The FEED Strategy

How to Achieve Full Employment through Equitable Development in the Eastern Cape

A strategy for the creation of 500,000 to 1,000,000 new employment opportunities making optimum use of human resources and funds already available in the EC through in the three tiers of government

Submitted to the Eastern Cape Dept of Economic Development and Environmental Affairs (DEDEA)

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Abstract

With the failure of numerous development models of the post-World War II world imposed by the over developed upon the less developed nations and in the light of the recent failures of unregulated capitalism, mass unemployment, and excessive debt caused by people and nations living beyond their means, there is a growing interest in development models and methods that that correct for the short comings of too much and too little government control over the economy. In Africa – and specifically South Africa - we are desperately in need of a feasible and affordable approach to development that has the potential to create employment and modest prosperity for all our citizens who want and need to work.

Such a new Africa friendly model of development must harness the potential of the impoverished rural and peri-urban majorities – particularly the youth – to play an active role in expanding the South African economy. The workless and impoverished who find themselves trapped and frustrated at the Bottom of the Pyramid (BOP) need to be challenged to play a central role in their gradual political and economic liberation from poverty and powerless.

For this process of self help liberation to take place, it is first necessary for national and provincial government, the big and small private sector, the NGO’s, and local government to accept and master a radical shift away for today’s dominant development paradigm. The top down ‘delivery’ of infrastructure and progress to citizens who passively wait to be developed by public servants has to be replaced by a tough minded strategy of self help and community mobilization and investment. By adopting a development model where the government, business and the people and communities trapped at the BOP each accept responsibility for playing an active role in creating modest prosperity and work for all, there is little chance for the new SA to escape from accumulated powerlessness, unemployment, and poverty created by the apartheid economy over the previous 50 years. It is the responsibility of enlightened government to assist today’s victims of underdevelopment and dependency into powerfully creative agents of a future economy offering **Full Employment** through the discovery and enactment of **Equitable Development** policies and processes at the international, national, provincial, and local levels of governance.

The recent collapse of the subprime housing bubble and the knock-on implosion of a derivatives generated by an out of control ‘casino capitalism’ has exposed the inherent risks and limitations of an economic system that is based on a **mistaken ideology that presumes our finite planet can support an infinitely expanding population which aspires to a Euro-American lifestyle and standard of consumption of everything: water, energy, metal, biomass, food, medicine, housing, land, etc.**

The endless pursuit of material advantage, conspicuous consumption and an empty imitation of the currently faltering societies of the North is today threatening the viability and traditional capacity of the land based societies in the remaining rural zones of the planet. Destruction forms of aggressive urbanization are today undermining the capacity of the +/- 50% of humanity that is still heavily dependent on the use of indigenous culture and traditional expertise to feed, shelter, energize, secure enough water, care for the sick, raise up healthy families, and govern themselves peacefully.

A symptom of the cultural confusion and moral malaise that is sapping the vitality of traditional rural communities in the Eastern Cape and the greater Southern Africa is the growing dominance of a world system that privileges urban values, lifestyles, and infrastructure at the expense of rural values, lifestyles and infrastructure. Rural South Africans are being prematurely relegated to the ‘dustbin of history’ as they lose confidence in themselves, their African culture, and its value as a template for a dynamic Afro-centric future. Typically these stresses are manifested in rising crime and vandalism, promiscuity, suicide and the emergence of extremist forms of politics and religion.

In order to address these symptoms, it is first necessary to break through to a deeper understanding of the problems that are gnawing at the vitals of South African society. Part of the problem is one of blind imitation - the copying of crude and frequently even vulgar foreign models of modernity derived from ‘extrinsic (alien)’ cultures that are captivating the youth and the better off middle classes who reside in both poor and wealthy hyper-urban spaces. They are increasingly under the spell of the increasingly obsolete but still prosperous economies of the North. The onslaught of pseudo modernistic ideas has only been exceeded by the deluge of materialism that together have blinded South African of all persuasions, cultural backgrounds and classes to the impossibility of growing the largely borrowed and imported Euro-centric economy with its neo-colonial ethos fast enough or forcefully enough to replace the indigenous values, the deep culture, the intimate knowledge of place and the land, and ultimately the dreams of the African majority and the dreams of their forebears.

An example of this is that people can no longer get married without Lobola paid in advance. Gone are the days of mutual indebtedness and the strengthening fabric of a trusting society. The focus of South African society has shifted from the extended family and the small community to the individual, money and material goods. Cattle are now prized more highly than children born in wedlock. The erosion of the family unit has placed the South African society in great peril.

This single issue is not the most important problem to be addressed, but it is indicative of a society in rapid transition, in the process of which it is collectively becoming unhappy with the way things are turning out.

Never has there been so much open dissent, so much organized strife in the labour field, so much random crime and in the end, so much despair that anything will improve. Land is idle, yet people clamour for it. The problem most frequently mentioned as being at the root of so many of the evils is unemployment among the youth. Nature abhors a vacuum and idle youth will always find something to occupy themselves.

Training, employment and entrepreneurship are the best solutions for this, but apart from the obvious tactic of attracting foreign investment, there has been no progress toward actually reducing the number of unemployed people in the Eastern Cape. When those who are so discouraged they have given up on looking for work are added to the total unemployment figures, the percentage of unemployed in rural, peri-rural and peri-urban communities approaches 50%.

Arnold Toynbee’s monumental **Study of History** identified increasing urban concentration, inequality between the *have’s and the have not’s* and growing unemployment among the surplus urbanites collecting in bloated cities as tell tale symptoms of a civilization in terminal decline. How viable is a South Africa economy and civilisation that wastes the potential productivity of 40% to 50% of its workforce? .

What follows is an overview of how the challenge of creating **work opportunities** and **modest prosperity** for **all South Africans** can be affordably, practically and creatively addressed on a scale that is grand enough to actually build an economy of full employment. The intention of the **FEED Strategy** is to provide between 500 000 and

1 000 000 new work opportunities in the Eastern Cape by making more efficient use of the scarce public sector funds as well as the labour power, knowledge and skills embodied in the people of the province. The general directions required of the Departments of the Provincial and Local Government are indicated and the outlines for a sustainable economy given in the FEED Strategy Document. The new Provincial Growth Strategy for the Eastern Cape must be self help driven and largely government and even financed from the bottom up, not from the top down. It is the thesis of the FEED Strategy that a new South African will only be built by a highly motivated work force that offers employment to all its citizens.

Background of the Authors

The authors are both professionally involved in experimenting with different socio-economic approaches to uplift the rural poor in Southern Africa through the demonstrating and documenting the most cost effective approaches to ‘self help’ and land-based development leading to full employment within the local economy through the revitalization of the village and township by making optimum use of the skills, cultural strengths, and resources controlled by the residents.

Between them they bring 76 years of experience in working directly on the underlying problems faced by small scale communities and village economies that are undergoing ‘destructive integration’ into highly industrialized national political economies. The fruits born of their collaboration have been more than 50 types of low cost, robust, manually operated Appropriate Technologies and hundreds of proof of concept demonstrations in rural communities of the Eastern Cape – undertaken by the former Transkei Appropriate Technology Unit (now the Eastern Cape AT Unit) and subsequently supported on a ongoing basis by the fabrication and sale of these appropriately scaled and contextualized technologies by New Dawn Engineering in Swaziland.\* To date their collaboration been resulted in thousands of jobs created, hundreds of communities strengthened and the launching of a number of land and village based new enterprises.

We believe a much needed corrective can be gained from examining the ‘appropriate technology’ perspective and practice at this moment in the struggle to transform both the

\* (see [www.**newdawnengineering**.com/website/company/](http://www.newdawnengineering.com/website/company/)).

macro and the micro economies of South Africa. It is these intentions that the Full Employment through Equitable Development (FEED) Model and Strategy are now being updated by the authors in the hopes that the people and community leaders, professionals, businessmen and women, government officials, and political leaders of South Africa will be inspired to turn adversity into victory. We believe the ideas and approaches contained in this document will add value to the national and provincial consultations presently underway in the country. It gives examples of radically low cost technologies and proven self help approaches. The authors believe the challenges confronting the new South Africa will only be met and overcome through different types of self help initiatives and bottom up mobilizations. The purpose of the FEED Strategy is to stimulate the people and their leaders to create a totally new type of people centered and inclusive economy that provides work opportunities and modest prosperity to all the able bodied citizens of the new South Africa.

The people and government of the RSA are challenged to create a growth based provincial and national economy for the country and the province that radically reduces joblessness and poverty while the mature urban industrialized economies of the North are beginning to contract and the world economic system is passing through a period of austerity. The FEED Strategy asserts that it is indeed possible to achieve continuing growth and development by mastering the economic art of ‘doing more with less’ resources per capita of land, water, minerals, energy, etc. The late great futurist and innovator Bucky Fuller defines ‘synergy’ as the science of ‘doing more with less’. Those approaches and technologies which use less materials and energy to achieve an increase in useful benefits are by definition ‘synergistic’ and therefore appropriate innovations.

The FEED Strategy attempts to creatively and systematically apply the synergy principle to the here-to-fore neglected socio-cultural, economic, and environmental potential in the Eastern Cape and Southern Africa to achieve the greatest possible beneficial outcomes for the lowest possible costs in the +/- 4000 small rural communities in the Eastern Cape Province, and by extrapolation to the 25 000 to 30 000 rural and peri-rural communities making up the still vast rural sector of the South African economy.

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EXECUTIVE SUMMARY

THE FULL EMPLOYMENT through EQUITABLE DEVELOPMENT (FEED) STRATEGY for the Eastern Cape

1. The Provincial Government of the Eastern Cape (PG/EC) should avoid the Euro-American example of the careless destruction of natural resources followed by hugely expensive attempts – after the damage has been done - to reconstruct it.

2. Where possible the PG/EC needs to minimize the entanglement of Local Economic Develop (LED) with partisan politics at any of the three levels of governance: national, provincial, and/or local government; the insulation of local development processes from partisan politics creates a neutral space in which different local constituencies and interest groups have an opportunity to identify and advance their common interests.

3. The role of "Big Government" in peoples' lives should diminish and the role of local government should be greatly expanded. Institutional mechanisms promoting broader ‘bottom-up’ participation are required.

4. Proposed publicly financed solutions to economic or social problems should not, for example, use up all the resources and end up solving – say - only 40% of the problem. Such a proposal is a "40% Solution". We need 90% solutions.

5. Thousands of jobs can be created by systematically re-directing government expenditure to the adaptation of labour-intensive methods for delivering services, goods and infrastructure supplied to the public sector. The percentage of the total budget spent on labour and the resulting cost per employment opportunity should be used as criteria by Tender Boards.

6. The establishment of a "Block Grant" system combining public sector funds from different levels and departments of government into multi-purpose LED funds makes it possible for Community Development Corporations, cooperatives and/or small units of local self government to democratically manage the design, implementation, ownership and maintenance of their own enterprises, infrastructure projects, and programmes.

7. Land use planning should concentrate on creating New Communities which optimize the use of their natural resources to create agro-enterprises and enable as many of its residents as possible to generate their employment, food, fuel, shelter, and well being within these revitalized New Communities.

8. As a rule of thumb, on average it is five times cheaper to meet all of the social, economic and environmental needs of a family that resides in a rural community than it does to meet the equivalent requirements for infrastructural, employment, housing, transportation, water, etc. of that same family in an urban environment.

9. Grazing and other communal resources should be re-structured so that all people derive some direct benefit from the several different forms of collectively held lad based "wealth". A Cattle Bank is one way to address this issue.

10. A National Greening Strategy needs to be prepared, including the formation of a civil force of "Green Guards" who function as a ‘development army’. The Green Guards would draft and train all unmarried, unemployed, and out-of-school youth to help rural, urban and peri-urban communities restore the ecological health, beauty and utility of their degraded environments. Guards will receive monthly stipends for living expenses while undergoing serious vocational training.

11. A profound review of hands-on technical education to identify the most affordable and practical ways to train the next generation to become life-long problem solvers and creators of new forms of self employment. The improved technical education will prioritize the building training institutions – Village Technikons - that contribute directly to the creation of an inclusive economy of full employment and the equitable distribution of work opportunities where they are most needed in the communities and zones with the highest rates of unemployment. .

12. An Institute for Development Exploration and Appropriate Standards (IDEAS) should be created to provide rural and urban zones of South African society, as well as traditionalist Africans and Euro-centric modernists, with effective "science and technology parity" by giving them equal access to the power of the world’s knowledge system for the purpose of empowering them to realize their very different visions of the ‘best of all possible’ future communities, families, governments and economies.

13. Development Innovation Panels need to be formed that represent the cultures, classes, and interest groups of South African society as well as the relevant science disciplines and professions. By respecting the different interests, needs, and aspirations and identifying the commonalities shared by different constituencies, it becomes possible to objectively apply cutting edge science and technology to the fulfilment of both the convergent and divergent aspirations of the multiplicity of cultures, classes, and interest groups that make up South African society.

14. If 70% of the local food market can be captured by local agro-businesses and farmers, up to one-quarter (25%) of the entire population of South Africa could be economically sustained through this process, alone.

15. The FEED Strategy Plan aims to create and/or maintain between 500 000 and 1 000 000 employment opportunities simply by making much better (more efficient) use of the public resources that are already in the hands of the three tiers of government here in the Eastern Cape: national, provincial and local.

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**THE FULL EMPLOYMENT through EQUITABLE DEVELOPMENT (FEED) STRATEGY:** a socially and culturally feasible, environmentally sustainable and affordable plan of action to transform the social, cultural and political ‘economies’ of the Eastern Cape within a generation

1. INTRODUCTION

The long awaited and painful struggle to replace minority governance in the RSA with non-racial majority governance has finally been consummated. From the beginning the ANC led government deeply committed itself in its original Reconstruction and Development Plan and subsequent reincarnations as GEAR and ASGISA to deliver an urban biased, state dominated, welfare oriented, industrially driven, high mass consumption future of prosperity to the unemployed majority of South Africans, most of whom dwelt in impoverished rural and peri-urban communities in 1994 and now 16 years later in 2010 - fast approaching a short generation – still find themselves stuck in rural, peri-rural and peri-urban economies and cultures of poverty.

The ANC organized its first three election campaigns around promises to the people that it would in due course deliver employment, redistributive pensions and grants, and highly subsidized medical services, basic housing, electricity, and water and it has indeed made massive investments over the first 16 years of its leadership of the government to begin reducing the huge racial and class backlogs accumulated over the long years of apartheid.

The Eastern Province is a small peripheral economy within a South African national economy that is dominated by the highly industrialized and relatively ‘over-developed’ metropolitan economies of Gauteng, Durban, Cape Town, Port Elizabeth, East London, and several other important provincial industrial and commercial centers. These industrialized metropolises generate +/- 90% of the GDP from the economic activity of +/- 30% of the population of the country of which more than 30% are currently unemployed. If the ANC led government at the national and the provincial levels is to ultimately succeed in creating an equitable economy of full employment, one that provides useful and meaningful work to all able bodied adult citizens who need and want to work, it must use its electoral dominance of South African politics to radically reconfigure the National Democratic Revolution (NDR). The ANC’s vision of a NDR will have to move away from today’s high cost/low benefit urban industrial ‘paradigm’ by giving up its present fixation on privileging the interests of upwardly mobile black professionals in the public and private sectors, entrepreneurs and unionized workers over the interests of the low income majorities who still - and for the foreseeable future - reside in land based rural communities, informal squatter settlements, formal townships, and in-between peri-rural zones of settlement.

