Chapter VI.5
Planning for Education and Work: Alternatives and Issues

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1 Introduction

Planning is vitally important in the world of education and training. There are immense and ever-increasing pressures to provide more and better services. Policy-makers in many countries are attempting to fundamentally restructure the ways that youth and adults prepare for employment in order to make more effective use of limited resources, expand opportunity, help alleviate poverty and address the skill demands generated by an ever-pervasive global economy. Policy-makers look to planning as a means of bringing programme development and resource allocation and use into line with labour-market and social development objectives. However, there is considerably more awareness today than in the past of the complexities of planning for technical and vocational education and training (TVET). The outcomes of many national planning efforts undertaken in the past can best be described as highly mixed. Overall, there has been a general failure to take fully into account the critical importance of implementation. Many planning efforts have gone astray because decision-making was too remote from the practical issues of programme implementation. Today planning is approached with a greater awareness of the methodological limitations and complexity of the issues confronted.

Planning activities continue to be central to TVET. Despite inherent constraints and limitations, policy-makers within TVET have long-relied on various planning models to supply useful information for making decisions about the implementation of programmes. Typically, TVET planners are involved with formulating policy, exploring the application of various education and training options, determining the level and use of financial and human resources, addressing the concerns of different constituency groups, developing and implementing programme plans and identifying and assessing education and training outcomes. The purpose of this chapter is to examine basic TVET planning alternatives and highlight the fundamental assumptions, limitations and issues underlying their application. We will also examine measures planners are taking to address the conceptual, methodological and technical constraints that they face in the economic, social and political space within which they work. We will also explore alternative planning approaches that offer promising options to TVET decision-makers. These alternatives attempt to go beyond some of the common assumptions that have traditionally driven much of TVET planning and project a more application-guided, inclusive approach to planning.

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2 Levels of Planning

Planning is applied at three basic levels (Herschbach & Davis, 2000). Macro-planning is conducted at the national level usually through ministries of planning or labour and is used to establish nationwide priorities for the use of education and training resources.

In the decades following the Second World War, macro-level planning also came into prominence among international development agencies, such as the World Bank, the Organization of American States (OAS), the Organisation for Economic Co-operation and Development (OECD), the International Labour Organization (ILO) and UNESCO, among others. Development economists were enamoured with the prospect of linking 'objective' data with education and training investment decisions. Macro-planning continues to be widely applied today, but with greater realization of its inherent limitations (Bertrand, 2004; Woodhall, 2004).

Macro-level planning is used to make decisions, for example, about the relative investment in elementary in relation to investments in secondary, vocational or tertiary education; or planners examine the comparative advantages of investment in one type of TVET over another. Planning projections tend to be long term and economic criteria figure large in decision-making. Manpower forecasting, cost/benefit and cost-effectiveness studies are the methodologies most commonly applied.

Social demand data also are commonly used for macro-level planning, especially in countries with less centralized economies. In this case, planning decisions are primarily political rather than economic in order to support the demands of specific groups or to address national priorities. Increasingly, combinations of data are used by planners, and there is less overall reliance on a single data source or planning methodology in the search for better results. After over five decades and more of international experience with national-level macro-planning, however, considerable scepticism continues to prevail over the usefulness and reliability of planning projections (Bertrand, 2004; Farrell, 1997; Woodhall, 2004). The acceleration of economic globalization accompanied by technological change, moreover, makes it increasingly difficult to engage in meaningful macro-level planning regardless of the methodology employed. Established national plans projected into the future become increasingly irrelevant.

Today, there is considerably more focus on micro-level planning applied at the local or regional level, incorporating the use of qualitative methodologies and participatory approaches to planning. In contrast to macro-level planning, there is a shift in emphasis from examining the optimal potential use of educational resources across the total national educational and training sector to making regional or local implementation decisions. One focus is on the relative value of one kind of TVET investment over another *given local capacity to implement programmes*. Planners want to gauge the probability of successfully implementing programmes given available local resources, specific labour-market needs, potential student groups to be served, the capacity of facilities, local employer relations and placement opportunities, among a number of factors conditioning the capacity to develop and maintain

local TVET programmes. There is less emphasis on the regulation and control of TVET and more on exploring the multiple ways to potentially enhance workforce preparation.

Micro-level planning makes use of cost-effectiveness and cost/benefit studies to assess the relative value of one decision over another. Micro-level planning also makes use of elements of consensual and strategic planning to assess environmental factors, involve stakeholders, clarify objectives, analyse critical problems and identify possible courses of action. Interactive and contingency planning models tend to be used.

A limiting factor concerning macro-level planning is the inability to effectively transfer policy decisions into action at the implementation level, even if long-term projections are valid. Macro-level planning tends to overlook critically important organizational characteristics and local conditions that impact decisively on implementation. It does little good, for example, to know that a particular TVET programme intervention theoretically yields greater rates of return based on limited sampling if it is difficult to implement the programme given local conditions. TVET is conducted within a larger organizational structure that establishes the context for implementation, including, for example, policy and planning units, support agencies and line agencies, as well as individual institutions delivering services. Often employer or community groups play a decisive programme-development role. Micro-level planning focuses on bringing together organizational components and developing communication networks and problem-solving structures.

