

02

THEORETICAL

APPROACH



fig.21. FOCUS OF INTERVENTION IN
HISTORICALLY SIGNIFICANT FABRIC

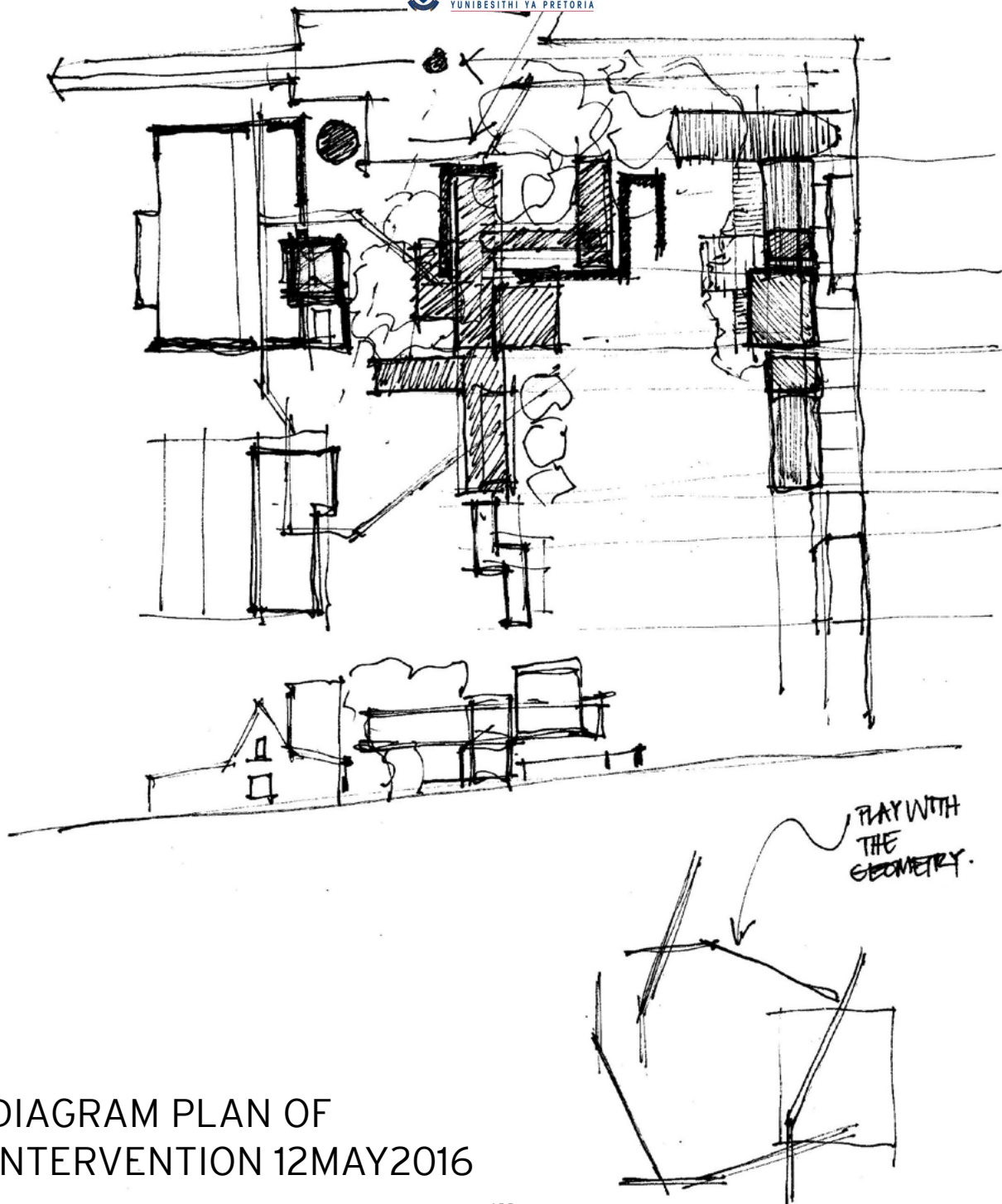


fig.2.2. DIAGRAM PLAN OF
INTERVENTION 12MAY2016

ISSUES IN SOUTH AFRICAN AGRICULTURE AND AGRICULTURAL EDUCATION

There are numerous problems facing South African agricultural development which have a severe effect on the environment and livelihoods of the citizens of the country.

