

Study Guide for “An Integrated Framework”, which is Chapter 10 from the book by Willoughby.

Background (based on the supplementary reading “Technological Semantics”, which is Chapter 2 from Willoughby):

1. Willoughby defines “appropriate technology” as “a technology tailored to fit the psychosocial and biophysical context prevailing in a particular location and period” (p. 15).
2. Willoughby defines “technology” as “the ensemble of artefacts intended to function as relatively efficient means” (p.38).
3. From the two definitions above, Willoughby provides a synthesized definition of “appropriate technology” as “artefacts which have been tailored to function as relatively efficient means and to fit the psychosocial and biophysical context prevailing in a particular location and period” (p. 43).
4. Willoughby also gives a “shorthand definition” of “appropriate technology” as “an artefact which functions as a relatively efficient means and which is compatible with its context” (p. 43).
5. These definitions of “technology” and “appropriate technology” appear to be narrowly restricted to artefacts and “hardware”. BUT: he also introduces the concept of “technology practice” (p. 36) that includes the broader “software” issues mentioned in the Practical Action article “What is Appropriate Technology” (e.g., organizational and cultural dimensions).
6. Similarly, Willoughby distinguishes “Appropriate Technology” from “appropriate technology”; “Appropriate Technology”, roughly speaking, is “appropriate technology practice” (pp. 37-38). It is this broader view that is the subject of “An Integrated Framework”.
7. Willoughby identifies two general approaches to Appropriate Technology: (i) the “general principles” approach, which broadly describes Appropriate Technology as ‘fitting a context’; and (ii) the “specific characteristics” approach, which proposes that Appropriate Technology consists of certain traits, such as ‘low cost’ or ‘small scale’ (pp. 18-21). [Although these pages precede the discussion of pp. 37-38, which distinguishes “Appropriate Technology” from “appropriate technology”, Willoughby seems to mean “Appropriate Technology” in discussing the specific characteristics and general principles approaches.
8. Even though Willoughby introduces the terms “biophysical” and “psychosocial” in these early pages, he defines them on p. 271, which is part of “An Integrated Framework”.
9. The table on p. 44 provides a list of Willoughby’s various definitions of technology, technicity, appropriate technology, Appropriate Technology, etc.

Outline of Chapter 10: An Integrated Framework

Try to identify the following categories and sub-categories as you read the chapter. Also try to write a short 1-2 sentence summary of each (this is NOT an assignment, but it is recommended as an exercise).

- I. Three Dimensional Mode of Technology Practice (1st major element)
 - a. Technical-Empirical Dimension
 - b. Socio-Political Dimension
 - c. Ethical-Personal Dimension

- II. Technological Fit (2nd major element)
 - a. Technological Means
 - b. Technological Niche

- III. Corollaries of Appropriate Technology (not really the 3rd element; rather, corollaries to the 1st and 2nd elements)
 - a. Non-neutrality of Technology
 - b. Technology as a Determining Factor
 - c. Heterogeneity of Technology
 - d. Technological Context
 - e. Technology Choice
 - f. Control of Technology
 - g. Technology Assessment
 - h. Local Focus in Technology-practice

- IV. Endogenous Technological Development (3rd major element)
 - a. Endogenous Innovation
 - b. Economic Self-Reliance
 - c. Community Development
 - d. Technological Mix

- V. Practical Holism (4th major element)
 - a. Radical Critique
 - b. Human Compatibility
 - c. Environmental Compatibility
 - d. Integrated Problem Solving

- VI. Conceptual Clarification (not the 5th element; rather, clarifying remarks related to the previous)
 - a. Misconceptions
 - b. Preferred View