Programme and curricular planning is yet a third level and occurs primarily at the local or institutional level. The focus is on operational and programming elements, such as management structures, staffing patterns, student selection, course construction, instructional methods, class size and resource allocation, among others. Planners want to optimize the internal efficiency of TVET programming by determining what combination of operational and programming elements will produce the best results for a given resource. A great deal of interactive planning is used to continually assess programme implementation. To be sure, local educators may work from a planning document prepared at a higher organizational level, but this level of planning requires analysis and action at the local level in order to avoid static and faulty implementation.

3 Rational Planning Perspectives

Planning helps to develop an education and training map, a picture of where we are now and plausible programming avenues to follow. It indicates how to get to where we want to go, as well as the roadblocks to be overcome and the means that we need. There are multiple planning models to consider, each better for one purpose more than another, and each with its strengths and limitations. The literature in the field generally supports three broad categories of planning models: rational; interactive or consensual; and the political (Adams, 1991, 1994; Farrell, 1997).

What are termed 'rational' or 'technicist' planning models, including manpower planning and variations of cost/benefit and cost-effectiveness analysis, are the most widely used at the macro- and to a lesser extent the micro-level. Rational models are characterized by strong agreement on a set of externally defined policy objectives, or goals that are taken as givens and constitute the starting point of the planning process that itself is assumed to be linear. It is also assumed that the planning environment is stable and that sound educational and training projections can be made into the future—both highly questionable assumptions. Various methods are used to collect and analyse labour-force data, which are used to formulate decisions about the kind, scope and character of projected education and training. Since the models themselves are thought to be scientifically and objectively defined, they are considered to be universally applied with little modification, regardless of the economic, social or political context of the individual country or locality. Data collection and analysis tend to be limited to quantifiable indicators. Little attention tends to be given to cultural and human factors in planning calculations and, when such factors are considered, they tend to be factored in as relatively stable, invariant variables with a set, assigned value. Decision-making tends to be centralized, top-down and expert driven (Adams, 1994; Bertrand, 2004; Farrell, 1997; Herschbach & Davis, 2000; Woodhall, 2004).

Rational planning models are still widely used today, particularly among economists attracted by the prospect of making decisions for optimizing resource-use based on 'hard' data, but overall within the planning community there tends to be less acceptance at face value of the results. There is greater emphasis on the use of a combination of information from different sources, including the application of interactive and political planning models. Some, as Bertrand (2004) and Godfrey (1997) observe, question whether more traditional concepts of rational planning have any valid current use.

3.1 Manpower Planning

Among rational planning models, manpower planning or assessment in various forms is widely used by TVET planners and policy-makers. Its primary use in the past was by planning agencies at the national or regional level to establish both short- and long-term macro-level education and training priorities. Education and training targets, along with resource allocations, are accordingly assigned to the various service providers with responsibility for labour-force development. As was previously mentioned, today as an approach to macro-level forecasting manpower planning on a national scale has fallen somewhat out of favour because results are often highly inaccurate. Long-term forecasts tend to be off the mark, and there is greater awareness of labour-market issues that go significantly beyond forecasts and that require additional planning insights: coping with rapidly changing labour requirements; issues of unemployment; lack of opportunity; poverty; and the efficient operation of institutions, for example. Applications of manpower

planning, nevertheless, continue to be used to examine areas of critical need, and for micro-level planning at the institutional or industry level as a training management and guidance tool. Manpower planning also continues to be widely used in developing countries because of the pressure to make optimal use of very scarce human and financial resources, even when forecasts are inaccurate. The emphasis today, however, is on making available timely and relevant information that can be used for immediate programming decisions; there is considerably less emphasis on long-term forecasting (Bertrand, 2004).

3.1.1 Supply and Demand Match

Planning procedures are straightforward (Bertrand, 2004). Manpower assessment is based on the idea of matching the supply of educated and trained individuals with current and projected labour-market demand. A good match results in the efficient use of resources and contributes to maintaining the economy. Workers are classified in different economic sectors and occupations according to the type of work that they perform. Estimates of education and training requirements are linked with the classification. Through survey methods, labour requirements are identified and projected into the future based on assumed economic growth trends. Birth rates, immigration and migration rates, and death and replacement rates provide an indication of the future supply of workers. The supply of potential workforce entrants when compared with projections of future labour requirements gives an indication of education and training requirements.

These requirements can be broken down by region, sector, occupation, job or any other meaningful unit of analysis. The projected requirements are compared with current and projected supply, giving an indication of future deficits or surpluses in the supply, and thus the magnitude and kind of TVET required. TVET training targets are accordingly set.

3.1.2 Issues and Constraints

The planner is confronted with a number of issues in the collection and use of manpower data. Among the most intractable are the quality and appropriateness of data. In many countries, reasonably complete data that are reliable over time are difficult—if not impossible—to obtain. Projected economic growth patterns and labour-force forecasts are often little more than informed guesswork. Moreover, labour-market forecasts, regardless of their immediate validity, tend not to be reliable over time, even when there are relatively sound initial data. As forecasts are projected into the future, projections become less reliable. Training demand is a product of economic activity that is continually subject to change. Technological innovation, government policy positions, the availability of investment capital, recession or economic expansion, and international competition are among other changing factors that impact on both immediate and long-term education and training requirements. The potent influence of globalization is challenging all planning models based on data confined to national boundaries.

