Porter's theory that project goals are tied to improvement in the satisfaction of needs

Additionally, the health benefits of a perfectly running clean water project can be nullified if proper education on how to use the water correctly is not taught to the users. For example, if after the implementation of a water and sanitation system the villagers still defecated openly, livestock were not kept a safe distance from the source water, personal and household washing did not increase, and the water was not protected from contamination at home, then the potential health benefits of a potable water project were negated by poor hygiene and sanitation practices of the people (Lane 1992). If community members do not change their behavior after the implementation of a project, then it is likely that the villagers' objectives for the project are different than those of the builders.

A prime example of this occurring is in reference to the pigs' wallow at the source of the gravity feed pipeline. One of the project goals of the development group had been to provide clean potable water to the villagers. However, the villagers seem uninterested in the quality of the water or that they were drinking that water the pigs used to bathe. The only interest to the villagers questioned was that they no longer had to carry the heavy bucket filled with water from the river. That was benefit enough. This idea also leads to the perhaps arrogant assumption of the project builders that the project is only successful if it meets their own objectives. If this is the case then the project frame must be altered to reflect the moral goals and values of the community rather than those of the development group.

Utilizing Women's Roles

In almost all rural communities in developing countries, it is primarily the women who collect water, maintain water systems, store water, and determine how it is used with regards to the family's health. Then why is it that women are continually left outside of the conventional framework for planning and designing water projects? Drinking-water projects are nearly always carried out by engineers (most of them men) whose goal is simple; bring adequate quantities of

good quality drinking water closer to the homes of the target communities (Regmi 1999). Many studies have shown that women from all groups within a community need to participate fully in project activities, to ensure that projects are effective in the long run, yet drinking-water projects are continuing to bypass women in the planning, design, implementation, monitoring, and evaluation process (Regmi 1999). Women are seldom involved in the planning of drinking-water projects, although, as the primary collectors of water they are likely to know much more than the men about the seasonal availability of water from various sources, about the quality of water from those sources at given times of the year, and about the individual and communal rights to those sources, which can create conflicts after construction if they are not taken into account (Regmi 1999).

In the Baiwu Valley the women are the ones who collect the water and typically complained the most about the water projects not providing enough water all year round. However, they were not included in the group that maintained the projects which was likely one of the reasons that once a project fell into disrepair they remained that way for an extended period of time. Including women in the planning and maintenance of drinking-water projects not only enables women to participate in community development projects and render them more likely sustainable; they also have a positive effect on women's health, which can lead to many other social and economic benefits for all family members. However, this must be an objective of the receivers of aid. If not, then it only meets the outsiders' criteria rather than the people it was intended for, thus framing the project's success from the institution's point of view and not the people's. Furthermore, by forcing women's participation, the development institution could be creating conflict and putting the women in danger.

Commitment To The Project And The Community

It is difficult to get everything right on the first try, as there are numerous factors to address that must be taken care of in a short amount of time. Therefore, it is crucial that organizations, especially engineering related development organizations, return to the communities to check up on the success of their projects by continually addressing concerns/complaints and working with the villagers to see if other methods might be more appropriate. The continual interaction and support of the community is what creates trust and solidarity. Additionally, it allows time for the combination of the development group and community's framework to become more aligned which ultimately helps make the projects a success to all parties.

When faced with trying to address all of the above factors NGOs run into another problem, numbers. Many NGOs must report that they have brought X number of villages and XY number of households clean water. However, it takes a long time to build relationships with communities and to establish mutual trust. After these have been established it will allow for development projects to move forward and to see them succeed from both parties' perspectives. NGOs have to decide whether to do a large number of projects that may have many problems, but reach a large number of people, or to really understand a community to create one successful project.

In Yangjuan and Pianshui the original projects suffered from not having a close continued relation with the HSF. After the first two summers they did not return to do follow up work with the villagers to make sure that the projects had met the villagers' needs, allowing the projects to fall into disrepair with many of the villagers not receiving any water. However, after several years of being left on their own the villagers of Pianshui were able to devise their own system that fit their needs. Using the materials from the broken project they were able to design a

system of their own based off of market incentives. Every house was given the opportunity to purchase its own private faucet that got its water off the main line that originally ran through the village. To maintain the project the families were responsible for the pipe and faucet within their property, but paid the *duizhang* a small fee to make sure he fixed the main line if it broke. In August 2010, the villagers of Pianshui felt as though the new system was working and had no complaints.

Conclusions

When evaluating the success of development projects Craig and Porter's theory goes a long way towards finding a lens through which to view development, the project. However, the primary flaw in their argument is that the frame for defining the goals is primarily from the perspective of the development institution and not from the ones trying to improve their own welfare. Many times the two frames do not align and the development institution will deem the project a complete failure, while the recipients still see it as a success or at least a partial success. Regardless of the outcomes of the projects, or whether their presence and efforts may or may not have been sustainable, the development group did add to the resilience of the communities in small ways improving their standard of living. It improved their standard of living by giving the communities further resources so that they can take the initiative to improve their own lives, whether it was done immediately or later.

The great bulk of development success has come from self-reliant exploratory efforts and the borrowing of ideas, institutions, and technology from the West when it suits the developing world to do so. As William Easterly put it, "when the "West" fails to develop the "Rest", the rest develops itself" (Easterly 2006). This idea conveys the belief that the most successful forms of development come from within either the country or community itself. Therefore homegrown

development practices apply not only to NGOs as a form of participatory development, but also to large development institutions. Thus they should transition from using participatory development tools defined by the group or institution itself and hand the reins over directly to the communities so that they can fully direct their own development. To not do so will result in western groups and intuitions further applying the wrong forms of pressure on those trying to develop. As has been seen in this thesis, when they attempt to do so it generally results in failure.

Western assistance suitably humbled and chastened by the experience of the past, can still play some role in alleviating the suffering of the poor. Sanitation and drinking water are often relatively low priorities for domestic budget allocations and official development assistance, despite the huge benefits for public health, gender equity, poverty reduction and economic growth. However, development institutions are temporary, constantly working towards putting themselves out of a job. The ultimate goal is for the developing country to step up and take the reins. This actually occurred in the case of the Yangjuan and Pianshui water projects. After years of promises, the Chinese government in November 2010 spent 300,000 *yuan*[44] and finally built a large robust system that will supply water all year, making the NGO water projects obsolete.

Nevertheless, the work of development organizations must go on. The loose ends of project failures are tidied away, and filed internally as lessons learned, while the successes are trumpeted to supporters and funders in promotional material and reports. However, very little is done to ensure that a close analysis of the mechanisms that led to the success is made available to other organizations. That is not to say that success stories give a simple blueprint for imitation, they do not. Therefore, attempts at the reproduction of an organization's project must adapt it for a geographically and socially different climate. The purpose of this thesis was an attempt to add to the literature surrounding the successes and failures of various potable water projects in rural

[44] Approximately $45,000

China in the hopes that organizations can use it and further their own work around the globe for the benefit of the world's poor.

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