South Africa is regarded as having the third largest biodiversity in the world. However, species extinction rates in this country are high due to unsuitable farming practices, deforestation, high population growth, and industrial development. (Department of Agriculture, 2002:8)

The Department of Agriculture developed a Policy on Agriculture in Sustainable Development, which aims to foster sustainable development in the agriculture sector by addressing the three main aspects of sustainable development: social, environmental, and economic. In Africa, and specifically in South Africa, agriculture is the sector from which most rural communities derive their financial income. It is also the primary source of food for both rural and urban communities.

Agriculture plays a crucial role in sustainable development and in hunger and poverty eradication. (Department of Agriculture, 2002:3)

The greatest challenge that agricultural development faces is the means by which agriculturalists gain their knowledge in terms of the practice of sustainable agriculture. According to research done by Mutizwa Mukute in 2010, the “approaches to, training and perception of sustainable agriculture in the region are currently rather negative, under-resourced and weak” (Mukute, 2010:4).

There lacks structure between farmers around improving their practices and situations in terms sustainable agriculture. Governments aren’t sufficiently supporting extension programs to develop sustainable agriculture to achieve a socially, ecologically and economically sustainable environment.

One of the key factors to create a sustainable agriculture development sector, according to (Rukuni, 1994) is:

Human capital in the form of professional, managerial and technical skills produced by investment in schools, agricultural colleges, faculties of agriculture and on-the-job-training and experience.

It is clear that education is the answer to improve the agriculture sector in terms of sustainable development. How farmers learn plays a major role in the development of a sustainable agricultural sector.

In his research document, Mukute (2010:5) explores the value of 'people centred-theory and practice'. Cultural historical activity theory (CHAT) can be applied as a bridging approach between the paradigms of learning and practice.

CHAT operates at two levels, allowing people to learn from more knowledgeable people, as well as from peers, in order to better understand and put that understanding into practice.

For his research, Mukute (2010:5,6) chose case studies of three sustainable agriculture sites, namely:

1. Zimbabwe: the Schools and College Programme (SCOPE). The SCOPE initiative was started in the mid-1990s with the support of the Ministry of Education. The initiative promoted "sustainable land use of school and college grounds and homesteads in the surrounding communities" and aimed to integrate these principles into the school curriculum. Their aim is to establish permaculture in the schools and surrounding communities;
2. Lesotho, MFS: a home grown sustainable agriculture practice called the 'Machobane Farming System' has been practised for the past fifty years. The practice involved using organic fertilizer which is locally produced, ensuring perennial vegetation cover, a cropping pattern adapted to the seasons of the year, which includes nitrogen fixing legumes, cash and food crops, natural pest control, relay cropping, and mass education;
3. Isodore, South Africa: South Africa started producing various organic products in the 1990s. The Isodore Organic Farm established a network of organic farmers in Durban, South Africa, to grow and market organic produce, to share knowledge, seed and tools, and to provide training to interested new organic farmers.

The agricultural site of Irene Dairy Farm is a suitable location for a model farm for sustainable agricultural practices by forming a base where aspiring agriculturalists can learn from more knowledgeable practitioners and develop their skills to practise agriculture in a more sustainable and holistic manner.

The best example similar to this strategy is Grootfontein Agricultural Development Institute in Middelburg, Eastern Cape. Their vision:

Is to be the world's largest centre of excellence in training, research and extension in small-stock and in agricultural production in semi-arid to arid climates. To provide (i) world-class agricultural education and training by highly-skilled lecturers, (ii) innovative research led by expert researchers in partnership with producers and industry, and (iii) effective and relevant extension that build the capacity of farmers to innovate and engage in sustainable production toward household food security and widespread wealth creation within rural communities. (Department of Agriculture, 2010:2)

The means by which the facilities at the Irene Dairy Farm will be used to address this task are to remodel the buildings and facilities that have over time become under-utilised and whose functions were lost or which do not function optimally. The word remodelling is used as an umbrella term to encompass the various ways by which heritage significant buildings can be given a new life, while also being a witness to the rich history of the farm.