Unless the political leadership of the different parties and political tendencies within the ANC at the national and provincial levels discover how to capitalize upon the comparative advantages - what Veblen and Trotsky referred to as the ‘advantages of backwardness’ - that land based rural communities and small towns enjoy in the form of their greater natural capital and the capacities of rural residents to meet many of their basic needs using their own labour and know-how:

* owner built housing,
* (ii.) water, building materials, grazing, and wild foods harvested from the nearby environment,
* (iii.) growing a percentage of their food from small gardens and maize fields,
* (iv.) lowering costs by constructing infrastructure to rural standards (gravel roads, on site pit latrines, basic schools and clinics, and community centers).

If the delivery fixated ANC led government does not soon learn how to make effective use of the self help capacity of rural residents and communities in predominantly rural provinces like the Eastern Cape, then it runs the risk that within another generation and a half - say 30 years – the governments’ treatment of the rural residents and communities - as if they are do not know how to build their own housing, plant and harvest their own gardens, manage their own livestock, construct and maintain their own basic improved water supply systems and simple small scale irrigation schemes, govern themselves through indigenous forms of African participatory democracy - will cause rural dwellers to forget their culture of self help and local self governance. The careless destruction of the self help tradition by the ‘developmental state’ which temporarily confused itself with the ‘nanny state’ will be a tragedy that will cripple the capacity of the state to use its scarce resources to create a more equitable economy with a realistic chance of offering full employment to all its citizens.

If the Eastern Province allows the destruction of its political, cultural and land based comparative advantages by the irrational imposition of inappropriate urban standards and approaches upon a predominantly rural province that is composed of +/- 4000 communities of +/- 200 households (average of 5 members x 200 households = 1000 residents) then it could be accused of indulging in *de facto* ‘culture-cide’ because its biased development policies and programmes are causing the gradual eradication of a land based culture and a rural way of life. The prospects for a renaissance of self governing rural communities in the Eastern Province is bleak and leans in the direction of ‘extinction’ as thousands of formerly self reliant village economies and enclaves become increasingly dependent upon the ‘megapolitan’ political economy of Gauteng and the other socially, economically and technologically dominant metropolises in other Provinces; in the Eastern Cape the dominant metropolises are Port Elizabeth, Mthatha, and East London. . The degree to which rural, peri-rural and peri-urban communities are reorganized around the use of expensive urban standards and technologies is a measure to just how culturally inappropriate present day anti-rural development strategies have become. Development strategies targeting rural communities in the Eastern Cape when they do not maximize the use of the land based skills, environmental resources and ‘peripheral advantages’ of rural people. All three tiers of the government in South Africa is today guilty of using the ‘developmental state’ to systematically alienate the rural masses from their African roots.

If present trends continue, it is entirely predictable that the rural hinterlands of the Eastern Province will gradually become even more disadvantaged and politically and economically subordinate to the metropolitan centres of South Africa. The still predominantly rural Eastern Province will in time become totally subordinate to the inappropriate and often anti-rural political and economic policies, standards, and prejudices that are today professionally designed to meet the ‘superior’ standards of urban infrastructure, the urban built environment, and urban services. These superior urban standards are much more costly per capita (per citizen and per family) for the government to provide. In addition, the cost to create sustainable employment in the knowledge intensive, high tech industrial sector, which are typically favoured by the IDC, parastatals and the big private corporations now operating in South Africa far exceed the public and private capital available to the developmental state for the purpose of gradually creating a full employment economy that provides work for all citizens.

The global market meltdown of the last few years has exposed the limitations of free market and socialist fundamentalism in both the over-developed and the under-developed nations of the world system. The road ahead is no longer certain. After 17 years of rule by a political movement deeply committed to using the financial and human resources of South African state to uplift the welfare of the majority at the BOP, it is increasingly obvious to observers inside and outside of the country that a number of profound ‘paradigm shifts’ are necessary if the country is to stop its descent into chaos and begin to fulfil its RDP - and now MDG –promises. The current leaders in all walks of life have the responsibility - as well as the opportunity - to objectively review the country's experiences with social and economic development to date - its successes and failures - so that the country can converge on the unity of vision and approach needed to build a society of full employment and modest prosperity on the lessons of the recent past.

The purpose of the FEED Strategy document is to challenge the thinking public and the creative leadership of South Africa to first imagine, then test through pilot projects and finally to systematically implement a series of transformational programmes which together will replace Afro-pessimism by opening a uniquely South African path to the development and modernization of its rich culture and diverse society. Many of the foundations and opportunities for rapid social and economic development that are today present in the Eastern Cape may not be present at all or to the same degree in other provinces of the country. It would be a tragic mistake - in our view - if the Eastern Province allows itself to be bulldozed by the rush of events in the urban industrial centers of the country - sudden changes in AID donor policies, pressures to forge new political and economic alliances with powerful and persuasive role players - into accepting development approaches which do not achieve the highest possible rates of meaningful employment and the most equitable distribution of development benefits within the country.

The recommendations presented here will be directed toward the goal of achieving virtual FULL EMPLOYMENT within a framework of EQUITABLE SOCIAL AND ECONOMIC DEVELOPMENT in the span of a generation (20 years). Hence the acronym FEED, the Full Employment through Equitable Development plan. Together, the proposals presented in this document together constitute the vision of the FEED Strategy. The recommendations will necessarily be presented in outline form. If there is interest in any of these recommendations, then it is possible to develop them in greater detail. Illustrative numbers are used in the presentation so as to indicate approximate quantities, costs, and benefits. The methods for implementing the various FEED proposals first as pilots projects and – if successful – later ‘rolling’ them out as major programmes can only be briefly described. The purpose of these brief descriptions is to convey a general understanding of the likely cost and benefit performance of the different pilots, how to assess the development performance of each FEED project and the general templates for their mass implementation.

1.1 DIFFICULTIES AHEAD

There should be no illusions about the degree of difficulty in getting the disparate interest groups, that are today competing for power within the development arena in the Eastern Province and the RSA, to map out, agree on and then cooperatively implement a common vision and method of implementation. The main obstacles to realizing the recommendations present in the FEED Strategy is the problem of conflict and distrust between competing elites who are seeking to maximize their control over the institutional shape of the future and their efforts to protect their special interests. Naturally, each elite believes that its vision for a better South Africa is superior and more complete than the visions of other elites. Only a sincere spirit of consultation, and an open minded process of give and take, will serve the combined interests of the relevant communities and levels of governance. If the different interests, perspectives and action proposals are to be reconciled into a coherent and implementable development strategy, then a microcosm of the constituencies objectively involved in the struggle for development will have to first understand and trust each other enough to form a moral community of interest and begin learning how to cooperate with each other.

It is our considered opinion, as development professionals with 76 years of experience between us, that there will be very little progress toward a sustainable pattern of social and economic development in the Eastern Province unless and until enough of the significant actors and stakeholders agree among themselves on the objectives of development, as well as on the means for realistically achieving these objectives. The unrealistic visionaries and the narrow minded opportunists must be co-opted into a nationally and/or provincially mandated Strategy for Full Employment through Equitable Development. The FEED Strategy proposed here in summary form is one possible way to awaken the nation to the life and death crises it faces and to mobilize its often feuding and antagonistic factions to cooperate to build a more self reliant society.

The final FEED Strategy that will be adopted by Eastern Province, and hopefully by the other provinces as well, needs to be deeply grounded in the shared experiences of both leaders and followers, experts and lay people, businessmen and workers, rural and urban dwellers. The long term interests of all South Africans are ultimately inseparable. The different interest groups in the Eastern Cape and the other provinces are like the crew and passengers on a ship at sea. If the ship sinks they will all drown, regardless of whether they are first, second, or third class passengers, the captain, a waiter, the head mechanic, or the stoker.

A unifying vision and a practical plan of action will be gradually discovered through open ended consultation that is honest, respectful and evidence based (scientific). The follow on mass implementation of the FEED Strategy will gradually accelerate the creation of thousands of new permanent jobs through the systematic practice of equitable development. The small FEED pilot projects will be initiated by different groups, factions, and communities of interest in the Province. By encouraging a spectrum of different public and private development agents and harnessing the voluntary motivations of functioning moral communities these FEED pilot projects mobilize and augment the creativity, social networks, and natural resources owned by these moral communities of interest. By multiplying the number and diversity of self help powered ‘pilot’ projects undertaken under the umbrella of the FEED Strategy, a collective process of learning through consultation, action, and critical reflection is started. The break throughs achieved by these pilots will guide the government, the communities themselves and other development actors toward the most feasible and affordable mass implementation programmes for different geo-economic regions of the Eastern Cape. By means of consultation, experimentation, and critical reflection on the results achieved by FEED pilots and programmes of mass implementation an accelerated process of systematic learning will take place. A grand framework and methodology is necessary to resolve fruitless political contestation over differing ideologies and practices. The FEED Strategy provides this meta-framework and process because it enables government officials, professions, NGO activists to objectively assess the costs and benefits of competing development approaches. The FEED Strategy manages to achieve full employment through the rigorous practice of equity, bottom up governance and self help financing and management of local economic development by and for people at the BOP in the Eastern Cape (and by extension to the other 8 provinces of the country) .

1.2 THE DIMINUTION OF GOVERNMENT'S ROLE

One major departure by the proposed FEED Strategy from the development orthodoxies of the past 50 years is the presumption by the authors that the government of the Eastern Province (GovEP) will not be the major initiator, controller and/or implementer of development. Instead, the national and provincial governments will play an important facilitative role while other major actors - the big, medium and small private sector, local government, Non-Governmental Organizations (NGO's) and Community Based Organizations (CBO's), professional associations, communities, families and even leading individuals - will be freed to get on with the many task necessary to release the self help initiative of citizens who then actively manage their own regeneration by creating the greatest number of new employment opportunities at the lowest possible cost through the rigorous practice of equity.

1.3 PERCENTAGE DEVELOPMENT

A second major departure made by the FEED Strategy because it clearly differentiate between short term "token" development that only solves 10% to 20% of a major development challenges from a long term approach that manages to gradually solve 80% to 90% of the same development challenge. For example, a ‘token’ development programme is one that spends **all the available resources of money, professional capacity, and capital** – whether from government, the private sector and donor sources – and only manages to solve a small fraction of a major development challenge like housing, water supply, local food security, and employment creation, with the most efficient use of these limited resources.

**What is the difference between a 20% and a 90% development solution?** Surely the difference is attributable to the ingenuity, professionalism, commitment to serve the public good and the degree of cooperation achieved by the team collaborating to innovate a complete development solution: the planners, funding agents, mass implementers, politicians and local community leaders. The FEED strategy starts with a solemn commitment by change agents to squeeze the greatest possible socio-economic improvement for the largest number of beneficiaries at the lowest possible cost.

The change agents set out to discover the lowest cost and most socially and culturally appropriate solutions to the people’s development backlogs. To achieve 90% solutions with constrained resources, it is normally necessary for both the people and their mentor’s and professional benefactors to mutually empower each other. Through trust and cooperation the people and their professional advocates combine forces, capacities and resources for the struggle to overcome blockages standing in the way of potential socio-economic and technological break- troughs that radically reduce costs and enhance socio-economic benefits.

One way to assess the relatively efficiency of competing approaches to development is to measure and compare the total cost per capita to ‘deliver’ a particular development benefit, for example, the cost to permanently provide each person in a community with 25 litres of potable water a day to within 250 meters, or solar thermal water heating systems, or to provide a basic 4 room RDP house together with streets, landscaping and storm water drains, water and energy services, etc. The question being asked in this planning exercise is: how much, or what percentage, of existing backlogs will the Eastern Province meet if it chooses to use specific designs, technologies and approaches and then spends all of projected public revenues available from national, provincial, and local levels of government each category of infrastructure? Increments in demand for infrastructure must be factored into the equation to carter for population growth and redistribution over a planning horizon of 20 years.

What is the annual percentage of the existing infrastructure backlogs is the public sector able to supply from its annual budget? Is the government achieving 25%, 50% or 75% development solutions? After spending all of it earmarked funds for a particular type of infrastructure, what percentage of the annual backlog plus the projected increments going forward 20 years – and distributed equally along the same 20 year time horizon - is the Eastern Province managing to deliver??

A 100% development solution, by definition, cannot leave any major stakeholder, actor, or beneficiary outside a given development solution because the objective is to solve the whole problem by leaving no citizens outside in the cold looking. Every willing, interested and needy citizen of the Eastern Province must be enabled to personally contribute to and then also directly benefit from a 100% development solution.

At this juncture the Eastern Province’s has a priceless opportunity to exercise it freedom to choose the form and content of its political and economic future by actively experimenting with alternative development paths, technologies and approaches and deciding ‘what must be done’ only after careful assessment of the costs and the benefits, the likes and dislikes of client communities, If the people and their leaders are given an opportunity to experience and then critically reflect upon cost/benefit performance of competing development pilots and strategies – that lead toward very different futures for the Province - they will have the facts and figures which they and their advisers need for them to decide rationally about the best of all possible futures for them to pursue. They need to reflect critically on the comparative advantages and disadvantages of the following dimensions of development:

* the Province’s natural environment,
* indigenous, Western and global cultures,
* the accidents of history, and
* the strengths and genius of all its people.

The knowledge about the most likely ‘downstream’ advantages and disadvantages of different development strategies between which the people and their leaders have an opportunity to decide now empowers the African majority to exercise their God given freedom to choose the best of all possible futures for themselves, their families, their communities and the Province.

The proposed FEED Strategy places the African majority in the driver’s seat. The electorate and the political leadership are given the tools they need to rationally and responsibly define development according to their own cultural priorities, values, and socio-economic imperatives. By asserting ownership for the socio-economic future of the Province, the leadership and the general populace will be asserting their capacity for self-reliance, self mobilization, and self governance, and self finance. Therefore, the proposed FEED Strategy is an exercise in self-definition that takes place when a community selectively chooses to invest their natural resources, labour power, and indigenous skills in those FEED pilots and programmes that have demonstrated their power to deliver the greatest possible socio-economic benefits to the people at the lowest possible costs.

The FEED Strategy demonstrates and assesses alternative ways to radically reorganize the present economic system of the Province and the country so that it will vastly increase - perhaps to triple or even quadruple - the employment created through the wise expenditure of public monies. **The** **alternative labour intensive technologies and approaches presented here – when combined with appropriate technologies that have elsewhere in the developing world already demonstrated a capacity to create many permanent work opportunities at very low costs - have the potential to create full employment in the Eastern Province within a generation (about 20 years).**

2 THE DISCIPLINED USE OF GOVERNMENT PURCHASING POWER TO GENERATE MORE EMPLOYMENT

The Government of the Eastern Province (GovEP) in cooperation with the national, provincial and local levels of government has considerable power to create thousands of new employment opportunities by making much better use of the purchasing power of each provincial Department. It is estimated that the Provincial government annually spends between ??? and ??? million Rands on capital projects, capital goods, materials, and services. As a matter of highest priority, the government of the Province needs to make a concerted effort at the highest levels of authority to use the government's purchasing power to maximize the creation of employment opportunities for the citizens of the Province who are, right now, without work and who want to earn their daily bread.

The following sections will give examples of how the GovEP could rapidly expand the conversion of its substantial purchasing power into tens of thousands of inexpensive new employment opportunities that are equitably distributed to those citizens most in need of work and income.