In dynamic, rapidly-changing economies in particular, projections tend to be too static to capture labour-force demand spurred on by change. Projections at one point in time tend not to stand up as time goes on and often are too erratic for decision-making (Dougherty, 1989; Herschbach & Davis, 2000).

Even if reliable data are available, it is often difficult to tie findings directly to programme design. One reason is that most data collected through government agencies are simply aggregated at too high a level for programme development uses. A second reason is that even if data were sufficiently disaggregated, rarely is there sufficient information about either the quality of the labour force or of the education and training supply to make good decisions. It is not enough to know quantitative requirements without also being able to assess the quality of both the system that prepares workers and the relative competencies of the existing workforce. Without this knowledge, the potential to structure TVET programmes so as to contribute to improvement of labour-force performance is limited (Godfrey, 1997).

Similarly, gross data masks important ways that individual employers mould their workforce. There are over-simplified assumptions about education and training and the dynamics of job structuring (Bertrand, 2004). Data collection and analysis is based on the assumption that there is a highly segmented or multiple-tiered labour market with strictly defined, stable work categories. The categories that define how data are collected, however, may not represent the ways that tasks are actually functionally configured in the workplace by individual employers. The products and production practices of individual firms define work skills in ways that spill across formal categories used to collect data. In actual practice, there may be considerable substitution and on-going change in the workforce. Unless there is sensitivity to this fact, the tendency is to view programme and course design in very narrow terms.

There also are many intervening factors beyond the scope of the planner that complicate the use of labour-market data, even if they are reliable, sufficiently detailed and stable over time. Risk aversion, government tax incentives, protectionist import policies, minimum wage legislation, wage differentials, guaranteed employment schemes, occupational mobility, the off-shoring of job functions—these and others are examples of intervening factors that influence the market place, often in unanticipated ways. Not only do these factors condition training demand at a given time, but they also make it difficult to obtain, interpret and use reliable labour-market information that is reasonably valid over time (Godfrey, 1997). There remain significant gaps in our knowledge of how to link outside intervening factors with planning models. Manpower planning tends not to be sensitive enough to capture the full impact of such factors in ways that inform decision-making. The relationship of such intervening factors one to another and to other planning variables changes over time.

3.2 Toward Better Manpower Planning

Given these limitations, manpower planning needs to be approached with caution. Many of the applications today try to account for the limitations (Bertrand, 2004).

One option is to limit planning to a few, crucial occupational sectors and to collect more data in greater scope and depth. This will yield more information about structuring specific TVET programmes. Another option is to limit forecasting to short-term, micro-level planning in key industries, specific localities or regions. Councils of local employers and service providers work together to adjust TVET to what are perceived to be immediate, real-employment needs in a given catchment area (Farrell, 1997).

Focused, disaggregated data over short-term projections applied to a limited number of occupational categories are reasonably reliable. Perhaps the most promising approach today is to shift emphasis from forecasting potential labour demand and setting targets, to improving and speeding up access to data so that service providers and employers alike have information readily available for making decisions. The emphasis has shifted from centralized training decisions, to facilitating the supply and use of data in the local training market. Market signals in the form of job vacancies and surpluses are used to determine market changes in anticipation of adjustments in the supply of labour (Herschbach & Davis, 2000). Godfrey (1997) argues that: 'Detailed forecasts are not needed. What is needed is reliable and timely information about the state of the various labour markets for qualified people and a structure of incentives that will reward both those who acquire and those who impart skills' (p. 208).

Mechanisms for tracking programme results are helpful. Data about the qualitative improvement of the labour market are fed back into the planning process. Certification systems linked with planning, for example, are used to gauge competence but also to incorporate changing skill requirements through re-certification. Effective certification programmes link closely with the work environment and are a primary check on education and training relevance and quality. The link of certification with planning provides a powerful tool for decision-makers (Herschbach & Campbell, 2000).

Yet another response to incomplete or limited data is to shift micro-level planning from highly specialized training to more generic technical categories that help build the foundation for future, specialized training near or at the time of employment. The major focus of pre-employment preparation is on the acquisition of requisite academic and technical skills that enable individuals to pursue further preparation. Short-term, specialized work preparation is carried out in conjunction with employing establishments, often at the work site.

3.3 Cost/Benefit Analysis

Largely promoted by economists in international development organizations, cost/benefit analysis is a way to link decisions about TVET supply with economic criteria (Share, 1999; Woodhall, 2004). Choices about potential TVET interventions are based on the assumed monetary return of a particular TVET programme over its projected life-span. TVET is treated as an investment, and programmes yielding

an apparent higher return in relation to cost are considered the best investments to make. Both private or social benefits and costs can be calculated. Social benefits include increased productivity, better health, greater tax revenue, increased opportunity for marginalized populations, among others. Private rates-of-return give an indication of the incentive for individuals to invest in TVET, and include such benefits as higher wages, promotion opportunities, employment stability and occupational mobility.