Synonymous terms referring to the type of architectural work traditionally called 'remodelling'. Terms such as 'architectural recycling'; 'environmental retrieval'; 'adaptive reuse'; 'retrofitting'; all of which are superficial and should be rejected because they do not represent any conceptual change with respect to previous stages of remodelling activity - reuse and improved technical performance have always figured among the remodeller's goals. (Machado, 1976:46)

Although Rodolfo Machado would argue that adaptive reuse is not a sufficient term to define the approach of remodelling, it can be seen that his theory is rather old-fashioned due to the age of the article, which was written in 1976. Since then the concepts of 'architectural recycling', 'adaptive reuse' and 'retrofitting' have become an integral part of the ways in which architects address heritage, and specifically culturally significant buildings.

The basic definition to "reuse and improve technical performance" (Machado, 1976:46) is fundamental to all of the above mentioned approaches.

The means by which the Irene Dairy Farm will be turned into a place of learning instead of just a commercial and tourist entity will be an adaptive reuse approach.

ADAPTIVE REUSE

Historic buildings are witnesses to our past and give character to our built environment and currently serve, or could serve, practical functions. "In the pursuit of sustainable development, communities have much to gain from adaptively reusing buildings"

(Department of the Environment and Heritage, 2004:2).

Avoiding demolition and reconstruction are major factors contributing to the sustainable development of adaptive reuse. “Recycling a valued heritage place makes adaptive reuse of historic buildings an essential component of sustainable development” (Department of the Environment and Heritage, 2004:2).

According to Australia’s (Department of the Environment and Heritage, 2004:2):

Adaptive reuse is a process that changes a disused or ineffective item into a new item that can be used for a different purpose. Sometimes, nothing changes but the item’s use.

Adapting a historic building should have minimal impact on the heritage significance of the building and its setting. The success of built heritage adaptive reuse projects are the projects that “respect and retain” (Department of the Environment and Heritage, 2004:3) the heritage of the historic building in a sympathetic manner by adding a contemporary layer that gives value to the future of the building.

There exist policies to manage change and development to heritage places. Some standards to these policies are (Department of the Environment and Heritage, 2004:3):

- discouraging ‘facadism’ - gutting the building and retaining its facade.
- requiring new work to be recognisable as contemporary, rather than a poor imitation of the original historic style of the building.
- seeking new use for the building that is compatible with its original use.

The benefits of adaptively reusing historic buildings has a major positive impact on sustainable development, and these benefits include:

ENVIRONMENTAL:

The environmental benefits when a historic building involves adaptive reuse are significant, “as these buildings offer so much to the landscape, identity and amenity of the communities they belong to” (Department of the Environment and Heritage, 2004:3). Another environmental benefit is the retention of the original building’s ‘embodied energy’, which is defined as the energy consumed by all the processes associated with the production of the building.

SOCIAL:

To keep and reuse historic buildings has long-term benefits for the people who consider these buildings to have value. When executed in an acceptable manner, the cultural significance of a building can be restored and maintained and the building's continued survival can be ensured. Counteracting the neglect and disrepair of a building, when adaptive reuse is applied in a sympathetic way, the historically significant building can continue to be used and appreciated by current and future generations.

ECONOMIC:

The financial benefits of reusing and adapting historic buildings are obvious due to the savings that are a product of avoiding demolition of the old building and the construction of a completely new building. The Australian (Department of the Environment and Heritage, 2004:5) describes this tendency:

While there is no definitive research on the market appeal of reused heritage buildings, they have anecdotally been popular because of their originality and historic authenticity.

PROMOTING INNOVATION:

Adapting and reusing historic buildings presents a great challenge for architects to create innovative solutions when using historic buildings for a new application. The popularity of adapting historic buildings has a positive effect in architecture, as more and more examples are being produced. This is a testimony to how adaptive reuse can be applied to protect and retain the cultural significance of the historic built fabric.



fig.2.3. PORT ELIZABETH OPERA HOUSE (Sue Hoppe, 2007:wikimedia.org); (the matrixcc, 2015)

THE BURRA CHARTER OF 1999

The best practice guidelines were set out by the the Australia ICOMOS Charter for places of Cultural Significance. The Charter was first adopted in 1979 at the historic south Australian mining town of Burra. Their vision for conservation and the reason for conserving historic buildings is described as (Australia ICOMOS, 2000:1):

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to the community and landscape, to the past and to lived experiences.