2.1 FENCE MAKING

For example, any fence products needed by the government can be purchased either from companies using big machines employing relatively few paid workers or, alternatively, from a much larger number of self-employed fence makers using inexpensive and readily available ‘appropriate’ technologies to hand fabricate the same or comparable fence products. On average, the hand making of fencing products creates employment for +/-10 hand fabricators for every industrial worker that would be displaced.

Surely it is in the interest of the GovEP and the people to use the government's fence purchasing power to create thousands of permanent, decentralized, self-employment opportunities hand-fabricating fence products instead of retaining a few hundred high cost industrial jobs in fence manufacturing. For each R1 000 000 worth of fencing purchased by the government from small enterprises that hand fabricate fence products approximately 30 full time employment opportunities will be created. These 30 hand fabricators will together produce +/- 100 kms of fencing between them. Only about 3 permanent jobs would be created to fabricate the same 100kms of industrially produced fencing.

The cost of the industrial fence making machine will typically cost between R100 000 to R150 000 per employment opportunity. The 3 jobs created would cost a total of +/- R300 000 to R450 000. A minimum of 6 permanent jobs would be created by an industrial scale fence production operation, so an initial capital investment of between R600 000 to R900 000 would be required to produce 100 kms of fencing for sale to the government.

The cost of the hand powered fence fabrication technology would average out at R5000 per worker so the cost of the hand fabrication technology needed to gainfully employ 30 fence makers would come to R150 000. Therefore the capital investment per employment opportunity to hand fabricate fencing is approximately 1/15th the capital cost of industrialized fence fabrication. That means the government can create about 15 employment opportunities to hand craft fencing products for the cost of creating just a single job producing industrialized fence products.

The same 10 fold decrease in the capital required to hand craft many other types of products is observed for a range of products regularly purchased by Provincial Departments and Local Units of Governments when more appropriate labour intensive production technologies and methods of decentralised manufacture are discovered and properly used. Therefore, it is possible to radically reduce the capital investment by as much as – or even more than - an order of magnitude (x 10) which the government and/or the private sector are required to invest to create new jobs when they decide to systematically shift from the industrial mode of production over to the **appropriate technology and labour based (hand crafted) mode of production**. There is also a comparable 10 fold increase in number of employment opportunities created when the method of production is changed from a **technology intensive mode** over to a labour intensive mode of production. By systematically shifting the government’s procurement of products from the purchase of industrialized products with relatively little labour content over to the purchase of appropriate technology fabricated products that have a much larger labour content, the Provincial Government has the potential to absorb relatively vast amounts of unemployed labour in the Eastern Cape.

Each Department of the Provincial Government can be challenged to compete with the other Departments to see how many new employment opportunities within the Eastern Cape can be created by altering their capital goods, materials and service purchasing policies away from a high-tech/low-labour input mode of production over to a lower-tech/higher-labour input mode of production.

On the assumptions (i.) that the capital, materials and services expenditures of the government departments run as high as R??????????????? per year, (ii.) that 70% of this expenditure can be converted to more labour-intensive production within the Province (R???????????????) and (iii.) that on average the labour intensity can be increased by at least 50%, then this change over to higher labour content production can be expected to generate additional wages of R????????????. If the average wage or income paid for this labour input is pegged at R12 000 per job-year, then ?????? new jobs can be created by the GovEP getting serious about intensifying the use of hand, craft and manual labour in fabricating the products and materials it buys, and in the provision of services to the public sector.

2.2 BUYING PROVINCIAL AND LOCAL PRODUCTS

For a start, the GovEP should look carefully into using more employment-intensive fabrication to produce the following products that are commonly purchased by GovEP and Municipalities or by private sector companies, particular construction and engineering companies, under contract to the GovEP and the District/Local Municipalities:

\* school furniture

\* office furniture

\* office decorations - curtains, rugs, wall hangings, etc.

\* hospital soft goods - towels, gowns, bandages, bathrobes, etc.

\* concrete and stone building materials - blocks, bricks, pavers, lime,

 aggregate, soil cement blocks, etc.

\* concrete and wooden building components - windows, doors, roofing tile,

 cabinets, trusses, paints/pigments, etc.

\* fencing, brickforce, coat hangers, fence poles, reinforcing, etc.

\* vegetables, milk, meat, cheese, cooking oil, peanut butter, etc. for

 government institutions

\* fertilizers, compost, trees, plants and flowers for landscaping

\* ferrocement water tanks, grain storage bins, culverts, septic tanks, etc.

\* uniforms, coveralls, smocks, aprons, etc.

\* medicines, especially galenicals (syrups and ointments)

\* metal products - gates, burglar bars, doors, ducts, gutters, cabinets, door

 frames, window frames, etc.

The above list is only illustrative and can be greatly extended by officials who are more familiar with the vast number of products and services the GovEP purchases from the market.

2.3 CONSTRUCTION

Further, the construction of all publicly financed and controlled infrastructure projects can be made far more labour intensive as a matter of government policy. It can be stipulated in the public tenders that realistic percentages of the total contract budget must be expended on labour inputs. **Those tender submissions with the highest percentage of paid labour input can be awarded extra points in the assessment of competing tenders.** The requirement that infrastructure projects be made significantly more labour intensive must not, however, be permitted to reduce the quality of the finished product or increase the total cost of the bids of successful companies more than a certain agreed upon percentage (if such an increase is proven necessary).

The following public infrastructure projects and activities can be considered for labour intensification:

* digging and backfilling of trenches for water supply, sewers, electrical

 cables,

* secondary and tertiary road construction, including bridges, fords, storm drainage
* landscaping, digging storm sewers, contouring, storm surge reservoirs, etc.
* dam construction, irrigation canals, ‘terraforming’, etc.
* donga control, land reclamation/earth repair
* school and clinic construction, government building construction

Further, much mechanized or semi-mechanized maintenance work is done by government employees or contracted out to the private sector that can be done in a more labour intensive manner. When maintenance contracts are written up it can be stipulated that human labour is to be substituted, wherever cost effective, for heavy plant or mechanized equipment. The following types of maintenance work can be made far more labour intensive, thereby creating additional work opportunities:

\* maintenance and repair of primary, secondary and tertiary roads

\* maintenance and repair of primary, secondary and tertiary schools

\* grounds keeping (retire the lawn movers)

\* painting and general up keep of all government buildings such as schools,

 clinics, municipal buildings, etc.

\* maintenance and repair of dams, canals, contours, etc.

\* upkeep of nurseries and tree plantations, windbreaks, fire lanes, etc.

\* garbage pickup and recycling of all wastes

It is estimated that the GovEP can create up to 100 000 additional permanent employment opportunities by redirecting its purchasing and contracting away from high tech/low labour input products, services and projects toward lower tech/higher labour input approaches.

In summary, the decision to honestly follow the path of employment intensive development means that the government will aggressively search for opportunities to multiply the number of manual, entry level low skill, and high skill/craft level jobs by reducing the capital (machine powered) intensity of the economy of the Province.

Of what benefit is it to have more than 50% of potential workers sitting, unemployed, watching the other 50% managing high tech machines and production processes. For example, there is absolutely no reason not to park the road graders and to keep them parked until such time as there is a labour shortage. Surely it is in the long term best interests of the country and the Province to employ, say, 100 part-time "road keepers" using hand tools and paid R750 a month (R9000 a year for each road keeper) x 100 = R75 000 a month (x 12 months = R900 000) instead of employing a highly skilled driver, a diesel mechanic, a book keeper, and a manager? The estimated monthly cost of R125,000 to hire a grader, including the grader operator, supporting workers and a management oversight team, plus the additional foreign exchange capital cost to purchase the grader (R150 000 a year depreciation) and the foreign exchange cost of diesel fuel and repairs (R240 000) could employ up to 200 road keepers or 20 times more entry level workers, who already reside in scattered settlements that are conveniently distributed along the entire road network Such ‘distributed’ road maintenance workers will reduce the transport expenditures of the Dept of Public Works because these road keepers can walk to and from work every day with their tools in wheel barrows.

2.4 POLITICAL COURAGE

It will require considerable political courage, administrative imagination, public sector honesty and private sector cooperation to systematically implement a new government purchasing and contracting policy that gives employment creation and labour intensity the highest possible priority. Can we not look forward to MEC’s and HoD’s competing with one another to see who has managed to convert their departmental budgets into the greatest number of basic jobs through the purchase of low-tech/high-labour input products, materials, services and projects? The elected representatives of the people, the GovEP, and Municipal Officers have a special responsibility to lead the nation by showing their commitment to put a FEED Strategy into practice.

3. SMALL PRODUCER "SET ASIDES" AND MARKET STRUCTURING

Mahatma Gandhi preached that India would never become a genuinely developed nation until every village and region of the country became largely self-reliant because it was able to meet a significant proportion of its economic requirements through ‘local production for local consumption’. **He called for "production by the masses, not mass production**". In a collection of writings by Gandhi entitled, Industrialize and Perish, he documents exactly how the Western approach to economic development based upon the over concentration of people, workers, expertise and wealth in urban industrial metropolises has empowered and enriched the few and brought poverty and powerlessness to the majority of urban workers and rural dwellers. One important part of Gandhi's struggle for the liberation of India from colonial status focused on the preservation and expansion of village level production, symbolized by home spun cotton thread and hand woven cloth (khadi) as a political and economic declaration of independence from the textile factories of Great Britain.

3.1 RESERVED INDUSTRIES

At the time of India's official independence from Great Britain in 1949, the Congress Party under Nehru created the Khadi Village Industries Commission (KVIC) to symbolically honour Gandhi's vision of vibrantly self-reliant village and regional economies. Although the government of India did not really believe in the Gandhian vision of village centered, bottom-up development, it did make a half-hearted attempt, that continues today, to reserve a long list of products and commodities for village based producers such as: matches, soap, sugar, stone aggregate, lime, cement, sandals, etc. The KVIC is charged with ensuring that an officially established percentage of the national production of some 840 items must be reserved for small village-based producers, even if urban factories can produce better products at lower prices.

The rationale behind the KVIC programme of set asides for village producers is to strengthen the economies of hundreds of thousands of villages by reserving a relatively small percentage of the national economy of India for village workers who otherwise face a life of unemployment and poverty in their rural homes or as internally displaced persons who are forced by hunger to relocate to the cities. By helping struggling rural households to survive economically, the KVIC reduces both social and economic pressures pushing the ‘poorest of the poor’ to permanently migrate from their rural homes into squatter settlements on the margins of mega-politan urban centers like Calcutta and Mombai.

The set aside programme actually saves the government and the society money over the longer term by avoiding the even greater sums of money that would have to be found and paid to sustain the impoverished rural families forced into urban centers as economic refugees from a collapsing rural economy. The deepening breakdown of the subsistence farming economy of the in the former Bantustans of the Eastern Cape bears an uncanny resemblance to India a generation ago.

3.2 EQUITABLE DECENTRALIZATION

Closer to hand, the Eastern Cape Appropriate Technology Unit (ECATU), originally known as the Transkei Appropriate Technology Unit or TATU, has been experimentally testing this Gandhian approach to strengthening the rural economy in the former Transkei for more than two decades, with particular emphasis on the use of ultra-low-cost self-help approaches and technologies applied to the construction and maintenance of public infrastructure in rural areas. By carrying out hundreds of community based projects, TATU/ECATU has documented that it is indeed possible to reduce the costs of:

* the built environment (houses, schools, community centers),
* village water supply systems,
* rural roads and storm sewers,
* community sewage systems,
* fence fabrication,
* small scale farming systems,
* local biomass energy systems

by as much as 80% below the cost of providing of these same structures and services in built-up urban areas or even in a formal quasi urban township.

If we extend these findings to other rural communities and peri-rural zones in the Province, it tells us that for each rural family that relocates and establishes itself in Mthatha, East London, Port Elizabeth and the smaller town – and is provided with housing and infrastructure at the higher Euro-settler standards - it would be possible for the same public expenditure - to radically uplift at least five rural families *in situ* in their original rural communities and areas to a level of modest prosperity at the rural standard of housing and infrastructure: a decent shelter, water supply, garden, school, clinic, road connection, and including an entry level job close to where they live.

On average, ECATU/TATU found that rural development is five times less costly than urban development across a wide spectrum of different types of infrastructure, services and dimensions of progress. However, the only way to deliver the benefit of this 5 fold cost-saving to rural and "peri-rural" (a zone falling between the peri-urban and the deep rural zones) households is when the provincial and municipal governments make major investments of public resources to equitably and systematically decentralize enterprises of many different types into the rural areas of the Province. In this way, rural dwelling workers will be able to actually walk to their places of work as farmers, school teachers, road keepers, shop keepers, fence fabricators, cooking oil producers, food processors, etc.

The Tender Boards of the GovEP and Municipalities can be instructed by Parliament, the PM, the Cabinet, the Traditional Ruler, and the political parties to introduce an initial 10% to 15% "small producer set-aside" in as many product lines, materials and services as is feasible (i.e. where small producers can cost effectively and practically compete with capital-intensive producers). It is the author’s opinion that small scale producers based in rural communities, small towns, and townships deserve to be given a higher tender advantage than both highly industrialized local producers as well as foreign producers because of the lower handling, storage, transportation and other management costs to the public sector of already distributed production. Every year the percentage set aside for small producers should be increased until the latent productive capacity of small scale producers is fully utilized.

3.3 MATERIALS DEPOTS

The GovEP will need to create, or facilitate the establishment of new institutions such as a network of raw materials depots that purchase in bulk from major suppliers who have ready access to the highly industrialized regional or world economies and then pass their savings to the small producers by charging them cost recovery prices. These materials supply depots will be needed to flow large quantities of raw materials to hundreds and thousands of small producers scattered around the Province in hundreds of different rural areas. These same depots can also serve as purchasing channels that act on behalf of the government to aggregate the output of many small producers and maintain quality control. It is through this mechanism that Mozambique managed to build up a cashew nut collection business that is now worth hundreds of millions of Rands.

If the markets of the Eastern Province are broken down into their ‘natural’ catchment areas they can then be organized to flow the raw materials and other inputs needed to maximize the local production of food for sale to and consumption by local residents, as well as the supply of materials and services required for the profitable fabrication and sale of labour intensive products and services for which there is a strong local demand. Once the local economy begins to create products for which there is a real local or regional demand, it will then be possible for these buying and selling depots to establish direct linkages between major buyers such as boarding schools, hotels, government training centers and suppliers like small farmer markets and nearby small producers. For example, a hotel or school will be strongly attracted to purchase an increasing percentage of its vegetables, milk, eggs, chickens, meat, etc. from nearby producers because the price is lower and the quality better.

4. CONVERSION TO EMPLOYMENT INTENSIVE PUBLIC WORKS PROGRAMMES AND INFRASTRUCTURE MAINTENANCE

During the latter 1980’s and early part of the 1990’s the Development Bank of Southern Africa successfully pressured the former Bantustan governments into radically re-organizing many of their public works contracts to substitute as much human labour power as was compatible with the used of ‘intermediate technology’ plant and equipment across a broad spectrum of different types of infrastructure construction and maintenance:

\* road construction,

\* dam building,

\* water supply construction,

\* land reclamation,

\* housing site development,

\* building materials fabrication,

\* etc.

Contractors were required to spend major percentages of the budgets on human labour. The name of the new game at the demise of apartheid South Africa was to maximize the use of human powered technologies that made it possible to incorporate as much labour as possible into public works programmes without them being allowed to cost more than the ‘traditional’ Euro-centric, capital-intensive approach. One technique was to award more labour intensive approaches a significant tender advantage, because of the direct and indirect benefits to workers and the local and regional economies from simply hiring more workers. The United Nations has perfected sophisticated socio-economic assessment indicators which measure the true benefit of a proposed project or pricing structure, including the benefits of labour-intensive civil works projects. (REFERENCE??)