Typically, benefits and costs are figured by comparing the projected lifetime earnings that individuals can expect from different types and levels of TVET investments with the associated private and social costs. Factors that are typically used include direct and indirect instructional costs, teachers' salaries, tuition fees, material, equipment and facilities maintenance and upkeep. Both benefits and costs are converted into monetary terms discounted to present value. Interest and inflation rates also are calculated (Woodhall, 2004).

Cost/benefit, also commonly referred to as rate-of-return, analysis tends to be primarily conducted at the national planning level because of the considerable resources and time required. The results are used for making national or regional resource allocation decisions. Comparisons, for example, may be made between primary, secondary, vocational and tertiary education nationwide. Or comparisons may be made between different kinds of TVET offerings, but this is less common. The attempt is to determine the effectiveness of past resource use measured by wage differentials, with those education and training interventions yielding placements at higher wages considered as more favourable investments.

3.3.1 Questionable Assumptions

There are several basic assumptions fundamental to cost/benefit analysis that are highly questionable (Bennell, 1998; Herschbach & Davis, 2000). First, although segmented labour-market theory is largely rejected, the extent of assumed potential substitution in the workforce is often carried to extremes. One kind or level of education is assumed to be capable of preparing individuals for multiple work roles, with the question of specific skill acquisition largely ignored. Even though studies often show high rates of return for elementary education, for example, the act of simply attending elementary education does not always result in the acquisition of relevant job skills. Investments must be made in other types of workforce preparation, even if the rates of return are not so high. Electronic technicians, fitter-machinists, doctors, accountants, warehouse workmen and engineers, among many others, require specific skill training, but to know that one kind of education yields relatively high investments gives few clues to planners about the amount of investment, if any, that should be made in other kinds of education and training interventions with lower returns.

Second, wage rates are not always the best indicator of social or economic need and thus education and training investment. Social status, prejudice and tradition, government wage and employment policies, strong employer or worker groups, significant shifts in labour-market dynamics—these and other factors contribute to

policy distortions based on an analysis of wage rates alone. Market imperfections make rate-of-return studies often a poor measure of productivity and the basis of decision-making. Then again, such studies also assume that present rates of return will continue into the future, but this is unlikely to happen because the 'normal' changing balance between supply and demand modifies returns.

Another major problem with rate-of-return studies is that the methodology and data are often so flawed that the results lack validity. Widely varying time frames are often used for sampling. It also is hard to obtain complete data free of sampling bias. Indirect social variables are often overlooked (Bennell, 1996, 1998).

3.3.2 Results and Uses of Studies

Early rate-of-return studies consistently show that elementary education yields the highest return on educational investments, followed by secondary education, followed in turn by vocational and higher education. Recent studies, however, question these findings and show higher gains for both secondary and higher education. Studies of higher education point to the fact that the impact of indirect social benefits is largely ignored in much of the earlier work (Task Force on Higher Education and Society, 2000). This is a problem that appears to characterize much of the rate-of-return work in general. In the case of TVET, early studies (Psacharopoulos & Loxley, 1985; Psacharopoulos & Woodhall, 1985) generally cast doubt on its relative value when compared with investments in secondary-level general education. Technical training is more costly to implement, but studies generally do not examine all of the benefits, such as wage differentials over a long period of time. And importantly, crucial social and political factors that distort results are often overlooked. Consideration is not given to the benefit of social and occupational mobility, for example, or to the fact that wages are depressed in some occupational categories by politically enforced social norms, labour policy and practice.

In more recent studies over the past two decades comparing returns of TVET with 'general' academic programmes and schools, the findings are mixed. A number of studies show that TVET yields equal or greater returns than higher education (Bishop & Mane, 2004; Gray & Neng-Tang, 1992). In the most comprehensive study of TVET, Metcalf (1985) found that TVET investments consistently yield between 10% to 20% return, equalling or surpassing investments in capital equipment and plant and in other forms of education and training. In a comparative study of TVET in OECD countries, Cohn and Addison (1998) found that returns on TVET appeared highest in the United States, followed by the United Kingdom, with the lowest returns in the Nordic countries due primarily to flatter lifetime earning profiles. In a recent work, Bishop and Mane (2005) found that in the United States throughout the 1990s there were very high rates of return on advanced secondary-level TVET courses. There were negative effects or no significant benefits for academic, personal interests and introductory vocational courses. However, as suggested earlier, many of the studies comparing different types of schooling do not sufficiently take into account ability levels, family background and social status—factors among others that significantly impact on earnings.

TVET tends to yield higher social than private returns (Ashton & Sung, 2000). Rates of return are generally higher in developing than developed countries because of the overall scarcity of human capital. Both the private and social rates of return for women appear higher than for men when indirect benefits and externalities are fully taken into account (Woodhall, 2004).