The Charter advocates a cautious approach to change (Australia ICOMOS, 2000:1):

Do as much as necessary to care for the place and to make it usable, but otherwise change it as little as possible so that its cultural significance is retained.

In the Burra Charter cultural significance is described as (Australia ICOMOS, 2000:12):

A concept which helps in estimating the value of places. The places that are likely to be of significance are those which help [form] an understanding of the past or enrich the present, and which will be of value to future generations.

They continue to elaborate on the meaning of cultural significance, which is the (Australia ICOMOS, 2000:12) "aesthetic, historic, scientific or social value for past, present or future generations".

Included in the aesthetic value of a place are the aspects of sensory experience, "the smells and sounds associated with the place and its use" (Australia ICOMOS, 2000:12).

Considering the activities and location associated with the Irene Dairy Farm, the sensory experiences of the farm and its function are a major contribution to the significance of the site. The ruination of these sensory experiences will be the failure of the intervention, so the approach will have to consider this. The approach will be applied in a sensitive manner: to intervene but not to interfere. Anything that is suggested on the site and on the functions will take this approach to heart and be applied in a sympathetic manner.

The following diagram depicts the process by which any architect or designer should apply the Burra Charter when working with culturally significant buildings.

The Burra Charter Process

Sequence of investigations, decisions and actions

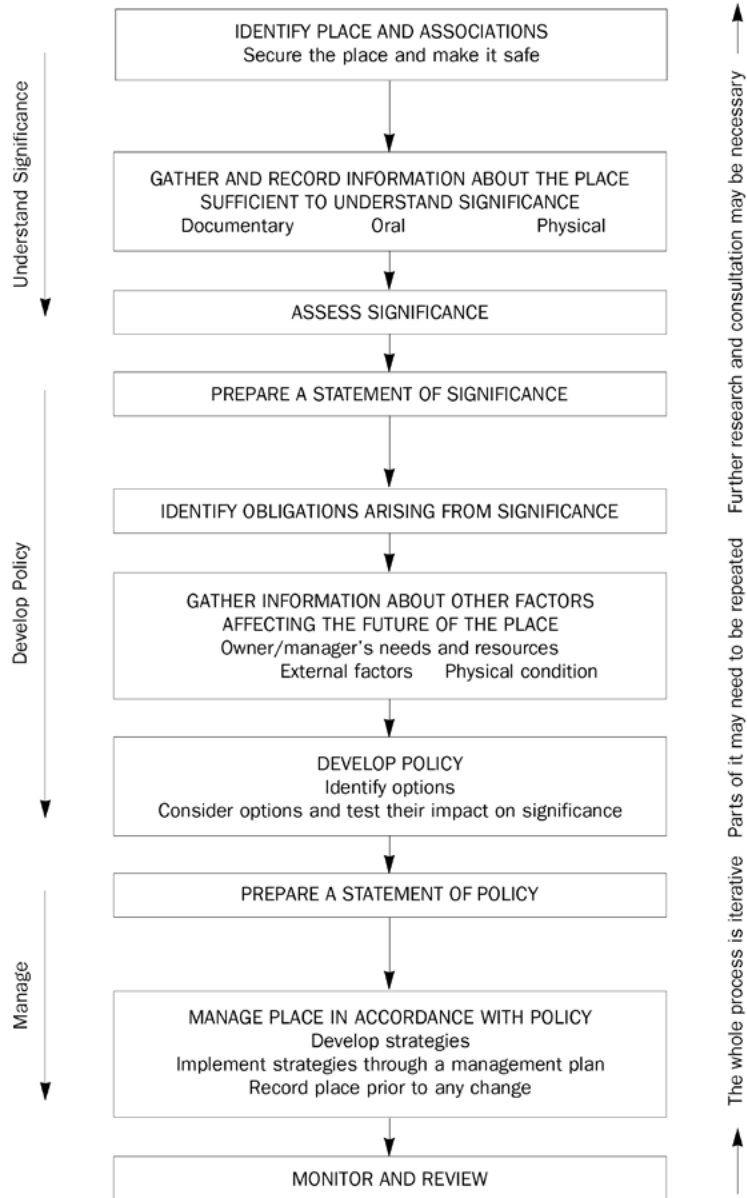


fig.2.4. BURRA CHARTER PROCESS (Australia ICOMOS, 2000:10)