4.1 LABOUR BASED ROAD MAINTENANCE

In the former Transkei, major improvements in the maintenance of primary roads, as well as significant cost savings, were achieved by the old Transkei Department of Works and Energy by training small, private, road repair contractors, and then contracting the up-keep of particular sections of the roadway to them. These private road repair and maintenance teams were paid for work completed. Work crews would often be seen working late into the evenings and on weekends, or whenever it suited them. Some of the members of these road repair enterprises also are part time farmers as well. It would appear that small private contracts and task based remuneration for work completed up to an acceptable standard, gets far more value for money out of small private contractors than is the case with big construction companies or the government departments who used unionized workers.

4.2 ROAD KEEPERS

The following exercise will be helpful in grasping the employment generating potential of labour based infrastructure maintenance. Let us assume that the Eastern Province has 30 000 kms of secondary and tertiary roads and that on average a "road keeper" can reasonably maintain a one (1) km stretch of gravel or sibunga road surface, margins and storm water run-off drains as his or her full time job.

If the entire network of secondary and tertiary roads was contracted out to road keepers who live nearby and therefore can walk to work, then some 30 000 mainly rural residents of the Province could be permanently employed to do this work. Except when special tasks are being performed, such as replacing a washed-out drift over a stream, the road keeper will only require hand tools such as a pick, spade, tamper, rake, watering can and a wheel barrow. The cost of these hand tools would be no more than R1000 for each road keeper, or R30 000,000 in capital cost for 30 000 employment opportunities. The road keepers can be paid on site every one or two months by a supervisor who checks the status of the road surface and storm water drains. If the roadway is not up to standard, then a part of the payment can be withheld until the roadway is done properly. Alternatively, payment can be authorized by a local public works committee which represents the interests of the households served by the road, based on their assessment of the quality of the work performed.

This same system of small private contractors can be used for to service the following public work programmes and technologies:

\* windmills,

\* hand pumps,

\* village water supply systems,

\* dams,

\* donga barriers and

\* soil conservation works,

\* woodlot upkeep and management,

\* etc.

4.3 PROJECT MINDERS

Rural water system "tenders" or "minders" can be given a cluster of public water supply systems to look after. Ultimately, all of these privately contracted minders of public owned infrastructure should become *de facto* contract employees who work for and report back to units of local, area, and or regional self-governance. The ’water system minders’ would be directly accountable to the local ‘tax payers’ who depend upon the maintenance of ‘their’ infrastructure for a continuous supply of potable water. Until competent, honest, and democratically accountable institutions of local and area governance are in full operation in the rural and peri-rural and peri-urban areas of the Easten Province, the central, provincial and municipal governments can do their best to decentralize operations by systematically contracting maintenance work back to resident keepers, minders, and small contractors. These minders of local infrastructure are accountable to their government supervisors and to their neighbours for doing the work that they are being paid to do.

Another example: minor school maintenance can be handled by local school boards who can draw upon an annual school maintenance fund to contract the following basic repairs and maintenance tasks to locally resident service providers:

* plastering,
* painting,
* window glass replacement,
* gutter, down spout and
* water tank repair,
* school furniture repair,
* fencing,
* etc.

The annual savings to the tax payers of the Province and the country that would result from repairing school furniture on site will come to many millions of Rands every year. Additional millions will be saved by the timely painting and repair of school buildings, rather than allowing them to deteriorate past the point where they can be no longer be inexpensively restored to full functionality.

It is estimated that the contracting of maintenance tasks back to competent, trained and accountable resident members of rural communities in the Eastern Province will create permanent employment for a minimum of 100 000 rural and peri-urban dwellers. Such a work force would amount to some 40 members formed into +/- 2500 local public works maintenance teams each of which is accountable to an area based community development (ABCD) unit of local self governance. It would require some 40 members x 2500 ABCD units or 100 000 Rural Public Service Workers to adequately maintain all the public infrastructure within an Area Based Community Development unit of local self government. If these Rural Public Service Workers were paid R1000 a month or R12 000 annually, then the Eastern Province would need to find approximately R1 200 000 000 within the budgets of the three levels of government.

Continuing the previous ‘thought experiment’, each of these ABCD units of local self governance would have +/- 400 households or about 2 000 members. About 40% of these 400 households or 160 households would have one member working - at an annual income of between R12 000 to R18 000. At a cost to the Province of R1.2 billion it would be possible to employ an additional 40 rural public service workers in each of the ABCD units where on average +/- 160 of its members are already involved in some kind of paid employment. These additional 40 public service jobs would bring the average employment in these ABCD units from 40% (160 workers) to 50% (200 workers). Major savings will be realized by the three tiers of government because of reduced logistical costs when maintenance work is contracted back to private contractors who reside close to their places of work; additional savings will be realized due to higher rates of productivity by rural public service workers who are now directly accountable to their neighbours and community members, rather than indirectly accountable to third party government officials in the centers of provincial and local government. The community inevitably will become involved in supervising the quality of the work performed by ‘their’ local public service employees.

5. AREA BASED COMMUNITY DEVELOPMENT (ABCD) APPROACHES AND BLOCK GRANTS

The War on Poverty in the USA during the l960's and 1970's gave a preliminary demonstration, in a highly industrialized urban oriented country, of how supplemental benefits that can be effectively delivered to structurally disadvantaged strata of society. The War on Poverty also experimented extensively with the use of block grants to under-developed regions that enabled the leadership of ‘backward’ (neglected) areas, through democratic consultation with their constituents, to assume full responsibility for deciding how to spend the limited public funds at their disposal. For example, the Economic Development Administration (EDA) within the Dept of Commerce granted federal funds to very depressed and backward regions which could then be joined with local tax revenues and used to draw down, on the basis of different matching formulae, additional monies for infrastructure funding programmes that made use of other funds provided by the federal government of the USA to upgrade the standards of schools, roads, water supply, sewers, industrial parks, training programmes, business start up assistance, and so on.

5.1 LOCAL CONTROL

The genius of the block funding approach is the way it returns the primary responsibility for deciding how best to spend limited development capital back to the local community and their political leaders. The block grant approach keeps the end users' feet planted in economic reality because they must locally generate and then pay a certain percentage of the front end capital in order to draw down larger amounts of block grant funds from the federal government. This local match requirement means that enough local and regional tax flows must be generated to be at least sufficient to maintain any capital improvements that get financed with block grant funds provided by the central government, both in the USA and here in SA by the National and Provincial Governments.

5.2 BOTSWANA

In Botswana, there is an on-going 40 year experiment with the devolution of control over a significant part of the national governments annual budget which is set aside to be programmed in detail by the District Development Authorities. The DDAs were granted considerable freedom to establish their own priorities, standards, and methods of implementation. The DDAs of the 1980's had appointed traditional members such as chiefs, non-voting government officials, and elected members.

If the GovEP decided to allocate block grants to geographically discrete development areas in the Eastern Cape, a series of difficult decisions would have to be unambiguously made at the outset concerning what area based institution would be most competent to represent the peoples’ interests. There are at least four possible channels through which it would be possible to plan and manage the expenditure of block grants in the EasternCape:

 (i.) existing regional and sub-regional institutions,

 (ii.) traditional area based institutions,

 (iii.) a new combination of both the western and traditional systems, or

 (iv.) a new system of area-based local government under the authority of

 representatives directly elected by the people.

The decision about which of the four possible institutions channels would be the best equipped to plan, manage and protect the expenditure of such funds in a transparent and accountable way is a highly sensitive political matter which the people and leaders in the Eastern Province will have to settle among themselves. Perhaps the best way forward would be to experiment with several different approaches, evaluate the results, and with several years of experience in hand make an informed decision about what system of area based local governance to institute throughout the Province.

The idea of Area Based Community Development (ABCD) Teams could be "piloted in" five different local development areas scattered around the Province to see how well they might work in practice. A new programme - possibly sponsored by the Office of the Premier or the Department of Economic Affairs, Environment and Tourism (DEAET) or perhaps by the Department of Finance - could be launched to manage the implementation of the ABCD approach if it proves worthwhile. The optimum size of ABCD units of self government would have to be worked out pragmatically on the ground in consultation with rural communities and their leaders. If the optimum size turned out to be 2000 households or 10000 members (about 5 villages) then only 500 ABCD units will be required. If the optimum size is 1000 households and 5000 members then as many as 1000 ABCD programmes will need to be financed by the Provincial government.

5.3 LEVERAGED FUNDS

It is interesting to note that during the mid 1960s the President of the USA used his authority to create something called the Office of Economic Opportunity within the executive branch of government, which in less than two years sponsored and financed the formation of some 1200 private ABCD organizations, known as Community Action Agencies. These local level anti-poverty agencies managed to "leverage" 5 to 7 times more funds from state and federal funding programmes than they received in the form of small annual grants allocated to them by the OEO to keep them in business. In addition these Community Action Agencies were able to raise other funds from Foundations, NGO’s, Corporate Social Responsibility Programmes and Universities. The funds used by CAA to finance their programmes came from federal programmes, local tax revenues, foundations and even the private sector. Reflecting on the US experience and the economic realities of rural areas in the Eastern Province, it may be wise for the proposed ABCD agencies to receive its revenue as follows:

* up to 15% of their revenue from Local and District Municipalities,
* 30% from the Provincial government,
* 30% from the National Government, and
* 25% from donor and/or private sector contributions.

We believe that these ABCD Teams, when they are competently staffed and properly financed by the central and provincial governments, will constitute the embryos of effective ‘ruralities’ or effective rural units of local self governance to which many other important functions of local governance can be attached. The ABCD governing bodies, which are community based organizations in their own right, may - in time - be absorbed into fully modern institutions of local self governance.

5.4 UNRESOLVED CONFLICT WITH MODERNISM

The main problem with the majority of failed development programmes throughout the so-called Third World, including the Eastern Province, is the inability of urban-based and also urban ‘biased’ governments and "experts" to gradually raise up a competent core of indigenous leaders and technicians in the neglected and poorly understood rural "target" communities and regions. If development experts want to be balanced and equitable in their approach to the vastly under-served rural sector of South African society they will need to find the middle path between the dynamic "modern" sectors of government, Euro-settlers, and western donors, on the one side, while at the same time engaging honestly with conservative minded traditional leaders and the rural ‘masses’ on the other. Most failed development programmes are victims of the unresolved conflicts between the western-oriented "modern" sectors and interest groups and past-oriented traditionalists and Afro-centric interest groups. The proposed ABCD approach has the potential to bridge and permanently reconcile many of the conflicts between extreme modernism and extreme traditionalism. It does this by creating conditions that are favourable for the modernization of Xhosa traditions on its own terms, within the context of a progressive and self-secure rural enclave society.

If modest start up and sustaining grants of R400 000 are eventually given to +/- 500 ABCD units the ultimate roll out of 800 Planning and Administration units for each of the 800 ABCD programmes will cost about R200 000 000. The annually renewable sustaining grant will be spent to hire a director, planner, fiscal controller, secretary, several community organizers, a driver, and several other technical support staff. It will pay for the training of this ABCD team and also cover their minimal operating costs for 12 months. If it proves possible to leverage 8 times the sustaining grants for the ABCD programmes, that will generate the additional R1.6 billion to pay for the proposed 100 000 public service employment opportunities for the purpose of maintaining, improving and expanding public infrastructure in rural communities and areas.

6. LOW COST SELF-HELP HOUSING AND NEW SELF-RELIANT COMMUNITIES

The main problem with housing for low income residents of the Province in the urban areas and regional towns can be likened to the futile effort to stop the donga at the bottom of the mountain. As soon as one family is assisted with site and service and a financed formal house, here come two or three more families, refugees from a stagnant rural economy who set themselves up as workless squatters on the margins of the urban centers. Further, the tendency all over Southern Africa is to construct *de facto* dormitory suburbs (called townships or locations) for poor people without little or no economic foundation, very little or no allocation of space for the many other functions needed by a community to become dynamic and self reliant, and with absolutely no provision from the outset for a workable system of neighbourhood and community self-governance.

In sharp contrast to the prevailing township patterns in the region, the FEED Strategy strongly suggests that all new housing complexes for low income citizens should henceforth be constructed as integral parts of "nucleated, bounded, differentiated, and inwardly facing small communities". Such self reliant new communities will be designed from the beginning to internally provide not less than 30% of the employment needed by the resident households in agriculture, light and small industry, housing construction, commerce, public service (schools, local government, public service employment, woodlots), and so on.

6.1 LAND USE PLANNING

One consequence of building economically self-reliant and self-governing little communities, rather than building dormitory townships that are totally dependent on remote urban industrial centers or even nearby small towns will be the rapid relocation of unemployed rural, per-urban and urban residents into such promising new settlements. Therefore, the land use planners who advise the GovEP and Municipalities must be directly challenged to create a network of rationally distributed self-reliant New Communities that will redirect and absorb the growing "surplus" population from the first world towns and cities as well as the more traditional rural areas. It is vitally important that these new Communities be provided with enough of a land base to allow them to develop their own dynamic internal economies.

These self-reliant land-based New Communities should be laid out and built as a series of ‘pie slice’ shaped sub-communities which are constructed one ‘slice’ at a time so that when all the sub-communities are completed they will constitute a a fully functional and integrated whole little New Community. In contrast to most other townships in the region, each of the parts of the proposed New Community should be designed so that adequate space is allocated for all the necessary functional elements of a whole and healthy community:

* a range of different types of housing,
* light industry, commerce,
* schools,
* neighbourhood centers,
* recreation,
* the essential organs of community governance,
* gardens,
* urban agriculture,
* woodlots for energy and building materials, and
* wilderness corridors through which humans and nature interact

If each pie shaped slice of the community contains all of the above functional spaces and elements within itself, it becomes a complete little community in its own right, even if the other pie shaped components of the larger community never get built.

Each sub-community would be smaller, approximately one fifth or sixths of the completed community, and a "holographic replica" of the entire New Community. A New Community would be constructed one sub-community at a time, including the formation of its own internal institutions of self-governance. One sub-community, perhaps 1/4th of the whole community, would consist of about 250 households and a completed New Community would accommodate about 1000 households, between 5000 and 6000 residents. The governing bodies of the sub-communities would naturally all join together to form the governing council of a completed New Community..

Each 25% of this proposed New Community would typically occupy about 100 hectares. The completed New Community, combining four quadrant sub-communities into a circular community pattern, would cover +/- 400 hectares.

The breakdown of the different land uses for one of the sub-community quadrants of 100 hectares is illustrated below:

Number of units Number of hectares

(families accommodated)

30 small farming households (1 to 2 hectares) 45 hectares

70 garden households (1000 sq m/.1 hectares) 7

100 cluster houses (300 to 500 sq m/.03 to .05 hectares) 4

50 townhouses (200 sq m/.02 hectares 1

250 57 57

25 small industry sites (.2 hectares) 5

10 commercial sites (.2 hectares) 2

recreational/sports/park sites 3

schools/public buildings 3

13 13

streets/paths/parking 10

windbreaks/woodlots/nature 10

20 20

Other land uses 10

Total land base for quadrant (25%) sub-community: 100

Total land base for a complete New Community (l00 hectares x 4): 400

The radically lower costs connected with developing sites and services schemes in semi-rural and rural area where New Communities would be typically constructed is due to the much lower population densities and consequently the radically lower per capita land cost. These lower land costs when combined with more appropriate technologies make it possible to create the necessary infrastructure and services in rural areas for a fraction of the costs in more densely settled and therefore more expensive land.