One of the most useful functions of rate-of-return analysis is to point planners to crucial questions that should be examined. It makes planners, for example, think about the relative value of one kind of TVET investment over another, the relative cost of different staff training alternatives, the benefits of the use of one instructional modality over another or of ways to reduce training costs and increases benefits. Rate-of-return analysis is also useful for examining fee levels, the relative value of public and private TVET investments, the effects on employment opportunity, potential wastage and inefficiencies, and alternative financing practices. Perhaps most important, rate-of-return analysis helps to bolster claims for an appropriate share of education budgets with 'hard' analytical data (Herschbach & Davis, 2000; Woodhall, 2004).

Rate-of-return analysis, however, provides data that have to be used with caution and restraint. As suggested, cost/benefit analysis tells little about the optimal level of investment; it does not provide numerical targets for planners. Planners also are not given enough information to determine whether low returns are because a particular TVET programme is inappropriate to labour-market requirements (external efficiency), or because of poor programme quality (internal efficiency). Then too, estimates along with the data that they are based on can change rapidly, and labour-market distortions and externalities are difficult to deal with. Judgements should be taken as approximations that can best be used along with other forms of information. Perhaps the best that can be expected is that *indicators* are provided that are useful to consider (Woodhall, 2004).

3.4 Cost-Effectiveness Studies

Because potential earnings are not always the only, or best, indicator for making policy decisions, cost-effectiveness studies are used to broaden the scope of analysis. Included are potential, indirect 'non-economic' benefits, such as programme completion and placement rates, achievement levels, employment stability, improvement in the quality of life, job satisfaction and occupational and social mobility, among other factors. These are referred to by economists as 'spill-over' benefits or 'externalities'. It is usually easier to identify relevant externalities than to determine how best to measure the benefits, however. The assignment of a monetary value, if any, is largely informed guesswork. Non-monetary factors, such as comparisons in differences in achievement, completion rates or labour-force participation rates, are often used. Sometimes, the theoretical cost of alternative means of achieving the results is calculated.

Considerable work remains to be done to identify relevant variables and to determine how best to measure the associated direct and indirect, individual and social

benefits. Nevertheless, there is growing agreement among planners that cost/benefit studies consistently underestimate the value of educational investments, and that cost-effectiveness studies provide a more comprehensive analysis. This is especially true in the case of TVET because, overall, the population served includes a greater proportion in some countries of dispossessed and marginalized citizens who can especially benefit by the opportunities presented. The lifetime value of the spill-over benefits may be considerable. Both private and social returns may be considerable. There is increased renewed interest in cost-effectiveness studies and in issues of how best to measure the associated externalities (Woodhall, 2004).

In cases where significant non-economic benefits come into play, cost-effectiveness analysis is the preferred option. Cost-effectiveness studies are useful at the local or system level to make comparisons between different teaching methods, varying lengths of class periods, or different combinations of instructional inputs, such as textbooks, direct teacher instruction, workbooks and educational technology—human and material inputs that impact on the quality and effectiveness of instruction.

There is growing support among planners that the best way to use the results of cost/benefit and cost-effectiveness studies may be in conjunction with manpower planning and other data (Woodhall, 2004). Short-term forecasts indicate ways that the labour force can be modified to address alternative patterns of labour supply; an analysis of returns in turn yields information on the wage differentials and cost implications and benefits of new labour-force supply patterns. Combined, the planner has available information about the potential real cost of labour-market supply and demand decisions.

4 Interactive Planning Models

The limitations of top-down, rational planning models have caused planners to turn to more qualitative, participatory approaches that take into consideration human, institutional and contextual factors impinging on programme implementation. Planning activity is primarily focused at the micro, programme and curricular levels. What are called interactive or consensual planning models start with the assumption that labour-market environments are inherently unstable, that generalizations are difficult to make, and that meaningful action, and thus planning, is derived from understanding. There is no one set planning model to follow. Plans evolve through social interaction, experience, consensus and agreement. Labour-market and placement data may be used, but they are used primarily for the purpose of generating understanding rather than specifying training targets. The relevance of planning rests on agreed choices made by the individuals directly involved and affected by the decisions (Herschbach & Davis, 2000).

Interactive planning places emphasis on stakeholder involvement in shared decision-making through all phases of planning. There is considerable concern for unintended effects of decisions, and this can be checked, in part, by broad participation in planning decisions. While goals serve as the starting point of planning to

suggest direction, they are modified through an on-going, formative process of dialogue to build understanding and explore alternatives (Adams, 1994; Farrell, 1997; Herschbach & Davis, 2000; Warwick, 1980).

4.1 Planning Elements

Plans are considered tentative and are expected to evolve as implementation proceeds. Planning is conceived as an adaptive process sensitive to diverse interests, shifting power relationships and compromise and trade-offs. Successful programme implementation is gauged by the extent to which change is introduced and accommodated, stakeholder representation is achieved, and programming is sustained over time. Interactive planning incorporates a process for formulating the plan as well as strategies for implementation. While there are multiple variations of interactive planning, typical elements include the following (Finlay, 1998; Rondinelli, Middleton & Verspoor, 1990):

- Identify the relevant stakeholders; identify the planning problem and explore all aspects through the eyes of the different stakeholders.
- Develop recognition of the need to address the planning problem.
- Based on dialogue, reformulate and re-conceptualize the planning problem in terms that reflect consensus and incorporate the viewpoints of all stakeholders.
- Analyse the background and critical antecedent conditions of the problem.
- Clarify the historical sources of conflict and problems that are barriers to change and that are integral to finding solutions.
- Through dialogue, uncover the inter-subjective meaning, values and motives that are held by participants.
- Identify and clarify inconsistencies, contradictions and value conflicts; clarify ambiguities.
- Formulate a plan that addresses the planning problem while at the same time accommodates the views and agendas of stakeholders; reach consensus on the plan.
- Analyse the potential for implementation.
- Assess the potential to sustain programming in relation to financial, institutional and human resources.
- Develop strategies for implementation.
- Develop strategies for formative, on-going evaluation, modification and plan reformulation.
- Develop strategies for feedback to stakeholders and modification of original goals.
- Maintain close working relationships with stakeholder groups.
- Continually monitor the implementation context to make sure that programming does not overwhelm the resources base.

Since the focus of planning tends to be at the micro and programme and curricular levels, considerable effort is directed to identifying and addressing conditions that influence implementation. Within a given planning context there is an interrelated

set of factors largely outside the technical dimensions of TVET programming that impact directly or indirectly on implementation, such as political influence, cultural and social norms, infrastructure support and government policy positions—to name a few. The presence of these factors, often in subtle form, contributes to determining whether or not a particular TVET intervention can be implemented and successfully sustained (Atchoarena & Delluc, 2002; Warwick, 1980). There are also more directly related technical constraints, such as available financing, organizational capability, and technical and human resources, for example, that must be carefully balanced with anticipated programme design. Plans may make provision for strengthening management capacity, training staff, building support units, overcoming political resistance, constructing new facilities or forming community support groups, among other interventions necessary to bolster successful implementation. There is a marked broadening of the planning focus from primarily determining the kinds and amount of TVET to provide to making programmes work given the characteristics and constraints of the local implementing environment.

4.2 Applications

Variations of consensual planning, even if in abbreviated form, are used widely in TVET. The most common example is the use of technical advisory committees to plan and monitor local programmes. In some cases, local 'craft' committees composed of potential employers, instructors and other concerned individuals are set up for different technical areas. In other cases, more general advisory committees are formed. The German 'dual training system', for example, makes use of four stakeholder groups: federal government, state government, employers and trade organizations. Policies, requirements and regulations for the state are established through consensus, and TVET is linked closely with the labour market through employer-based training. But the formalism of the system tends to stifle change (Brand, 1998).

The Nordic countries, in particular, place reliance on consensual policy formation and planning (Lasonen & Rauhala, 2000). Elsewhere, in a number of countries there is a movement from centralized planning and programming to decentralized, consensual planning and programme implementation (Finlay, Niven & Young, 1998; Herschbach & Campbell, 2000). This enables local communities to more readily adapt to the transformation of occupations in the context of globalization and technological change.

Interactive, consensual planning is widely used by non-governmental organizations (NGOs). This has resulted in a broad concept of work preparation that includes concern for addressing non-technical, but nevertheless important, considerations that help to empower individuals and increase their probability of successfully navigating the labour market. In the case of marginalized and disadvantaged segments of the population in particular, TVET is most effective when it is combined with other interventions, such as income maintenance, child-care, literacy training, health

services and micro-loans that enable individuals to participate fully in TVET and to make full use of their education and training. Bosch (1998), for example, reports on the Education and Work programme in Chile that concurrently provides vocational training while promoting personal development for 15- to 30-year-old, poverty-level individuals. The technical training component of the programme is implemented along with consideration through interactive planning issues of support networks, food and shelter, physical abuse and awareness-raising, among others.

4.3 Influence and Constraints

Consensual planning has been helpful in broadening the base of planning and in generating greater appreciation of the complexities of the human, institutional and cultural context within which TVET programmes are planned and implemented. One of the most important influences of interactive planning has been to sensitize rational planners to the importance of communication, participation and the use of non-quantifiable data outside the realm of conventional labour-market information. Consensual planning has helped to temper what are otherwise abstract decisions based on limited data with a greater appreciation of the broader range of planning concerns.

The concept of what constitutes preparation for work also has been extended to encompass concern for personal development, support networks, long-term interventions and services and initiatives designed to break down barriers to full workforce participation. There is greater awareness of the need to extend planning participation to groups typically left out of the process because of class, ethnicity, gender or other barriers that relegate them to the social and economic fringes. In this regard, consensual planning shares territory with political planning. Consensual planning also goes beyond the technical concerns of programme planning and implementation to probe the ethical and value questions that surround the choices and opportunities work preparation presents. It makes planners and educators think about the personal and social consequences of TVET. It introduces more than just economic concerns into the planning equation.

Consensual planning, however, invites conflict. Different stakeholders bring their own agenda to the planning table. Planning may be messy, inclusive and riddled with ambiguity. The competing claims of participants may prevent the consensus necessary to move forward. A major challenge is to accommodate the inherent value conflicts and competing agendas.