The cost per household for the development of the sites and services for the proposed 1000 household New Community should not exceed R10 000 per household. The streets, storm sewers, water supply, and sewage disposal are built to standards that are appropriate to semi-rural conditions. Because there is enough land to recycle all storm runoff and waste products within the land base of the community it is possible to substitute lower standard and therefore cost saving alternative technologies.

It also needs to be remembered that a minimum of 300 full time employment and self-employment opportunities (or 30% of 1000 households) inside the community must be catered for and spatially accommodated in the complete New Community:

* 120 self-employed small farmers,
* l00 small-scale producers,
* 50 small shop or store owners and/or commercial sector employees, and
* 50 public service employees (a minimum of 75 internal employment opportunities in each quadrant of the New Community).

It is strongly recommended by the authors that the GovEP and Municipal land use planning authorities take steps to identify enough land throughout the Province to accommodate the growing rural, peri-urban, and urban populations of the Province in a series of environmentally appropriate and largely self-reliant New Communities.

It is further recommended that the majority of these New Communities should be situated in the "peri-rural" zone - outside the ragged peri-urban sprawls now surrounding the built up cities and towns. The New Communities should be placed away from the major roads, thereby avoiding endless and dangerous strip development along the highways, while still enabling residents to benefit from existing mass transportation to connect with nearby urban and town markets and services. By intelligent positioning of New Communities, the GovEP should be able to fairly painlessly redistribute population away from the already congested hyper-urbanized centers and zones where there are too many people, too much unemployment, and where the development costs are relatively much higher. The rationale here is to gradually relocate this surplus population of often poor, under-educated, and unemployed people by attracting them to voluntarily relocate to areas that are less densely occupied. The lower the density of humans occupying each square km of land, the lower the cost to secure the land required to develop a thriving New Community that in the future will hopefully internally and locally generate up to 60% of its employment.

These New Communities must not become dumping grounds for surplus people. They should be located on a land and resource base that is advantageous for raising self-reliant communities that have a realistic chance to achieve near full employment by combining internal and external employment opportunities. It is certain that the proposed New Communities, if properly developed, will act as magnets that draw unemployed people and families positively together on the land in ways that serve the best interests of the government, the people, the business community and the natural environment.

6.2 ECONOMIC REALISM

It is estimated the proposed New Communities Programme with its sites, services, houses and expanded internal employment opportunities will on average require as little as one-quarter (1/4th) to one-sixth (1/6th) of the capital investment normally required to construct a built an urban settlement and infrastructure up to an Euro-American, middle class standard in one of the metropolises of the Eastern Province. Thus, the proposed New Communities in rural areas would create 4 to 6 times more housing, infrastructure and also much more permanent internal employment than would be created by investing the same scarce resources on expanding a conventional Euro-settler version of a middle class urban/suburban community. By using a holistic, self help, appropriate technology approach to the design and construction of affordable housing and communities, combined with economic realism and a little common sense, is will be possible for the New Communities approach to deliver four to six times more wealth and well-being and uplift many more "have-nots" and "have-a-little" families out of the trap of rural poverty.

6.3 APPROPRIATE STANDARDS

To multiply the investment in the New Communities it is, however, necessary to relax many of the irrelevant and/or obsolete parts of the national building standards and to adopt a new, more appropriate set of building and community standards. It is worth noting at this juncture, that during the years when a particular New Community is incrementally growing up, there will be hundreds of full and part time jobs in the site fabrication of building materials and the labour intensive construction of houses, schools, stores, factory sites, storm sewers, water supply, household sewage systems, etc. The building and community standards adopted in the Eastern Province must do nothing to diminish the right of a person and the members of his or her family to convert their self help labour into income and/or shelter, provided they do not harm the community. The whole point of building standards that empower owner builders is to ensure that the final house or building is safe, sanitary, and decent and offers lasting value for the money invested by an owner in his or her house.

In conclusion to this section, the authors want to focus attention on one approach to community building that has worked very well for middle and upper income housing estates all over the world. We can see no reason why it will not strengthen the implementation of the New Communities Programme in the Eastern Province for lower income families. The approach is to privatize the entire process of community building. There is no reason why a private developer can not be given a contract to manage all aspect of the community design, layout, construction of services, sale of sites, construction of public buildings, landscaping, establishment of parks and community centers, etc. until the entire community is developed and transformed by degrees into a self-managing municipality. Such a New Community may decide to remain a private trust that is owned sectionally by all of the paid up members of a particular New Community Corporation, and would include the land, the homes and businesses. It can just as well be realized by a dozen other mechanisms, provided the goal of designing, financing, implementing, owning, operating, and maintaining a viable New Community is achieved.

If the GovEP approved of the concept of the New Communities Programme, it could encourage the formation of a start-up task force consisting of selected government officials from relevant departments, community leaders, professionals in the housing and community building fields, and private sector innovators and leaders. It would be the responsibility of this initial task force to put together a realistic, affordable and politically saleable plan of action. The GovEP and the elected representatives of the Province would need to dispassionately, as well as passionately, consider the proposed options and make a major political decision about what is to be done and who is to do it, thereby setting the New Communities Programme in motion.

It is estimate that the Eastern Province can initiate at least 10 New Communities every year accommodating 1000 families x 5 members per family = +/- 5000 residents x 10 New Communities = 50 000 inhabitants a year for the next l0 years, the NC Programme has the potential of absorbing up to 100 000 households and a total of 500 000 residents.over a period of 10 years.

 If the cost for constructing site and services for each New Community of 1000 families comes to +/- R1 000 000, the Programme will need about R10 million a year to provide sites and services for 10 000 households. By giving the New Communities Programme the political go-ahead and supplying the budget it requires, the GovEP will be giving opportunities to some 100 000 aspiring home owners to relocate themselves and become members of stable, productive, well situated and self-governing, and ultimately self-funding New Communities. If each of the New Communities delivers on its promise to generate a minimum of 300 new jobs then at least 3 000 new employment opportunities a year for the next 10 years will be created then in due course some 30 000 new jobs will be created in the peri-rural zone of opportunity in 100 New Communities. It needs to be remembered that these 100 New Communities at will be advantageously distributed around the Province where they will become stabilizing magnets that absorb dangerously rootless families and individuals in the twilight zone between the conservative villages and chaotic and confused townships.

7. FOOD FIRST: INNOVATIVE PROGRAMMES LEADING TOWARD FOOD SUFFICIENCY FOR THE EASTERN PROVINCE

7.1 SMALL SCALE AGRO-ENTERPRISE SCHEMES

The World Bank recently proposed an Agricultural Development Strategy for South Africa that called for retaining at least 40% of the population in land based economic activities and living. By inference, the World Bank would no doubt recommend that the Eastern Province also aim to stabilize between 50% to 60% of its population in land-based activities and residence. The New Communities Programme outlined in Section 6 would accommodate up to 100 000 families in 100 "peri-rural" communities in a zone between 10 to 20 km outside of existing cities and towns in the Province. In addition, the FEED Strategy calls for the systematic creation of an additional 100,000 small scale agro-enterprise based homesteads, each with their own appropriate, low cost water supply and irrigation system, and averaging slightly more than 3.5 hectares in size.

The agro-enterprise homestead consists of the following elements:

* a self help family residence,
* a subsistence food production system to feed the family,
* fuel wood, pole and fodder tree windbreaks,
* a developed water supply and storage system (pumped from a river or stream or a rain harvester dam),
* low tech/low volume irrigation of year-round fields, and
* one or more small cash cropping and/or livestock enterprises such as: tree and bramble fruits, cattle and milk, broilers/eggs, pigs, goats, fish, rabbits, bees, vegetables, specialty crops, flowers, natural insecticides, etc.

7.2 AGRO-ENTERPRISE HOMESTEADS

Research from the RSA on small scale cash farming ventures and elsewhere in the developing world has indicated that the demands of a farmer's family, from the domestic economy of the farmer’s own household, gradually eat up so much of the farm’s operating capital that it becomes insolvent. Therefore, to remain viable all small farmers have to protect the integrity of his/her operating capital and also to maintain the buildings, storage facilities, water sources and irrigation equipment, tractors and the equipment needed to plough, plant, till, harvest and process crops, livestock, fencing, and transport to and from the market. The asset base of all small farmers will remain vulnerable so long as the basic needs of the farmer’s family are not being adequately met by the subsistence production and the cash income generated by the homestead farming system and remittances from urban migrants. When most or all of these basic needs are being met by the homestead agro-enterprise system it should then be possible to build the cash farming enterprise on top of a now stable domestic (household) economy.

The ability of an agro-enterprise homestead to meet most or all of the family's needs for food, water, energy, building materials, and space, if paid for in the modern sector economy would be worth about R2000 per family member a year or up to R10 000 per year for a family of five members. The subsistence part of the homestead system should aim at delivering about R750 to R1000 a month worth of benefits to the family. The cash farming or agro-enterprise component of the homestead system only has to generate enough output to pay for those goods and services which the family must purchase from the external regional/national economy outside of the homestead and informal local economy, something on the order of R750 to R1000 a month, or R9000 to R12 000 a year, for a family of 5 or 6 members.

Two different kinds of agro-enterprise homesteads are envisaged. First, there would be a 3 hectare "river side" unit requiring 200 meters of farmable river bank or bluff and extending 250 meters away from the river. Where it is impossible to gravitate, ram pump or otherwise use the river's flow (energy) to lift water out of the river bed, there will be a diesel or petrol powered irrigation pump on each mini-farm. The farm will be fenced and have a tiny "starter house". It will have a basic water storage and household water supply system. A 1 km run of cultivatable river bank will allow for 10 river side agro-enterprise homesteads (5 on each side of the river x 2 = 10 agro-enterprises). Let us assume there are 7 000 kms of perennial streams with farmable banks be sufficient to give +/- 50 000 acceptable Riverside Irrigated Mini-Farms in the Eastern Province.

It is assumed that each cash farming homestead will cost +/- R30,000 to establish and that it will house, feed and support 8 residents. Two full time self-employment small farming opportunities will be created on each of these irrigated Riverside mini-farming units. Thus, the expenditure of R1.5 billion (50,000 river side agro-enterprise homesteads x R30,000) will stabilize 400 000 people on the land and create +/- 100 000 small farming opportunities (the primary farmer and several part-time helpers).

The second agro-enterprise homestead is organized around one or more rainwater fed dams with a storage capacity of about 25,000 cubic meters of water. These farm units will average about 4 hectares and typically be located in undulating land with suitable sites for 1 hectare dams. The house and fields will be below the dam so that gravity feed irrigation and home water supply can be used.

The FEED Strategy calls for the eventual construction of 100 000 of these rain harvester farming units. It is assumed that the cost will be roughly the same as the riverside farming units, or approximately R30,000. Thus, another 800,000 rural residents will eventually be stabilized on Rain Water Irrigation Homesteads that make use of rain water harvesting dams at an estimated cost of R3 billion. If two full time self-employed farming opportunities are created on each of these agro-enterprises, then an additional 200 000 rural residents will become gainfully employed as cash farmers.

7.3 7½% OF THE LAND

Combining the riverside and rain harvesting agro-enterprise units, we get 150 000 new cash farming units where some 1 200 000 residents of the Eastern Province (+/- 6% of the population) will reside and some 300 000 rural dwellers will earn a basic income from the sale of surplus production and livestock into the larger regional economy. A total of 550,000 hectares of farmable land will be required to completely implement the agro-enterprise homesteading scheme - about 30% of the arable land in the Province which is roughly estimated at 1.2 to 1.5 million hectares); if more problematic (degraded) maize land and eroded grazing land are added the total arable land base can be increased to approximately 2.5million hectares. The riverside and rainwater harvesting farming units would monopolize +/- 20% of this easy to farm land slightly more that 3% of the total surface area of the Province. It needs to be emphasized that innovative permaculture and other labour-intensive farming techniques can be used, whereby marginal land with steep slopes and irregular terrain - unsuitable for mechanized or even ox drawn agriculture - to be fully utilized for certain kinds of tree crops and high yield cash crops. .

7.4 HOMESTEAD TRUST

The implementation of such a vast programme will require the formation of a strong, independent, accountable, highly professional management institution, perhaps a new kind of Development Trust. The ownership of the land should probably not be granted outright to the participating families. It is a small business enterprise. Over a 30 year period, the new homesteading families will have to repay most or all of the original cost at a nominal interest rate of +/- 5% over 30 years. Such an easy repayment schedule would necessitate a monthly repayment of about R150 a month (R1800 a year). If the family does not seriously work the land or abuses it, then it must be possible to remove them by repaying them what they have paid down on the original investment of R30,000. Ultimately the land holding institution that is formed to "own" and oversee the New Agro-Enterprise Homesteading Programme should become a political and economic development organization, like the Kibbutz Industries Association in Israel, that is democratically managed by all the fully paid-up members of the Agro-Enterprise Homesteading Trust.

7.5 SMALL DAM CONSTRUCTION

The rain harvester dams can either be constructed by small bulldozer, a D5 or D6, at a rate of one dam with a storage capacity of 250 cubic liters of water (250 000 litres) completed every week or +/- 100 dams a year at a cost of R5,000 per dam (or R500,000 a year). Over 10 years, a dozer could construct some 1000 dams. The construction of 100 000 dams would require the services of +/-100 bulldozers working 8 hours a day for 10 years.

However, it is also possible for the same work to be done by human labourers using hand tools. A typical rain harvester dam might require 250 cubic metres of soil and subsoil to be dug, moved and compacted. If a worker can dig, move and compact 2 cubic metres a day on average, then it would take 120 worker-days to construct such a dam. If the workers are paid R50 per day then the human powered construction would run about R6, 000, or about 20% more than the cost of using heavy equipment to do the same job.

The GovEP, its donors and investors may well decide that the benefits of hiring enough teams of 20 workers to hand dig these dams in place of bull dozers outweigh the extra cost of 20% per dam to the Treasury. It would take a team of 20 hard working, well motivated and closely supervised workers about 6 days to complete an earth dam with the capacity to store 250 cubs of water and construct a system of rain water harvesting furrows. The task of constructing these rainwater storage reservoirs and catchment furrows could be contracted out on a task work basis. If new technologies or better methods were used, or a combination of manual and lower-cost machinery were employed, and the removal/fill rate could be raised to 4 cubic metres per worker-day, the cost of the labour based method of construction may become competitive with the mechanized approach.

7.6 GET THE RIGHT CULTIVARS

Work done in the 1980’s by agricultural researchers at the University of Natal, School of Agriculture, have scientifically demonstrated that the highest return on input investment, where the aim is to improve the productivity of subsistence farming in KwaZulu, is to get the correct cultivar into the hands of the small farmers. This is a very important finding and goes contrary to the conventional wisdom that mechanization is the primary source of progress. When the optimum bean cultivars are used, production can increase as much as four fold with no other change in farm inputs or procedures. It is therefore strongly recommended that the GovEP and its aid donors find a way to identify the most promising cultivars for use in the different bio-climatic regions of the Province, and find ways to disseminate these seeds throughout the Province.

Preference should be given to open pollinated varieties which can be saved and replanted year after year at no additional cost to the small farmer. Many different systems for disseminating these seeds can be used once the optimum cultivars are known and become widely available in the Province.