It also is difficult to achieve truly representative membership in the planning process. Political positioning tends to be achieved most effectively by those who already have power. Long-term, more inclusive goals may be subverted in the interest of more immediate short-term benefits of interest groups with the most influence. Representatives of the status quo will work to maintain their position. ‘Changes brought about as a result of stakeholder involvement, though a participative democratic process, are likely to be gradualist and evolutionary rather than revolutionary,’

Finlay (1998, p. 9) observes. But an evolutionary process based on consensus in the long-run holds open the door to more deeply-rooted and permanent change.

5 The Political Model

A third category of planning is the political, also known as transactional or incremental, planning (Adams, 1991, 1994; Warwick, 1980). Political planning draws from both rational and consensual planning traditions. The political model starts with the assumption that planning cannot be separated easily from the influence of politics and power. Planning decisions result from negotiation among what may be highly competitive groups. Decisions are arrived at through bargaining, negotiation and compromise. The quantifiable data of rational planning lend legitimacy to planning decisions, but at the same time conflicting interests, political leverage and the exercise of power figure large in the final planning outcomes, which themselves may change in response to shifting power relationships. As Adams (1994) observes: 'Even if alternative educational futures are quantifiable and optimum educational investments are specifiable, such quantification takes on meaning only within the context of political competition, conflict and the exercise of power' (p. 1809).

The planner works in an environment that is recognized as dynamic, uncertain and subject to influences that may not always be initially recognized or constant. Decision-making proceeds incrementally as planners learn from experience and gain support. The planner is alert to the historical, political and organizational context. Coalition building and informal goal setting may be initially more important than the specific content of the plan. The degree that 'rational' decisions are made is conditioned by political involvement. Implementing and sustaining change relies on mobilizing and maintaining political support.

5.1 The Dynamics of Political Planning

When planning is primarily perceived as a set of technical exercises designed to allocate resources, it may fall seriously short because of the failure to recognize and accommodate existing political dynamics. Classrooms and schools are political and cultural constructs, and unless power and political influence are taken into account, it is often not possible to effectively transmit the intention of plans into practical programming. Technically sound and coherent plans, in fact, may be more difficult to implement than less well-designed interventions that have considerably more stakeholder support.

While rational planning is framed by issues of efficiency and effectiveness, political planning is highly responsive to the social and political context within which decision-making is carried out. Planners are receptive to the influence of power and politics that can take a number of obvious, as well as indirect, forms. These include, for example:

- the control of educational policy and resources by certain ethnic, clan, religious or political groups;
- a policy environment hostile to TVET;
- social rules operating in society that exclude certain individuals and groups from participation;
- discriminatory practices that discourage gender, religious or ethnic groups from participating in education and training programmes;
- bureaucratic rivalries that impede implementation of a programme that covers major jurisdictions;
- gatekeepers that block informal clearance from interest groups;
- the subversion of programme objectives to the narrow interest of individuals and groups for their own gain.

The political planning model basically rejects the neo-classical economic assumption that societal imbalances work themselves out over time through consensual negotiation. Rather, planning is viewed as entwined in networks of power that overtly or covertly work to maintain power, influence and advantage. Change is resisted unless it is perceived as beneficial to and under the control of those holding power. Efforts to redirect labour-force development, to ameliorate the condition of the poor, or to expand opportunity by addressing the interests of socio-economic classes and ethnic and gender groups, for example, may be countered through the explicit and implicit levers of power built into social structures that reproduce inequalities. These structures, with all of their embedded power relationships, are maintained by those already in power (Birdsall, Burns & Sabot, 1996; Cornwall, 2003; Easton & Klees, 1992; Farrell, 1997).

In countries characterized by high levels of political, religious or ethnic strife, it may be extremely difficult to implement any kind of TVET intervention unless there is a good way to negotiate conflict. Plans that are not perceived as palatable or credible may result in conflict or resentment among the very populations intended to implement the plan, as well as those intended to be beneficiaries. This is particularly true in the case of development projects that aim to promote change, but at the same time rely on individuals within the existing power structure to implement interventions that can potentially challenge their own positions of power.

Power dynamics can be thought of as existing within the TVET system and also without, and planners must take into consideration both (Rondinelli, Middleton & Verspoor, 1990; Verspoor, 1992).

5.2 Addressing Political Planning

Social demand planning attempts to take into account the interests of individuals and social groups. It is the most basic, widespread and benign form of political planning. Simply put, decisions to allocate resources are based on the demand of various constituency groups for education and training services. Decisions are political, since the allocation of resources has to be made between competing demands. Shifts in

the political climate, the relative success of constituency groups to mobilize support or the influence of external events result in corresponding changes in the way that education and training resources are used. In many countries, a considerable amount of planning is based on social demand, even though it is not recognized or acknowledged.

Social demand is usually expressed through a political process involving different constituency groups at local, regional or national levels. The demand for services is conveyed to decision-makers. Social or political objectives, such as enhancing international economic competition, increasing enrolment levels in information technology or addressing national literacy requirements are formulated to serve as a rationale for decision-making. Since there are limits on resources, trade-offs are determined and education and training targets set. The capability to provide education and training services is assessed. Labour-market information is used by planners in order to help moderate extreme political pressure and to strike a balance between social demand and the functional requirements of the economy. Planners are attentive to the potential of abrupt, destabilizing changes that can throw the existing education and training system into disarray. Incremental rather than abrupt change is advocated as prudent TVET policy (Finlay, Niven & Young, 1998).