7.7 IMPROVED GRAZING, AGRO-FORESTRY, AND CATTLE BANKS

Much of the grazing land in the Eastern Province is degraded as a result of over grazing, over burning and human (anthropogenic) de-vegetation. The country suffers from the well known "death of the commons" syndrome because there are no significant immediate costs to cattle owners who can get away with collectively "ripping off" the communal grazing resources by pushing more and more livestock units onto it. The cattle owners get some small additional benefits by upping the number of livestock and the land gets a little more destroyed each year. A visit to many overgrazed area in the former Transkei shows the extraordinary phenomenon of weed-tree encroachment on land that is chronically over-grazed. In this case, the tree cover is actually increasing, but with useless, unpalatable varieties. When a fence separates a degraded area from a well managed one it is possible to observe a striking contrast between good and bad pasture management.

7.8 PERMACULTURE GRAZING

At the present time there is absolutely no feedback mechanism which makes each cattle owner pay his fair share of the long term costs to the country and to nature from the gradual degradation of the communal grazing resource. People without cattle or goats gain nothing from this pseudo commonage. The FEED Strategy proposes a more systematic approach needs to be taken by the GovEP and relevant District and Local Municipal politicians and officials. After consultation between the cattle owners and appropriate agents of local government, it is necessary to identify all badly over-grazed and/or eroded areas, and temporarily removes them from regular use. These excised grazing areas should then be profoundly upgraded by planting an appropriate mix of forage trees, shrubs, and ground plants on land which have been *‘terraformed’* by the digging "swales" on contour to capture and infiltrate as much rainfall as possible.

The resulting "permaculture" grazing camps will belong to an association of local stock owners who will have to learn how to cooperatively manage this important shared resource. One proposal we have heard holds that the residents of the whole community should receive a household income derived from grazing fees, so that the communal resource provides benefits to everyone without the share holder needing to own cattle, sheep or goats.

These newly upgraded permaculture grazing camps should be kept in reserve for periods of acute drought when the rest of the "free" veld becomes critically over-grazed and the livestock lose condition. All the stock farmers with grazing rights will be permitted to graze their livestock inside the permaculture camps, up to the number of livestock units officially allocated to each stock farmer. Any surplus stock will have to be registered, if the area association of stock holders has any unclaimed stock units, or sold off. Over time, the controlled areas where the veld's carrying capacity has been greatly enhanced will be expanded to the point that all grazing land is inside tightly controlled permaculture enhanced grazing camps and all the livestock units within the area controlled by a particular stock owners association will be registered.

7.9 CATTLE BANKS

Years ago an imaginative and wise economic planner by the name of Ralph Clark, while working on Swaziland's first five year plan, proposed the formation of a Cattle Bank to absorb the surplus stock units in a systematic way. The government would maintain a series of stock yards where all cattle, sheep and goats in excess of the stock permits held by a particular farmer could be sold and exchanged for a cattle ownership certificate. A man's herd might consist of 10 beasts on the hoof and 10 certificated beasts "held" by the Cattle Bank. The idea was for the government to fatten and sell the beasts ‘deposited’ in its Cattle Bank. The condition of cattle retained in the Cattle Bank and rate of stock off-take from the Provincial herd would increase dramatically, thereby providing more income for cattle owners. If the Cattle Bank venture is professionally managed, there is no reason why it will not earn profit on an efficiently run cattle feeder and marketing enterprise for the GovEP as well.

When an owner wants cattle for lobola or for a ceremony, he could redeem his cattle certificates at the nearest Cattle Bank holding yard. The stock farmer would also be able to use his official cattle certificates as collateral for business loans, housing mortgages, vehicle or tractor loans, etc. The certificates can also be converted into cash upon their surrender to the Cattle Bank.

This Cattle Bank notion has much to recommend it. To be implemented, it requires, like any bank, honest and competent managers who are dedicated to the mission of the proposed Cattle Bank. They must be given enough authority, political support, and professional detachment to ensure the honesty of all the employees involved with the Cattle Bank. The value of the cattle in the Cattle Bank will grow in value rapidly enough to stay up with the rate of inflation because most of the cattle in the Bank will be kept in the form of money invested in secure mutual and provident funds, money markets, bonds and stocks. The wise farmer's cattle certificate will increase in value according to the way these various funds perform in the national and regional economy. Once a stock farmer's surplus stock units are converted into cattle certificates, in effect shares in the Cattle Bank, they will not die or be stolen, and at any time the certificates can be converted back into live cattle or cash.

7.10 SMALL SCALE FOOD PROCESSING

There is no excuse for the Eastern Cape not to be completely self-sufficient in such processed commodities as cooking oil, peanut butter, milk and cheese products, grains and grain products, dried fruits and vegetables, etc. New Dawn Engineering (NDE), a Swazi company specializing in well designed, robust, modestly priced, human powered ‘appropriate’ technologies, has developed a wide range user tested food processing machines. For example, NDE produces several different sizes of oil presses that ‘cold presses’ sunflower seeds directly into pure cooking oil. One hectare of sunflowers will produce 1.5 tons of seeds which in turn will give up to 750 litres of cooking oil and another 750 kgs of seed cake (R2.00 per kgs) which has value as a component in all animal feeds. A litre of cooking oil is worth about R12 so a hectare of sunflowers will gross up to R10 500 from the oil and seed cake produced from a well cared for hectare of sunflowers. The oil yield of one hectare is enough to meet the cooking oil requirements of +/- 20 families for a continuous supply of 750 ml week from the neighbourhood or ‘walk-in’ economy.

As mentioned above, the "waste" seed cake falling out of the press is a valuable and nutritious feed supplement for poultry and livestock (especially dairy cattle) and can be converted into eggs and meat or sold for about R2 a kg which gives another income of +/- R1500 from a hectare of sunflowers.

The GovEP needs to identify other crops that grow well in the different bio-climatic regions of the Province which - like the sunflower seed - can be easily processed with simple hand powered technologies into much higher value food commodities such as:

* peanut butter,
* brown sugar,
* dehydrated vegetables and soups,
* fruit jams,
* organic fertilizers,
* green pesticides, etc.

The GovEP has an obligation to exploit this opportunity in a systematic way be providing small amounts of money to pay for the assessment, field testing, and further development of additional food processing technologies and systems from around the world to identify and then transfer into the Eastern Cape those technologies that show the most promise for each of the different bio-climatic environments of the Eastern Cape. This activity could be handled by a revitalized, well funded and completely autonomous Eastern Cape AT Unit, or by one or more specialized Appropriate Technology Design and Development Programmes linked to the Universities and GET Colleges in the Province.

In section 10 of this document, a number of specific proposals are made about how to reorganize the applied research and development activities of the Universities, FET Colleges and Agricultural R&D Institutes to better support the major initiatives called for by the FEED Strategy.

8. ENVIRONMENTAL PROTECTION, RESTORATION AND QUALITY

8.1 THE PROBLEM AND THE SOLUTION

Unless dramatic steps are soon taken to preserve, upgrade and skilfully expand the limited land and biomass resources of the Eastern Cape, then within another 20 years the Province will be so degraded and ugly that no one in his or her right mind would want to visit a place that looks like the eroded surface of the moon. Such a run down and degraded environment completely looses its appeal to tourists and also to anyone looking for an agreeable place to establish a major new enterprise.

Why is that scenario highly probable? It is likely because of the uncontrolled peri-urban creep of squatter and informal settlements along all the major highways in the Province.

To confront this problem before it gets completely out of hand, the FEED Strategy proposes that the entire Province be re-landscaped for long term environmental and socio-economic sustainability, starting with the densely settled cities, towns, and congested ribbon development along all the major highways.

The quality of the environment in the UK and the USA is today being vastly enhanced through the creation of nature trails and internal and external green belts linking inner city parks with natural areas and corridors radiating in all directions into the surrounding countryside. It is possible to walk along old foot paths across much of England. Abandoned railway lines are being converted into bike paths in many municipal areas in the USA so that it is possible for those who choose to commute by bike, jogging, or walking to go part or all of the way to their place of work in the Central Business District. It is necessary for the Eastern Cape to skilfully map out and preserve nature corridors or buffers along all of its major roadways.

8.2 NATIONAL GREENING STRATEGY

A national Greening Plan for the Eastern Province needs to lay out a comprehensive network of biking and hiking trails, nature corridors, a system of rural and urban parks with sports and recreational facilities, nature barriers along highways, buffers between different land use areas (e.g., to separate industrial areas from surrounding residential areas), peri-urban and peri-rural woodlots, grazing and agricultural zones, etc. To have a chance to be enacted and enforced, the Provincial Greening Strategy needs to be rapidly put into operation before the land around the urban centers and along major highways is so densely settled that it becomes prohibitively expensive and politically suicidal to change present land use patterns.

It needs to be remembered that in Europe it was the lands and parks of the royalty that protected nature and which were available in later, during the era of democracy for conversion into people's parks. There is virtually no public park space in Mdantsane nor any of the big townships around Mthatha, Port Elizabeth, Queenstown, Grahamstown, King William’s Town, and the other regionally important urban trading centers.

In the USA, the federal and state governments, together with the institutions of private property, have preserved large tracts of land that remain available for conversion to public use as nature preserves, parks, corridors, air cleansers, and so on. The Eastern Cape must rapidly evolve its own public and private institutions for preserving, enlarging and maintaining green belts and nature networks in both the urban and rural areas, otherwise the countryside will soon degenerate into a state of chaotic congestion and peri-urban sprawl that will rival the squalor of such hopelessly degraded conurbations as Calcutta and Lagos. The future of our children and grandchildren 20 years hence is being irrevocably shaped by our present actions and inactions, by what we do and do not do right now.

The government, the private sector, and the NGOs need to join hands to form a nature protection and conservation movement and one or more private-public agencies that can build up a systematic network of buffers, green belts, parks, paths, reserves, woodlots, etc. across the length and breadth of the Province. Let us name it the Eastern Cape Green Trust. The Green Trust will be charged with planning and implementing the conserving of nature at the provincial, regional and area levels of action. Interested and well-heeled environmental organizations from the North can be invited to join with the Green Trust in funding particularly critical and expensive components of the Provincial greening strategy. The Provincial greening strategy should be drawn up so that every level of society in the Province has its own environmental duties to perform in perpetuity. The challenge for the Green Trust is to convert the greening process into jobs and long term development processes that will be as beneficial to the average hard working urban or rural citizens of the Eastern Cape as it is to the visiting tourist from Paris, Berlin, New York, or Tokyo.

8.3 THE GREEN GUARDS

Many of the existing natural areas in The Eastern Cape are becoming badly degraded. They need to be demarcated, restored, properly maintained, creatively developed, and used in a sustainable manner. One way to do this is to create a National Youth Service and Training Programme, which we suggest could be known as the Green Guards of the Eastern Cape. The Green Trust could employ some 200 or so teams of +/- 25 youth (5,000 nationwide) who would be trained to carrying out a wide range of nature conservation and repair tasks at a cost of R6,000 a year for each Green Guard. The annual cost to the Green Trust and its benefactors would be on the order of R30,000,000.

The teams of Green Guards, under the direction of the Trust, would carry out such tasks as fencing, restoring, developing, and policing existing nature areas and corridors. The Guards could also be called upon to develop completely new nature areas and green belts or to plant fuel wood tree plantations around peri-urban settlements. Another major function of the Green Guards will be to surround indigenous forests and land reserves with protective belts of planted vegetation such as fuel wood trees that can then be harvested to low income households rather than cutting down more valuable indigenous forests. These sacrificial vegetative barriers will protect the indigenous green zones from de-vegetation by nearby populations of lower-income and under employed citizens who are used to harvesting biomass for free from the nearby environment.

8.4 FOOD PRODUCTION ON PUBLIC LAND

Another major function of the Green Guards would be to plant and oversee the management of community woodlots, establish systems of windbreaks, and protect all green areas, woodlots, and windbreaks with adequate fire breaks. This work will be done in partnership with the area-based plantation minders who have already been employed by the local government (or Area Based Community Development Units acting like a proto-local governments) to perform the same tasks.

The Green Guards will be brought into an area to help get a big job done. Once completed then the local public service employees will be expected to maintain the green belt/ plantation in prime condition. It can be noted in passing that the windbreaks and green corridors interlinking communities and nature areas with walking, biking trails, horse and oxen trails can be planted with a range of different trees – fuel wood trees, pole trees, fruit and nut trees, fodder trees, etc. so as to build food reserves into the design of the environment. There is absolutely no reason why public sector land cannot be used to grow food, fibre and energy that can be harvested in a controlled way by the less well off members of nearby communities.

The plan for the greening of the Eastern Cape must include the reservation of fuel wood plantations – whether on a family, neighbourhood and community scale - that are within close proximity to living areas thereby minimizing the work load of women to gather and transport firewood for cooking , heating and construction materials. The peri-urban townships, as well as the proposed New Communities, must also be bounded with windbreaks and fuel wood plantations which serve as green zones and corridors. The Green Guards can help with the establishment and planting of these productive green areas which the primary ‘user community’ will be charged by the Trust and the government with maintaining in perpetuity. As mentioned earlier, the public service employees assigned to a particular area will be tasked by the local authority with managing fuel wood and windbreak plantations on a sustained yield basis.

8.5 HUNGER HEDGES - PERMACULTURE FOR THE POOR AND THE

 UNEMPLOYED

The Provincial Green Trust - in partnership with the Dept of Agriculture and Rural Development and the Department of Environmental Affairs, Environment and Tourism - needs to actively search for the most useful and productive tree and plant cultivars from around the world that are well adapted to one or more of the different bio-climatic regions of the Province. Field research will quickly determine the subset of "winning" indigenous and alien cultivars that are most appropriate for the Eastern Cape.

The first step in the ‘permaculture’ design process is to identify those cultivars that are found to be environmentally safe and economically beneficial and therefore will lend themselves best for planting in well demarcated, intensely cultivated and easy to harvested green zones close to densely occupied human settlements. The second step would be for regional nurseries to propagate large numbers of seedlings and/or cuttings for replanting in selected green areas, buffers, and corridors such as:

* community fuelwood plantations,
* (ii.) highway margins,
* (iii.) inside settlements along streets, or
* (iv.) in peoples' front and back gardens.

The main idea behind this component of the FEED Programme is to inoculate the land inside and around the settlements where the less well off residents live and work with as many hearty and prolific food bearing trees and plants as possible as a **hedge against hunger.** The indigent and the unemployed, as in the times of Jesus, will find that food is left for them in the margins of urban, peri-urban, peri-rural and rural landscapes for them to harvest and eat.

9. THE PEOPLE'S TECHNIKON CONCEPT: Community-Based Education of Rural and Peri-Urban Residents for Modest Prosperity in the 21st Century

9.1 CHOOSING THE NEW PATH

It has become tragically obvious that so called "modern", western style education does not prepare youth residing in rural and peri-rural communities, squatter settlements, small towns, and formal townships of the Province to cope creatively with today's stagnant economy. Under today’s depressed economic conditions, perhaps only one or at most two out of 10 new entrants into the labour market actually find wage employment in the formal sector.

The purpose of education necessarily involves far more than just preparing youths to become economically active adults. We are not blaming the stagnation of the formal urban industrial economy in the Eastern Cape, South Africa, the African continent, and the world economy entirely upon inappropriate education. However, it is a terrible indictment of the irrelevance of today’s educational system that up to 80% of its "graduates" are not able to find full time formal employment or self employment. As the New World Order gathers momentum, it is inevitable that small, weak and peripheral nations like South Africa, and the Eastern Cape Province as a dependent and marginal part of the national economy, are being irresistibly incorporated into the global economy as de facto "lower class" countries and regions with little or no prospects of ever escaping from the poverty trap. The poverty trap, much like a debt trap, happens when the population of a country or a class out grows its earthly resources and begins to decline because the per capita resources of capital, land, water, energy and access to cutting edge Science and Technology are unable to support an expanding economy.

Marx defined ‘immiseration’ as a process that takes place in the last stages of imperialism when a capitalist economy becomes severely constrained and the mal-distribution becomes so acute the majority of its members find themselves retrogressing, developing backward because per capita resources available to the majority has contracted to a point that traditional patterns of welfare and consumption can no longer be sustained. A civilization that exceeds its available per capita resources of land, water, food, fibre and energy resources will quickly retrogress and collapse or innovate new technological means to escape from these per capita resource constraints.

In passing, it needs to be noted that it is still difficult to predict what the final impact of AIDS will actually be upon the development equation of the Eastern Province and South Africa. It is possible that AIDS will indeed tragically result in an eventual die back of populations in the Eastern Province and South Africa. At the same time AIDS may be reducing the population load that must be carried by the environment and the economy. Further, it is also possible that AIDS will differentially shrink the pool of educated manpower, who possess competence in science and technology and therefore capable of innovating a new future for the Province. Highly educated world class professionals in South Africa and the Eastern Province represent an indispensible component in the innovation system because they possess the mental powers needed to change the dominant paradigms and to redefine the interface between the wealthy "have a lot" minority and the poor “have not" majority.

The youth of the Eastern Cape are confronted with twin economic crises. On the one side, the old, low intensity pattern of land use and subsistence of yesteryear is no longer economically viable; nor is it acceptable to the majority of younger generation who today assert their right to participate fully in the "modern" world economy as typified by the high tech and high mass consumption lifestyles exemplified by Europeans, Americans and Japanese patterns of civilization.

As the financial turbulence of the past three years indicate, the "modern" urban industrial system, is itself in a state of grave instability and incipient collapse around the periphery. This inward collapse is due to an accumulation of unsustainable human, economic and environmental costs that are integral parts of a high technology system of mass production and distribution and a plentiful supply of cheap fossil fuels. The leaders and the people of the Eastern Cape have an opportunity to decide whether they will define their path to modernization in conventional Euro-American terms (or Pacific Rim terms) or in a more exploratory Afro-centric terms or even more inclusive pro-poor humanitarian terms.

The authors of the FEED Strategy strongly recommend that the Afro-centric option be thoroughly explored as an alternative to the here-to-for dominant Euro-American path to civilization. We do not deny the technological prowess and the continuing appeal of the Euro-American pattern of civilization. The reasoning behind our recommendation of the Afro-centric option is as follows:

* the high tech urban industrial path is currently only able to incorporate 20% or so of the youth of the Province in formal employment, while the other 80% of the youth remain pretty much economically inactive,
* therefore the Western economic paradigm is like a family that condemns 80% of its offspring to lives of unproductiveness, dependency, failure and eventual criminality.

The Euro-centric path to civilization is rather like a school that "trashes" more than three quarters of its students in order to graduate a handful of "winners". It is only these winners who enjoy the full benefits that are offered to a very hierarchical class society. Clearly, from the perspective of the excluded low income majority of Eastern Cape residents, the costs of the Western style urban industrial system too high because it only delivers benefits to a tiny well off minority.

 The Afro-centric option chooses a ‘*majoritarian*’ development strategy that invest equitably in the welfare and advancement of the majority majority over a minority serving (*minoritarian)* approach to development that invests a disproportionately large share of the society's scarce resources to uplift a small, increasingly multi-racial, middle and upper middle class elite.

How do we discover a series of Afro-centric pathways to modernity that will be acceptable to the majority of Eastern Cape residents and is also dynamic enough to mobilize most of the people in a self help mass mobilization process that is affordable, technologically feasible, and environmentally sustainable? It is proposed by the FEED Strategy that education be turned upside down so that it assist the youth of the Province, who reside in "humble" and impoverished rural and peri-urban communities, to begin to transform themselves ***in situ*** by critically rethinking their understanding of progress. It is imperative that the youth and their parents and also their grandparents agree on a new multi generation Xhosa definition of progress. The task of African intellectuals is to reconceptualise a post colonial, post Eurocentric vision of modernity that comprehends role of African culture, social genius, and spirit in world society.

Instead of offering ‘modernizing’ Africans the hope that 1 out of 5 of their youth will perhaps secure entry into the exclusive ranks of an educationally advantaged and materially pampered middle class, a more liberated Afro-centric perspective would instead focus how to radically use the world’s knowledge system (science and technology) to help motivated residents caught in the poverty trap to gradually uplift themselves as individuals and communities from powerlessness and poverty. The dynamic of Afro-centric development involves (i.) ‘downloading’ and

(ii.) ‘comprehensively contextualizing’ and (iii.) creatively applying the world’s corpus of science and technology to create local economies offering modest prosperity and employment to every member of the community.

The political leaders, government officials, and professionals in the Eastern Cape have the option to launch an experimental ‘peoples’ technikons that draw upon the world’s science and technology system to empower rural and peri-urban communities so that existential African villagers gain the power and knowledge they need to create a new type of inclusive economy that offers modest prosperity and meaningful employment to all its members. The main focus of the "curriculum" in these People's Technikons is to find ways and means to directly assist and support adult community members to become more economically productive, within the limits of the skill, money, and technology presently accessible to them in the communities where they reside.

9.2 COMMUNITY TECHNIKONS

The role of "teacher" within a community technikon is to provide technical assistance by training members of the community how to

 (i.) access relevant resources available to promote and support LED and

 (ii.) assist households and individuals to evaluate the cost/benefit performances of

 different LED technologies and enterprise for generating a basic income.

The community technikon teacher\facilitator is, by definition, committed to the long term creation of a dynamic land based “communitarian” economy. A small inward facing community economy will grow up naturally when science and technological know how are correctly down loaded from the world knowledge base and intelligently applied to the most appropriate forms of wealth creation and income generation. The community technikon facilitator is responsible for helping aspiring entrepreneurs to efficiently combine appropriate technologies and LED approaches with the locally available resources, demand for products and services, labour power and skills. The challenge is to generate enough localized and profitable LED based enterprises to absorb all of the surplus labour capacity from the community.

Thus, the main long term objective of the community technikon is to assist economically motivated individuals and families to gradually construct an "alternative" community centered economy that maximizes the production and exchange of both old and new forms of wealth within the locality or enclave economy. The idea of building an alternative, "enclave" economy is not as far fetched as it may initially seem in the 21st century. For example, there is room for one or more honey farmers in every village or neighbourhood who extract "sweetening" from the nearby environment by managing a "herd" of honey bees. Why purchase sugar or cane syrup when you can purchase honey at a competitive price from a neighbour or at a nearby shop? The list of foods and other essential products which rural, and peri-urban household buy from shops, traders and increasingly from supermarkets is very long:

candles, fencing, bread, ground maize meal, maize, sugar, fish, oil, cabbage, carrots, beets, meat, chickens, eggs, milk and milk products, building materials and components, seeds, fertilizers, tanks, toilets, hand tools, timber products, furniture, cloth, fiber, blankets, stoves, musical entertainment, batteries, paraffin, fruit, nuts, beer, etc.

**The task of the community technikon is to find practical and affordable ways to "re-inflate" the collapsed rural and peri-urban economies.**

Firstly, community members must be assisted to become efficient producers and marketers of an ever-increasing percentage of all products and services consumed on a regular basis by other families within nearby communities, whether these goods and services are sold, bartered or given away. Secondly, these People's Technikons must also encourage the export of enough surplus local production, services, and labour power to maintain a net positive balance of trade with the larger external (exclave) economy.

9.3 MENTORING LED ENTREPRENEURS

One way for a network of community technikons to stimulate more ‘local production for local consumption’ is by identifying the already successful small producers in the area and encouraging them to act as teachers and role models for other aspiring LED "entrepreneurs" in nearby communities. The "mentored” small farmers and other local resource based enterprises can also be encouraged to accept unpaid apprentices who receive training instead of wages. Where necessary successful LED entrepreneurs can also be hired part-time by technikons to act as guides for students who are interested in starting up the same or similar kinds of small enterprises in their own communities.

Another major function for full-time technikon staff is to expose aspirant small business men and women to a wide range of simple, affordable technologies and productive techniques that increase their profits and/or reduce their costs of doing business. The transfer of more appropriate technologies into the communities served by a technikon will open up new possibilities local farmers and entrepreneurs to earn a modest living with their own labour and skills. The objective is for the Community Technikons is for them to focus primarily on stimulating small producers who generate products, produce and services for the local and nearby regional markets.

We have already mentioned that Technikons will connect particular aspirant local enterpriser with other nearby "experts" who are capable of providing practical, hands-on technical assistance and small business support. In addition, very practical short courses can be given at the People's Technikons by "itinerant" experts on particular types of small enterprise, technology and agro-enterprise when enough students have registered to justify the expense of bringing in such a specialist.

Once a particular small-scale enterprise "package" has proven itself in one community, it will tend to naturally spread by example and word of mouth into dozens of other communities. The network of community technikon facilitators will insure the transfer of appropriate technologies and small enterprise innovations all over the Eastern Province.

9.4 COMMUNITY BASED FOLK SCHOOLS

The proposed People's Technikon Programme requires dedicated and competent full-time facilitators who feel "at home" with the language, the culture and the socially integrated pattern of life found in rural communities and peri-rural areas of the Province. Foreign development workers such as Peace Corps volunteers cannot serve in front-line positions as the community based technikon facilitators.

One way to initiate the proposed Community Technikon Programme in the Eastern Cape would be to critically review the role played by the Scandinavian Folk School movement during the last century in helping displaced and disoriented rural peasants to revitalize their rural communities. The folk school movement was begun in the 1840's by clergymen and intellectuals who were concerned about the demoralization of rural families and the disintegration of rural community life caused by the massive social and economic disruptions that were unleashed in northern Europe during the early 1800's by the rapid growth of powerful and dynamic urban industrial metropoles.

The rural hinterlands became stagnant backwaters. The folk schools organized short courses during the long cold winter months where rural residents were assisted to become literate. They were introduced to the high culture of the metropoles, and given the tools they needed to understand, and if they wished, to participate as self-confident rural dwellers and farmers in the transformations taking place in the urban centers. The folk schools helped the rural people recover their identity as self-respecting rural citizens of a larger polity and to regain their capacity to identify and defend their interests against exploitation by new and powerful big city interest groups.

The folk school concept has spread throughout the world where the idea of community centered education has been adapted to the task of revitalizing demoralized rural dwellers in other lands. For example, the Gandhian movement has drawn heavily upon the folk school tradition in its struggle to revitalize the economic self-reliance of the hundreds of thousands of villages in India. The anthroposophy based schools founded on the teachings of Rudolf Steiner also focus upon central importance of a well-integrated local economic system. More recently, the "education for production" programme, and earlier the brigades movement in Botswana inspired by Patrick van Rensberg, drew heavily upon the folk school's implicit critique of urban biased national school systems that typically ignore and devalue local traditions, resources and the many opportunities for community building and local wealth creation in rural areas.

The folk school tradition can be adapted to suit the cultural traditions of the Xhosa majority in the Eastern Cape and used as a proven foundation on which to build an Afro-centric educational programme that capitalizes upon the cultural strengths and unique capacities of ‘existential’ and modern rural residents. The proposed People's Technikon is one iteration of the folk school vision of an alternative technical school system that is designed to uplift and affirm for rural students. The community technikon concept offers a bottom up, community building alternative to today’s Euro-settler dominated South African education system in the Eastern Cape which almost exclusively serves the interest of the urban and industrial elites who rule the provincial, national and global economies.

9.5 THE RESULTING IMPACT

If we assume that every year a community technikon facilitator will assists 20 individuals or small groups to launch themselves into some form of locality based enterprise, and each facilitator cost the programme about R80 000 a year (all costs in), then each self-employed community member – or some other funding agent - will need to pay approximately R4,000 for a year of training and mentoring. If we further assume that each community member who becomes "economically activated" by a technikon facilitator will earn a minimum of R12 000 a year in cash or in kind, then over a ten-year period the expenditure of R80,000 or R800 000 will generate approximately R2.4 million worth of new value largely within the economies of the local communities where the successful small business people reside. The authors believe that a network of + 200 community based technikon facilitators - if well trained, motivated, supported and managed - can play a major role in transforming the rural, peri-rural, and peri-urban economies of the Eastern Cape in the direction of a profoundly Afro-centric renaissance.

10 EASTERN CAPE PROVINCE NEEDS ITS OWN ***INSTITUTE FOR DEVELOPMENT EXPLORATION AND APPROPRIATE STANDARDS*** ***(IDEAS)*** - around which to Build a Sustainable Civilization in the 21st Century

10.1 THE INFORMATION SUPERHIGHWAY

The much celebrated advent of a global information network that is linked together with high speed data delivery superhighways, does not necessarily lead to greatly improved socio-economic conditions for the "have not" masses of the planet. Only a small fraction of the science and technology information within the global knowledge base is uniquely relevant to the people and the development problems of the Eastern Cape. The more specific the science and technology requirements, the more difficult it becomes to capture, download, adapt, and apply this generic information from the world knowledge base to the socio-economic conditions in specific rural communities in the Eastern Cape. Furthermore, the semi-educated, poor, and ‘computer-less’ mother and father of a family of hungry children cannot satiate their hunger with information. **Science and technology information is not an end; it is only a means to an end. Information, once obtained must first be correctly interpreted and contextualized before it becomes actionable knowledge.**

Relevant knowledge still has to be translated into practice within a real world that is full of blockages to rational problem solving that is caused by special interests, shortages of resources, human imperfections, political factions, and myriads of obstacles. After new knowledge has been turned into prototype technologies and projects and tested in the field, it is next necessary to obtain real political support for a programme of mass implementation and to gain public acceptance for anything new by the end users. The innovation of new products and methods of production require that these end users – the ultimate producers and consumers – pass through a learning process that makes it possible for them to accept and internalize more appropriate standards and solutions to familiar economic and environmental problems.

 Confronted with the push and pull of competing interests, different dreams about the best of all possible futures, and thoughts about ‘what must be done’, all socio-economic change becomes a complex and unpredictable process. Often powerful commercial or ideological interests bitterly resist or try to block the introduction of new technologies, products, and approaches. The old guard, protecting their market share and influence over government policies, typically ignore the fact that the new approaches – in fact - deliver much higher socio-economic benefits at significantly lower cost than the traditional standards, technologies and approaches. When the old regime of politics, technology and business struggle with new technologies and approaches that more efficiently serve the interests of greater numbers of consumers, it is just a matter of time before the old order weakens and collapsed into the ‘dustbin of history’.

10.2 GAINING ACCESS TO THE WORLD S&T KNOWLEDGE BASE

Now that the global science and technology information network has come into existence, how does a Province on the periphery of the developed world like the Eastern Cape, with limited science and technology resources at its disposal, become faster, more rational, and sure-footed in the "discovery" of that tiny subset of the world's science and technology knowledge base which contains those approaches that appear to be uniquely suited to unlock the blocked productivity and potential for wealth creation of the land based rural majority.