Strategic planning was formulated as a method to help institutions react to internal and external pressures. It overlaps considerably with consensual planning and is more structured than planning based on social demand. Strategic planning involves assessing the present implementing environment and plotting appropriate courses of action. While there are different models of strategic planning, common elements include the following (Carlson & Awkerman, 1991):

- Environmental scanning is used to obtain information about the internal organization of the institution and external influences. Planners identify the organization's internal structure, staffing patterns, common values and interests, competitive groups, levels of support for change and barriers; planners identify external interest groups, supporters and competitors. Social, political and economic trends are monitored and the impact on planning assessed.
- Stakeholder analysis focuses on the individuals, groups and organizations that create demands and pressure on the institution. Planners assess the interests, influence, agendas and values of stakeholders; planners determine the level of support among stakeholders, develop strategies to elicit support, and determine programme elements required to accommodate the interests of stakeholders.
- Planners reformulate and clarify the planning mission. The mission statement incorporates values, beliefs and goals that reflect the interests and views of stakeholders. The mission statement focuses on planning.
- Planners identify and analyse critical issues relating to the mission, performance of the institution, cost and financing, management structure, staffing, students and relationships with stakeholders, among others. Planners determine how important each issue is and how it best can be addressed, while paying attention to stakeholder values and characteristics of the internal and external environments.

- Planners identify specific strategies for resolving issues. This begins with practical ways of addressing the issue, including the formulation of policies, objectives and actions. Resources are allocated and careful attention is given to the 'fit' between the strategies and the organizational environment.
- Strategic implementation involves working with institution personnel to address resource allocation, organizational capacity and strategy evaluation. Detailed budgets are formulated and organizational changes are put into place to better match people and structure with tasks. Built-in feedback mechanisms with review processes are developed to provide information on implementation.

Political planning in its various forms is highly sensitive to the implementing environment. This includes the proximate environment, comprised of individuals, groups, organizations, issues and conditions that occupy the immediate space close to the planning activity. This also includes the more remote planning environment comprised of the set of actors and circumstances that make up the larger policy and political arena and that condition the support and acceptance of the plan. Considerable bargaining is involved in response to diversity, different interests, conflict and shifting power relations. Political planning has the potential to support significant change. Claims of being more inclusive and participatory, however, have to be tempered with the realisation that efforts must be made to accommodate the voices of the marginalized (Birdsall, Burns & Sabot, 1996; Cornwall. 2003; Silvey & Elmhirst, 2003).

6 Looking Ahead

TVET planners face the daunting task of making critical decisions with considerable intellectual disorder surrounding the concepts and methodologies that they rely on to guide judgements. There is no single good way to go about planning at any education and training level. But to ignore the importance of planning is to err. Planning is more, not less, important today, given the broad range of issues confronting workforce preparation in developed and newly developing countries alike. Reasonably good results can be realized when planners fully recognize that decision-making should not be pushed beyond the limits and constraints of the methodologies used; when multiple perspectives are employed to generate insights; when the participant base is broadened enough to elicit counter views; and when a strong dose of 'common sense' is applied to offset what may otherwise be shown in time to be narrowly defined and dogmatic decisions. Planning also is best conceived as an on-going process open to dialogue, review and change.

Past experience shows that macro-level planning based on the use of rational models yields mixed results. The use of manpower planning models, in particular, is associated with questionable validity. Rapid technological change linked with a pervasive globalized market place is making national education and training projections increasingly irrelevant. Macro-level planning needs to be tempered with considerable caution.

There is considerably more emphasis today on the timely provision of disaggregated data useful at the regional or local level for redirecting programming. The locus of decision-making is in regional or local co-ordinated groups of social partners, including employers. Combinations of programming are used to promote employment flexibility as youth and young adults navigate a sometimes uncertain and changing labour market. Avenues to enable students to pursue additional education and training are kept open. Macro-level planning is conceived primarily as contributing to the moulding of the labour force in certain directions rather than making specific skill-training allocations.

There is greater appreciation today of the importance of interactive and consensual planning models. In the name of greater equity, participation is extended to individuals and groups formerly not represented. In this way, greater support is generated, programming is enriched and constructive relationships developed. Overall, greater participation has the potential to contribute to sustained institutional development. There is also greater awareness today of the political dimensions of planning. Planning is conceived as more than a set of technocratic exercises that mask relationships of power and privilege contributing to the reproduction of structural inequities. Political planning is concerned with power relationships within the implementing environment. Consensus and network building, empowering individuals and brokering change are perceived as important parts of planning. Both consensual and political planning models have helped to sensitize TVET educators to the fact that planning decisions are not neutral. Major value questions surround the provision of TVET services.

The present focus on micro-level and programme and curricular planning indicates a trend that will no doubt continue well into the future. Failures within TVET have been primarily failures of implementation. There appears to be a growing consensus within the field that interactive and political planning models provide insights that help to recast planning in ways that will enhance the future implementation of TVET.

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