Once the most appropriate technical and organizational approaches have been objectively assessed and identified, it is necessary to convert this abstract ‘planner’s knowledge’ into real products and prototypes in order to investigate their socio-economic performance in test communities. It is only after extensive testing of new technologies and approaches in the field that it becomes possible to state definitively whether a particular development package will be capable of making any significant contribution to the task of liberating a majority of the people in the Province from poverty, unemployment, impending social collapse and worsening degeneration of the environment.

How can the highly educated members of the Eastern Cape, who are capable of creatively interacting with the world knowledge base through computers, gain access through the Internet, or other global data base systems, to the science and technology information that is most appropriate to the development of the Province? Also, how will they use this valuable knowledge to begin constructing a more Afro-centric pattern of civilization? To whom are they accountable?

 In answer to these questions, the FEED Strategy proposes the formation of IDEAS - the Institute for Development Exploration and Appropriate Standards - as an autonomous, multi-disciplinary science and technology application R&D organization. The proposed IDEAS would have its own Board of Directors. The organization is envisaged as being loosely linked to all the Universities in the Eastern Cape (Walter Sisulu University of S&T, Fort Hare University, Nelson Mandela Metropolitan University of S&T, and Rhodes University), the agricultural and technical colleges, existing research stations such as the Agricultural Research Facility at Dohne, and technical high schools and FET Colleges. It would also maintain close professional and working relationships with other organizations such as the Agricultural Research Council (ARC), Human Sciences Research Centre (HSRC) and the Council for Scientific Research (CSIR) in South Africa which engage in a very wide spectrum of development oriented R&D and standard setting.

The mission of IDEAS is to aggressively investigate the world data base to discover that subset of development technologies, techniques and organizational approaches that are most appropriate to the needs, socio-economic context, and environmental realities of the different interest groups in the Eastern Province. The IDEAS initiative will require enough funding and political support to overcome petty bureaucratic divisiveness and obstructionism.

It will form small highly focused Development Innovation Panels in such high priority areas of content as:

\* new high-yield open pollinated cultivars

\* renewable energy technologies for rural communities

\* new settlement patterns designed to promote full employment

\* low-cost building standards, materials, techniques

\* technologies and organization models for rural micro-enterprises

\* earth care and environmental restoration

\* agro-forestry/permaculture transformations of settlements, arable land,

 grazing, and tree plantation

\* minimum cost/minimum disruption approaches to agricultural

 intensification through small holder agro-enterprise schemes

The list of possible appropriate Development Innovation Panels is potentially a long one. The above list of development research problems is only illustrative.

10.3 DEVELOPMENT INNOVATION PANELS

These Development Innovation Panels will bring the most experienced development practitioners from the Province and the country together with

* relevant science and technology experts,
* government officials and
* community leaders

for the purpose of identifying the highest priority development needs and opportunities within the different DOMAINS or problem areas of development identified for the Eastern Cape. The Panels will also establish in broad outline the particular cutting edge technologies that are presently on offer around the world and identify those particular approaches that need to be further adapted, field tested and optimized in different of communities.

These Development Innovation Panels would also be asked to begin the immense task of gradually rewriting all those standards for infrastructure, the built environment, settlements, food supply, manufacturing processes which are judged to interfere with the implementation of minimum cost/maximum benefit approaches to development, particularly in rural and peri-rural communities.

**Where major obstacles to progressive development are discovered, these Panels will be asked to assume a leadership role in the removal of all scientifically baseless obstacles to the use and roll out of low cost/high benefit appropriate technologies.** In some situations, it may be possible to create lower cost alternative rural standards and/or set asides for housing, schools, clinics, water supply, roads, dams, etc in rural communities.

Lastly, these Development Innovation Panels are charged with providing technical, commercial, governmental, political, and community decision makers with the support they need to select of assemblages of technologies and socio-economic approaches that optimize the interests and factor advantages of the communities and/or market segments they are mandated to advance. These Development Innovation Panels are also responsible for minimizing and/or overcoming any obstacles interfering with implementation of optimized technology packages once they have been piloted and approved for roll out.

The proposed IDEAS organization and programme is desperately needed in the Eastern Cape to function as a well-resourced and protected institutional channel, comparable in many respects to the Manhattan Project organized by the Allies toward the end of WWII with the overriding objective of creating the A bomb before the Nazis. The Apollo Project was America’s cold war race with the Russians to beat them in landing a man on the moon and returning him alive to earth as proof that the capitalist Military/Industrial/ University Complex had greater mastery over space science than its socialist competitor.

The challenge to the survival of South African civilization posed by acute poverty, worsening unemployment, global warming, the peaking of oil production and the end of the era of cheap hydrocarbon fuels is actually a far greater challenge than the race to build the A bomb before the Germans, or land an American on the moon before the Russians.. In the US example, it was first necessary for the American people and their leaders to acknowledge they faced a life or death threat to their collective survival to plan and implement the Manhattan and Apollo missions. Nest it was necessary for the political, military, industrial and university leadership to unify and give the appointed leaders of these missions – particular the Manhattan Project - the authority they needed to instantly over ride all normal obstacles to the imperative of beating the Germans to the A Bomb.

Development Innovation Panels, under the supervision of IDEAS management, are mandated to insure that the objectives of the FEED Strategy are not frustrated by the business-as-usual attitudes of conventionally minded civil servants and profit-over-progress attitudes of selfishly oriented businessmen and women. The IDEAS Programme becomes a rallying point for every advocate for the FEED scenario of an Eastern Cape cooperating to achieve an economy that offers work and modest prosperity for all through the discipline of ‘equitable development’.

The Provincial Government is responsible for ensuring that IDEAS, like the Manhattan Project before it, gets access to:

* the expertise and talent it requires,
* the funds needed to search the world’s knowledge base to identify the most promising Appropriate Technologies, and
* uncontested opportunity and resources it requires to pilot, optimize and then progressively implement these proven development approaches in every village, squatter settlement, small town and township in the Province,

We have every reason to expect that Development Innovation Panels in the Eastern Cape, if given the same broad powers as the Manhattan and Apollo Projects, will achieve the same break throughs and rapid innovation in response to the survival challenges facing South African civilization today that were achieved during the 20th century by a similarly challenged and mobilized American society. The proposed IDEAS vehicle may be thought of as a meta organization that is composed of different but interdependent Development Innovation Panels, each with its own staff, funding and mission to achieve specific development break throughs in particular domains, such as:

* worsening unemployment,
* family and community disintegration,
* homelessness and squatters,
* widespread and growing hunger,
* energy poverty and the end of the era of peak oil
* violence and crime,
* AIDS,
* atmospheric pollution and climate change,
* loss of arable land and topsoil to erosion
* drought and intensifying water shortages

It is obvious that each of these miscarriages and dysfunctions of Euro-American civilization in South Africa and the Eastern Cape constitute challenges that are individually and collectively threatening the New South Africa with collapse.

The IDEAS begins with the creation of a technologically powerful and competently manned "way station" on the global information superhighway through which Eastern Cape based development practitioners, researchers, businessmen and women, government officials, politicians, etc., can critically and deeply "surf" on the Internet in search of the best-case, most-appropriate Science and Technology applications from around the globe. Each Development Innovation Panel is searching for those proven technologies and approach that are uniquely relevant to the needs, environment and opportunities of particular communities and regions in the Province.

Every department, business, community, etc. which needs a world-wide perspective on the Province’s development challenges, possibilities and options would be assisted by IDEAS to critically and creatively "surf" the Internet in search of the most appropriate innovations, proven approaches and liberating (least cost) development standards which uplift the greatest number of people out of poverty at the lowest possible cost because these technologies and approaches deliver the most development bang for the buck. It is inevitable that highly stimulating dialogues between like-minded organizations and experts within the Province and around the world will be facilitated by the establishment of IDEAS as a well resourced development innovation, testing, and piloting facility.

The next step would be to create IDEAS' Fellowships that will allow both seasoned practitioners and promising students at the University or other tertiary institutions the time and resources they need to provide particular Development Innovation Panels with the staff support they require to properly do their work of research, innovation, field testing, optimization, and dissemination of the those technologies and approaches that create the most jobs and add the most value to the economy of the Eastern Cape.

10.4 FREEING THE PROGRAMME FROM INTERFERENCE

The political leadership of the country needs to be at pains to minimize interference in the IDEAS Programme by reactionary elements and negative attitudes that are generated by today’s hyper-politics and unresolved conflicts between groups dreaming of very different future South Africas. The IDEAS Programme is not asking for, nor would it ever be given, a series of blank cheques. Its mission is to enable the disadvantaged majority of the citizens of the Eastern Cape to benefit personally and equitably from the global knowledge base. Therefore, **IDEAS aims to bring the Science and Technology capacity of humanity to bear on the complex task of simultaneously providing full employment and equitable development to the unemployed and impoverished majorities in the Eastern Cape when the resources of land, water, energy, investment capital, expertise, etc. available per citizen is diminishing .**

Is it not possible to apply our common heritage of science and technology, both traditional and modern, to the task of creating a soul-satisfying civilization within the per capita resource constraints that today constrain the future development of South Africa and the Eastern Cape. By constraints are meant the present average resource base per capita in land, water, energy, labour power, public and private monies, cattle, sheep and goats, trees, vehicles, foreign exchange, aid funds, professionals, government workers, etc.

It is a crime against humanity for the people of the Eastern Cape to needlessly suffer from hunger, thirst, drought, homelessness, sickness, unemployment, poverty, political and bureaucratic oppression, etc. when the appropriate technological and organizational means to overcome all of these tragic problems of omission and commission have already been invented and proven somewhere else on the planet. Instead of waiting 50 or 100 years for a particular socio-technological innovation to be belatedly recognized and transferred to the Eastern Cape, the goal of the proposed IDEAS Programme is to use computers, search soft ware, and the Internet to profoundly accelerate the rate at which knowledge gets converted into experiments that are assessed by applying Afro-centric criteria and standards.

10.5 GAINING PARITY

One way to focus clearly upon the power inherent in the proposed IDEAS Programme is to imagine the radical changes in the form and content of a future South Africa if Afro-centric traditionalists had the same access to the world system of science and technology as the "chiefs" of the Euro-centric corporations – like the Anglo American Corporation – that today dominate the economy of the country. Ultimately, the trajectory of development is deeply dependent upon what is known to be technically and organizationally possible, which is to say, upon the degree of access to the state of applied science and technology.

If culturally traditional South Africans gain science and technology parity with the Euro-"modernists" in the government and private industry, or the corporate chiefs of the World Bank and the OECD, then we will be well on our way to "equitable development" within a completely changed New World Order in which scientific and technological know-how becomes democratically accessible on more or less equal terms to all the citizens of the world.

11. Full Employment through Equitable Development - FEED FOR AND BY THE PEOPLE: a Summary of the Potential Benefits and Costs of the Proposed FEED Strategy

The FEED Strategy proposed by the authors is a complex strategy. We will conclude with a simple "thought experiment" and a "guestimate" on how many new self-employment and/or formal employment opportunities would be created if the proposals contained within this document were seriously implemented by leaders with the requisite political will, popular support and ample resources.

11.1 TYPICAL IMPACT ON FOOD PRODUCTION

If each of some 700 000 non-farming urban residing families in the Eastern Cape spends an average of +/-R1200 a month on food, or about R15 000 a year, then we get a food expenditure on the order of R10 500 000 000. If Eastern Cape farmers capture and supply 50% of this Provincial demand for food, then about R5,000,000,000 worth of food would have to be grown and supplied by farmers residing in the Province. If 60% of the gross income from the sale of food goes to Provincial farmers in the form of wages, income and profits (R3 billion), then some 120,000 farmers would earn on average +/-R25 000 a year from small scale family farming. If each of these 120,000 farmers care for six dependents, then 720,000 residents of the Province or about 20% of the population could be economically sustained through the aggressive promotion of small-scale food production for the Eastern Cape market. The food products include chickens, eggs, cooking oil, potatoes, rice, sorghum, milk, cheese, goats, sheep, cattle, maize, beans, vegetables, fruit, nuts, etc.

If we include the present market for food within the rural communities of the Province, there are another 3,500.000 residents or 700 000 households which spend an average of +/- R750 a month or another +/- R525,000,000 (per month x 12 months =) or about R6.3 billion a year. If 50% of this monthly expenditure on food by rural households is met by nearby small farmers (R3.15 billion), and some 70% of this R3.15 expenditure on food stuffs or R2.2 billion a year. That means that about R180 000 000 a month gets paid to small farmers and farm workers. If village farmers earn an average of R1,000 a month then there is the potential to create an additional

180 000 small farming opportunities if all of this rural demand for food is meet by local production for local consumption.

The total on farm employment that is potentially created by meeting the combined rural and urban demand for food within the Eastern Cape comes to 400 000 employment opportunities.

11.2 SUMMARY OF PROJECTED TOTAL BENEFITS

The figures given in the table showing Projected Benefits of the FEED Strategy were worked out for Swaziland. New projections need to be made for the Eastern Cape portion of the South African economy. (if the estimated benefits for Swaziland are multiplied x 9 they will give some idea of the expected benefits to be gained by the people of the Eastern Cape with a population that is approximately 9 times larger than the population of Swaziland.

The authors of the FEED Strategy are convinced that if the proposals made in this document are rigorously put into practice with a good spirit and there is little or no resistance to the revitalization of the land based rural economy, then the following numbers of new employment opportunities will be generated:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Individuals economic active | Total size of population | Average size of family | Number of households | Typical family cash income |
| Direct Small FarmProduction | 100,000 | 275,000 | 8 | 35,000 | 5,000To 12,000 |
| Rural SubsistenceFarmers | 100,000 | 300,000 | 6 | 50,000 | 2 400 to 5 000 |
| Rural Services to Rural Residents | 22,000 | 75,000 | 5 |  15,000 | 5000To 15,000 |
| Urban/Peri-Urban Wage Earner (gov't, pvte sector,retirees) | 70,000 | 325,000 | 6 | 30,000 | 15 000To 40 000 |
| Peri-Urban Residents (self-employed within Informal Sector) | 40,000 | 150,000 | 5 | 30,000 | 1800to 3600 |
|  |  |  |  |  |  |
| TOTALS for Swaziland | 332 000 | 1 100 000 population |  | 160 000 households |  |
| **TOTALS for Eastern Cape (x 9)** | **3 000 000** | **+/- 10 000 000** |  **Avg family size of 5** | **2 000 000**  |  |
|   |  |  |  |  |  |

The authors lack up-to-date information on the actual household income and expenditure figures for Swaziland. It is estimated that less than 150 000 Swazi adults are today economically active (earning in cash or kind more than R1 000 per year per number of dependents).

The FEED Strategy as presented here gives the broad outlines of how to more than double the number of economically active Swazis in a decade and also how to gradually increase the average income in the form of cash or kind of all economically active Swazis.

The authors of the FEED Strategy are available to advise and assist the traditional and political leadership, government officials, NGO activists, and the people’s representatives to make full employment within a framework of equitable development plan and process a reality in Swaziland.

We thank the organizers of this Vusela for providing us with an opportunity to share our ideas and experiences and perhaps to be of service to the great struggle to create an ever-advancing civilization that will enfold all of mankind within a just and liberating economic system.

It is our hope that the FEED Strategy will be critically reviewed and then adopted by the three tiers of government in the Eastern Cape. The authors will continue to refine the socio-economic data on which the FEED Strategy is based. We are eager to dialogue and debate the value and the viability of the FED Strategy as illuminating a path leading to full employment through the practice of equity and democratic consultation here in the Eastern Cape.